



# POLAND: PROFILE OF THE 50+ POPULATION

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Carola A. Gruen

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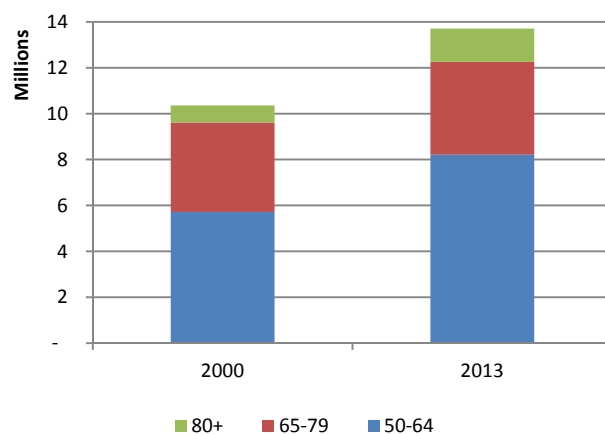
## Poland: Profile of the 50+ Population

Poland is undergoing a rapid demographic transformation and is one of the fastest aging societies in Europe. This note provides a brief overview of the 50+ generation in Poland, profiling their main socio-economic characteristics of the elderly and outlining trends in labor market outcomes, income, consumption, and wealth as well as risk factors of old age poverty.

### Demographic key facts and trends

Out of a total population of 38.5 million in 2013, the 50+ population numbered 13.7 million people. Since 2000, the share of the elderly grew by 32 percent – an increase by 3.3 million (Figure 1). Put differently, since 2000 the number of seniors increased by around 250,000 each year – the equivalent of the population of a medium-sized town like Gdynia.

**Figure 1: Poland's 50+ population grew by 3.3 million between 2000 and 2013**



Source: Eurostat, 2014. (graphs – demographic key factors.xlsx)

Poland is currently undergoing rapid demographic changes; its population is aging with the median age rising from 25.8 years in 1950 to 38.2 years in 2012. By 2050, half of the population is projected to be older than 49.<sup>1</sup> Total population numbers also started to decline. As fertility rates dropped below the replacement rate in the early 1990s and remained at very low levels since, younger cohorts are considerably smaller (Figure A1). At the same time, life expectancy at birth increased from 71 years in 1992 to almost 77 in 2013. Consequently, the composition of the Polish population is changing significantly and will continue to do so in the coming decades.

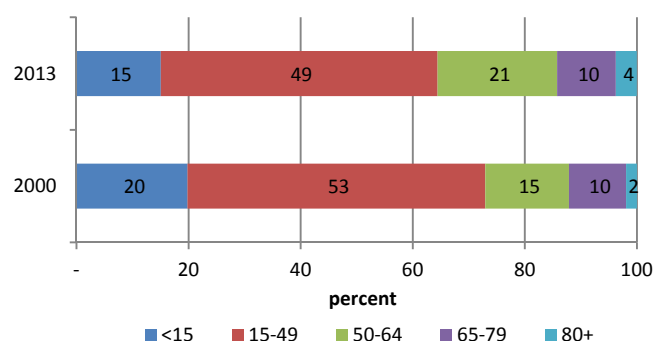
Figure 2 illustrates these changes by looking into the composition by age group. In 2013, 15 percent of the population was younger than 15 years, a drop by 5 percentage points since 2000. The share of people in their working age (15-64) increased slightly from 68 to 70 percent. However, the composition within the labor force shifted significantly toward older workers: the share of people aged 50-64

<sup>1</sup> World Bank (2012): Poland: Aging and the Economy (Xavier Devictor) and UN demographics scenarios - aging database all feb 14.dta

increased from 15 to 21 percent, whereas younger cohorts contributed only 49 percent to the total work force in 2013, down from 53 percent in 2000.

Over the same time period, the number of retired people (65+) increased by 18 percent (or 840,000) and their share in the total population increased from 12 to 14 percent. This increase was mainly driven by the dynamics among the oldest old. The 80+ population is the smallest but fastest growing segment among the elderly. Between 2000 and 2013, the number of people aged 80 years and above almost doubled, from 0.74 million to 1.4 million.

**Figure 2: The composition of Poland's population is changing rapidly, with the oldest old being the fastest growing segment**



Source: Eurostat, 2014. (graphs – demographic key factors.xlsx)

Looking forward, the share of the population 65+ is projected to rise to 22 percent in 2030 and to reach 29 percent by 2050 (Table 1). Similarly, the share of the oldest old will continue to grow and by 2050, around 8.6 percent of the population will belong to this group. The share of Poland's workforce is projected to decline from currently 70 percent to 57 percent in 2050.

**Table 1: Poland's total population and workforce are projected to decline substantially**

	2015	2030	2050
<b>15-64</b>	69.6 %	62.9 %	57.0 %
<b>60+</b>	22.4 %	27.6 %	36.7 %
<b>65+</b>	15.3 %	22.1 %	29.1 %
<b>80+</b>	3.9 %	5.3 %	8.6 %
<b>total population</b>	38,221,600	37,447,600	34,078,800

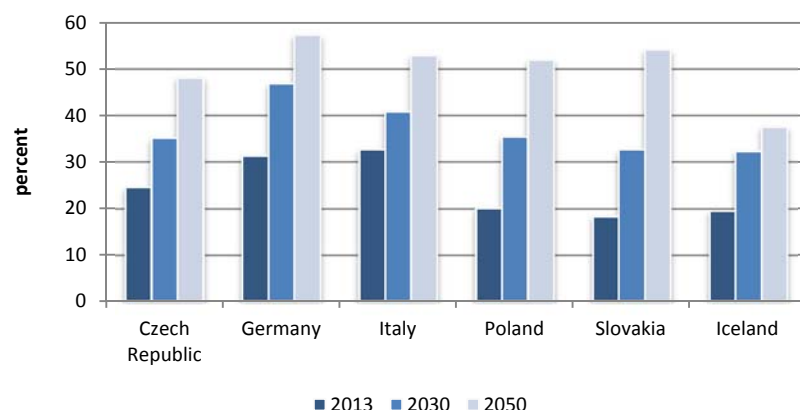
Source: UN demographic scenarios

These shifts in the composition of the total population will result in a steep increase in the old age dependency ratio. In 2013, the ratio between the number of elderly people (65+) and people in working age stands at 20.1 percent and compares relatively favorably to other European countries.<sup>2</sup> However, given the dramatic demographic changes Poland is facing, the ratio is expected to increase to 36 percent in 2030 and reach 52 percent in 2050 (

<sup>2</sup> The EU 28 average was 27.5 percent in 2013 (Eurostat, 2014).

Figure 3).

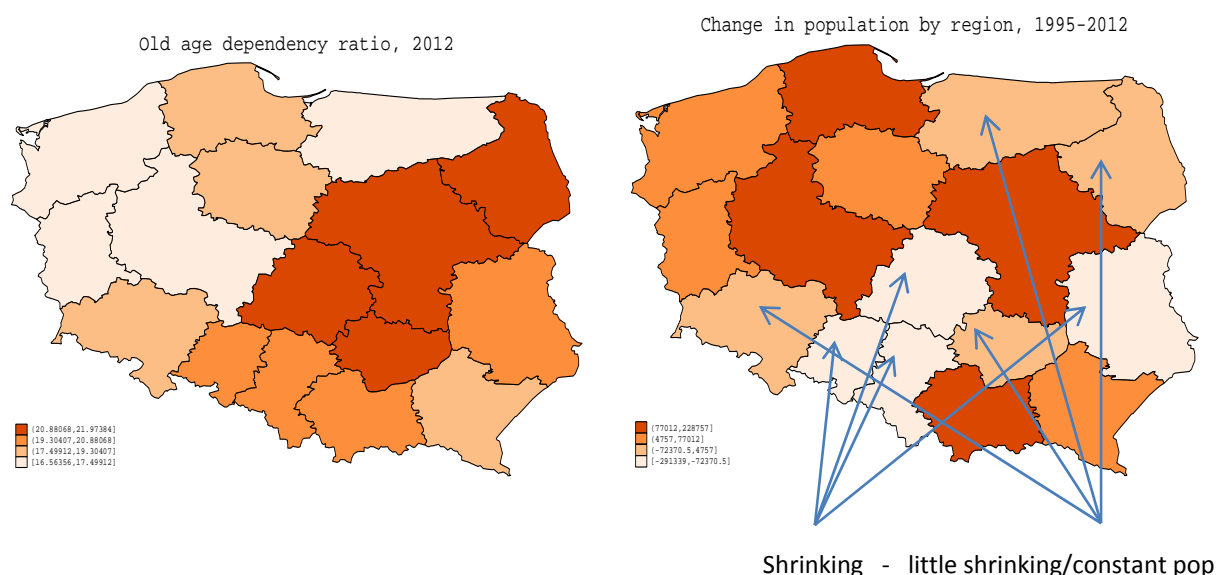
**Figure 3: The projected demographic changes will result in a steep increase in Poland's old age dependency ratio**



Source: Eurostat, 2014. (graphs – demographic key factors.xlsx)

Looking at the subnational level, there is a certain degree of heterogeneity across provinces (Figure 4). Regions with relatively high old age dependency ratios are concentrated in the East and South. Often times, these regions also have been shrinking for the past years.

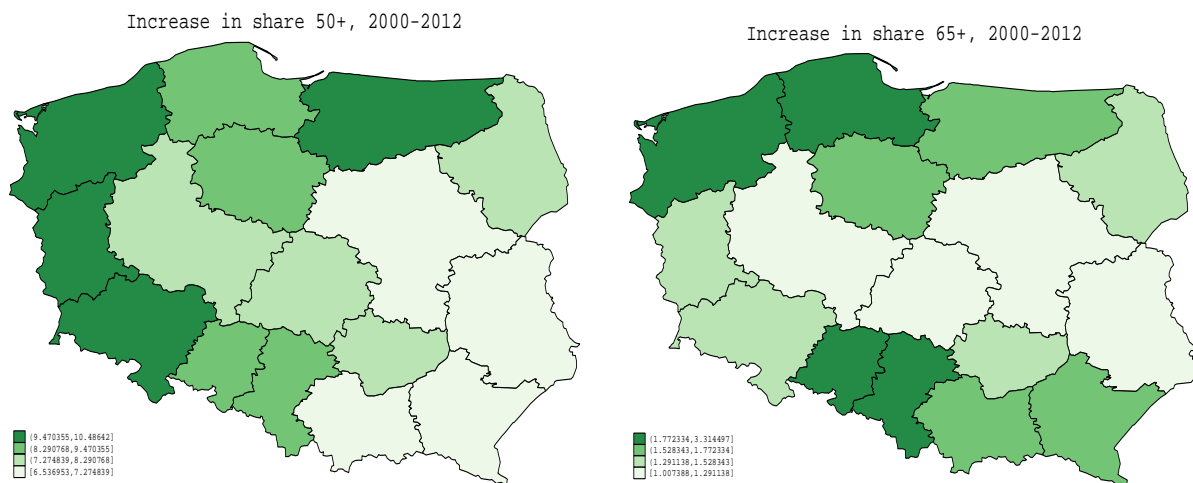
**Figure 4: Eastern and southern provinces tend to have an older and shrinking population**



Source: Eurostat, 2014

Regions that are closer to Western Europe seem to have a better balance between different age groups as their dependency ratios are among the lowest in Europe. However, this is likely to change soon as these regions have been aging fast in recent years. For example, provinces like Zachodnio Pomorskie and Lubuskie (both bordering Germany, see Figure A2) registered one of the highest increases in the share of the elderly population between 2000 and 2012 (Figure 5). One prime reason for this result is continuous migration of younger people (OECD, 2013).

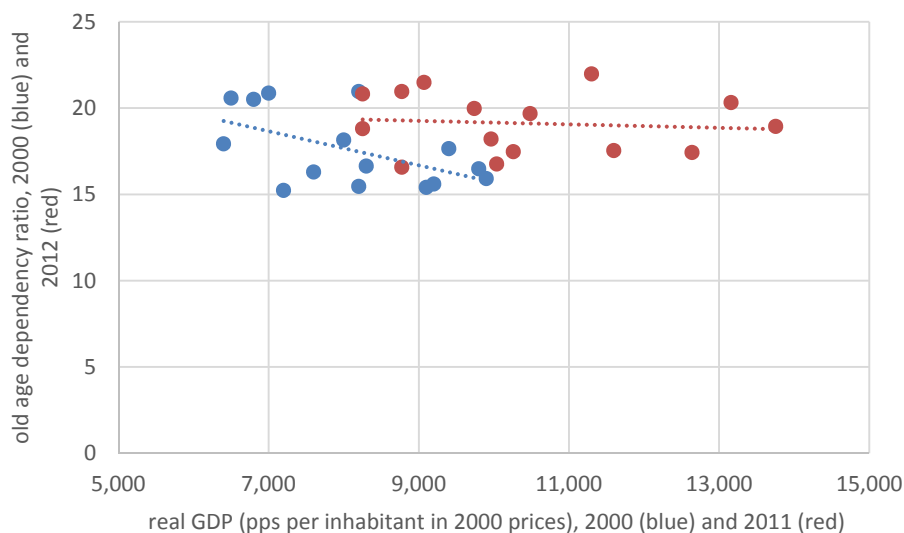
**Figure 5: Western provinces registered large increases in the 50+ population**



Source: Eurostat, 2014

The different regional demographic trends also impact regional economic performance. For example, in 2000 older regions had lower per capita income (Figure 6). By 2011, this negative correlation has vanished for potentially two reasons: firstly, regions with a higher share of older people often experienced little or even negative population growth which in turn impacts positively on per capita incomes. Secondly, many of the retirees receive pension benefits which they accrued under the old, highly redistributive pension system. Hence, pension benefits that are paid out today are still generous and help to boost incomes in regions where the older population are concentrated.

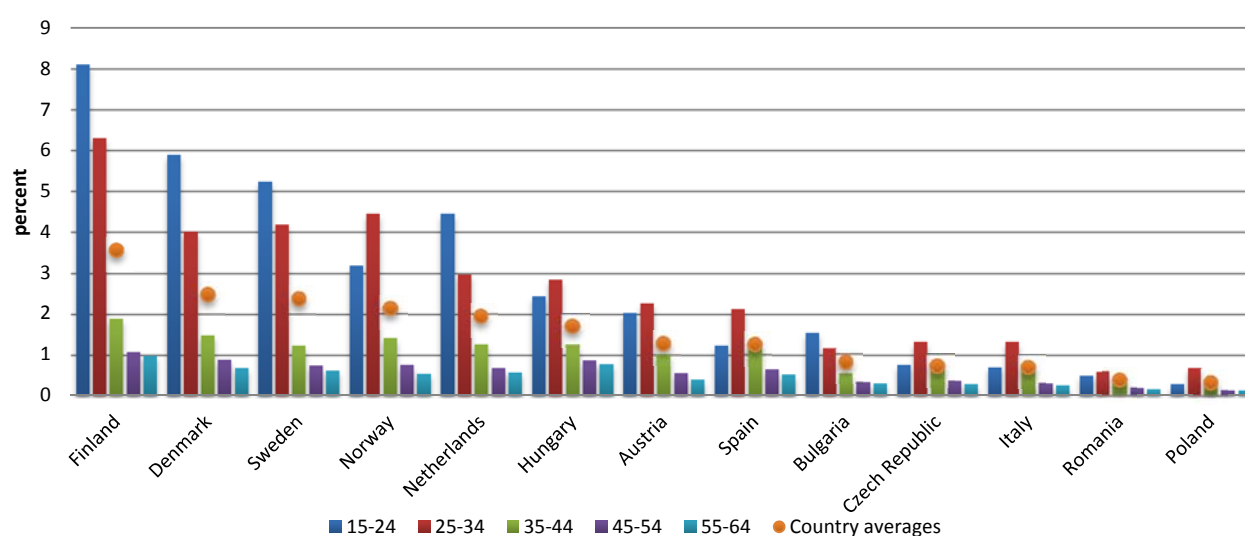
**Figure 6: In 2000, older regions were somewhat poorer, but the negative relationship between regional income and dependency ratio has disappeared by 2011**



Source: Eurostat, 2014. Graph excludes province Mazowieckie which includes Warsaw as this region is relatively old and rich: in 2000 (2012), old age dependency ratio was 20 (21) percent and regional per capita income was 14,000 PPS in 2000 and 19,850 PPS in 2011 (PPS: purchasing power standard).  
(graphs – demographic key factors.xlsx)

Since 2000, regional disparities in per capita income increased (Figure 6), indicating that there are significant income and employment gains to be realized from moving to more prosperous places. But what role does internal migration play for aging and shrinking regions? Could larger domestic flows help to break the cycle?<sup>3</sup> In the past, internal mobility has been low (Figure 7) and domestic migration flows have been relatively unresponsive to regional disparities in unemployment or labor productivity (World Bank, 2014a). Often times, adverse institutional settings contribute to low levels of labor mobility. For example, high-unemployment regions often grant more generous benefits that may stop people from moving to more prosperous areas. On the other hand, the minimum wage is uniform across regions and does not compensate for higher living costs in more dynamic localities (OECD, 2014). In addition, the quality of transport infrastructure is still low and housing markets are underdeveloped. These factors pose severe and costly-to-overcome obstacles to workers willing to relocate (OECD, 2014; World Bank 2014a).

**Figure 7: Poland's internal migration rates are among the lowest in Europe**



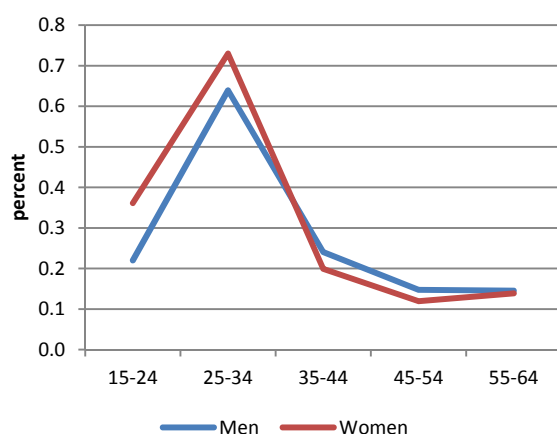
Source: Eurostat, 2014. Average internal migration rates (NUTS 2) by age group, 2000-2007. (internal migration by age groups.xls)

In line with international evidence, older age groups and prime-aged men are less likely to move internally (Figure 8). When asked about intentions to migrate internally for employment, people that are unemployed or inactive, below the age of 35 and have upper secondary or higher education are more likely to consider moving (World Bank, 2014a). As the share of young people is projected to decline over the next decades, these results suggest that internal mobility rates will remain low and are unlikely to counterbalance the trends in aging and shrinking regions.

<sup>3</sup> Alternative avenues to reverse the trend of aging and shrinking regions are (i) increased fertility rates, and (ii) positive net migration. International evidence on successful intervention how to increase fertility is limited. Also, the effect of bigger cohorts will only be felt in the long run. As Poland becomes more prosperous it also attracts more international migrants, mainly from poorer Eastern European countries. Numbers are (still) too low to have a meaningful impact. The share of immigrants in total employment was 0.2 percent in Poland – the lowest among OECD countries which on average reported 12 percent in 2012 (OECD 2014).



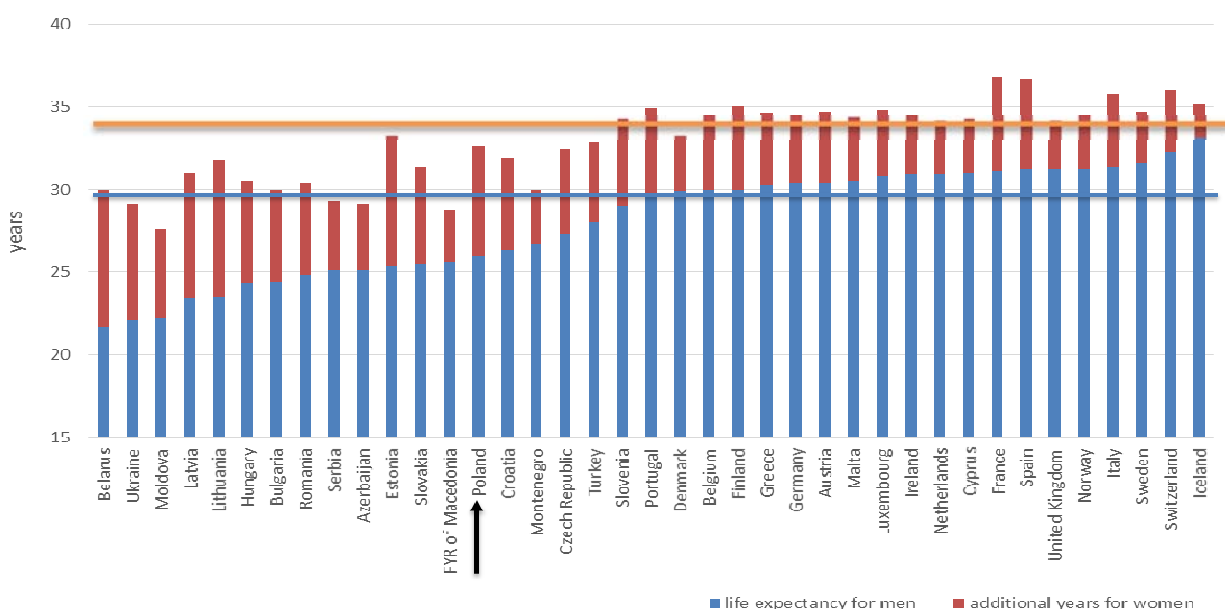
**Figure 8: Young Polish women are most likely to move internally**



Source: Eurostat, 2014. Average internal migration rates for Poland by age and gender, 2000-2007, NUTS 2-level. (internal migration by age groups.xls)

In many countries, population aging is strongly associated with a feminization of the elderly as for older age groups, women outnumber men considerably due to differential mortality rates. Looking at the Polish population aged 50 in 2012, men can expect to live for another 26 years which is around 4 years less than the EU 28 average (29.7 years). Women are estimated to live for another 32.6 years which is closer to the EU 28 average of 34.4 years (Figure 9).

**Figure 9: In Poland, life expectancy among men aged 50 is 26 years, whereas women can expect to live for another 33 years**

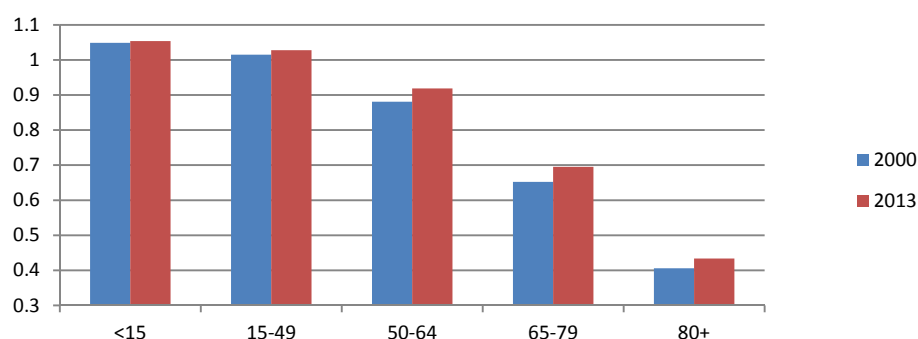


Source: Eurostat, 2014. Notes: Germany includes former GDR. Countries are sorted by male life expectancy at 50 years of age in 2012. Blue line notes male life expectancy@50 for EU 28 countries (29.7 years); red line is EU 28 average for female life expectancy@50 (34.4 years). (graphs – demographic key factors.xls)

Recent data suggest that excess mortality among men has somewhat declined as the male to female ratio in 2013 has improved across all age groups (Figure 10). The ratio starts to fall below unity for the

population 50+ and reaches 0.43 among the oldest old. Put differently, for every male senior aged 80 years and above there are more than 2 female seniors (ratio was 0.41 in 2000).

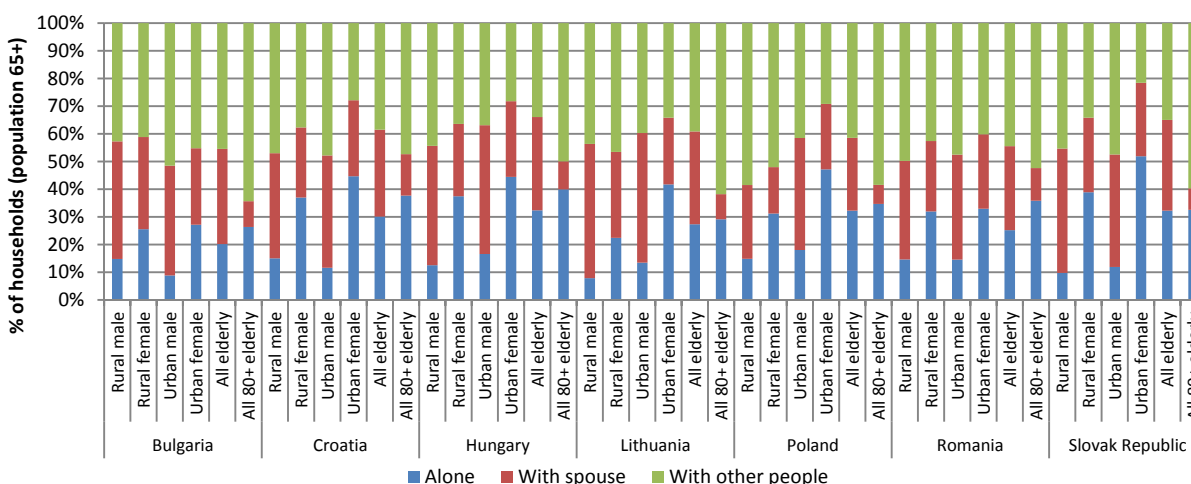
**Figure 10: As excess male mortality declines, male to female ratios improve across all age groups**



Source: Eurostat, 2014. Ratio between men and women by age group in 2000 and 2013. (graphs – demographic key factors.xlsx)

The fact that many women outlive their male partners is also reflected by the relatively large share of single households among female seniors. In urban areas, nearly every second woman aged 65+ lives alone. The share is smaller in rural areas (around 30 percent) but in both cases considerably higher than what was found for male pensioners. Similarly, among the group of the oldest old, that to a large extent comprises women, the share of one-person household remains relatively high (Figure 11). Given the projected demographic trends, the number of one-person households is likely to grow for most age groups, including the elderly. Projections for the UK, a country with a more favorable demographic outlook, show that the number of elderly people living alone is expected to increase by 12 percent between 2011 and 2021.<sup>4</sup> This trend has important implications for public policy, including housing, household services and support services for the elderly (OECD 2008).

**Figure 11: The share of women living alone is particularly high in Poland's urban areas**



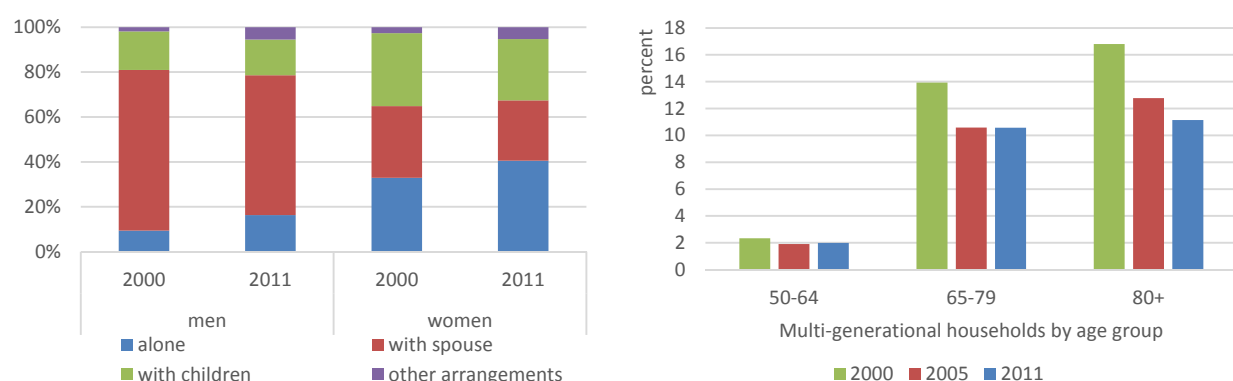
Source: World Bank 2014b, p. 94. Living arrangements of the 65+ population, 2010 HBS. (graphs – demographic key factors.xlsx)

<sup>4</sup> Department for Communities and Local Government, Live tables on household projections, April 9, 2013. <https://www.gov.uk/government/statistical-data-sets/live-tables-on-household-projections>

Elderly people in Poland are also likely to form households with people other than their spouses or partners; more than 40 percent of Poland's 65+ population live in such an arrangement. As in many other countries, the share is higher among the oldest old, reaching 60 percent.

Regarding trends over time, since 2000 the share of single-adult households among the 65+ population has increased for both men and women. In 2011, around 73 percent of the elderly women living alone are widowed.<sup>5</sup> Older people are less likely to live with their children, but alternative living arrangements such as forming a household with other relatives and non-relatives became more popular. These trends are also reflected in the fact that the share of elderly living in multigenerational households<sup>6</sup> has declined since 2000 (Figure 12).

**Figure 12: Many more elderly live alone and the incidence of multigenerational households has declined in recent years**



Source: Own calculations, HBS data. (graphs – demographic key factors.xlsx)

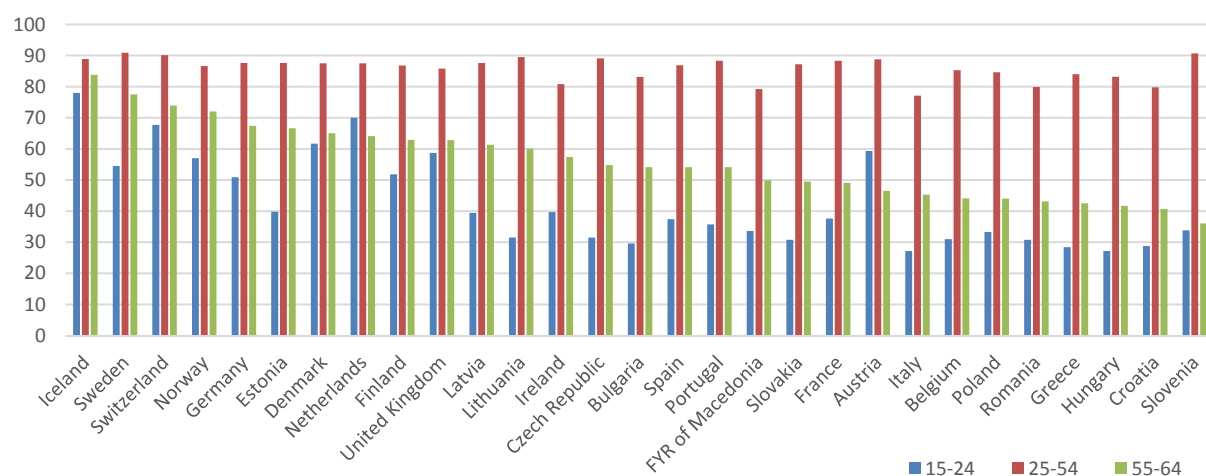
<sup>5</sup> The equivalent share among men is 42 percent.

<sup>6</sup> Multigenerational households are defined as households that consist of more than two generations.

## Labor market outcomes

Labor force participation rates among elderly Polish workers increased over the past years, but remain at relatively low levels. In 2013, only 44 percent of those aged 55 and above participated in the labor market compared to 63 percent in the UK or 67 percent in Germany (Figure 13). Participation rates among younger people are also low which may pose a particular challenge in the future as these cohorts age. Although not fully understood, the consequences of a weak labor market attachment among youth could be far-reaching. Preliminary research suggests that deterioration of skills and foregone work experience may have lasting impacts on the employability and wages of youth (Fernandes-Alcantara, 2012).

**Figure 13: Labor force participation rates for elderly Polish workers are among the lowest in Europe**



Source: Eurostat, 2014. Labor force participation rates (annual averages) by age group, 2013. Countries are sorted by participation rates among age group 55-64. (graphs – labor market & poverty.xlsx)

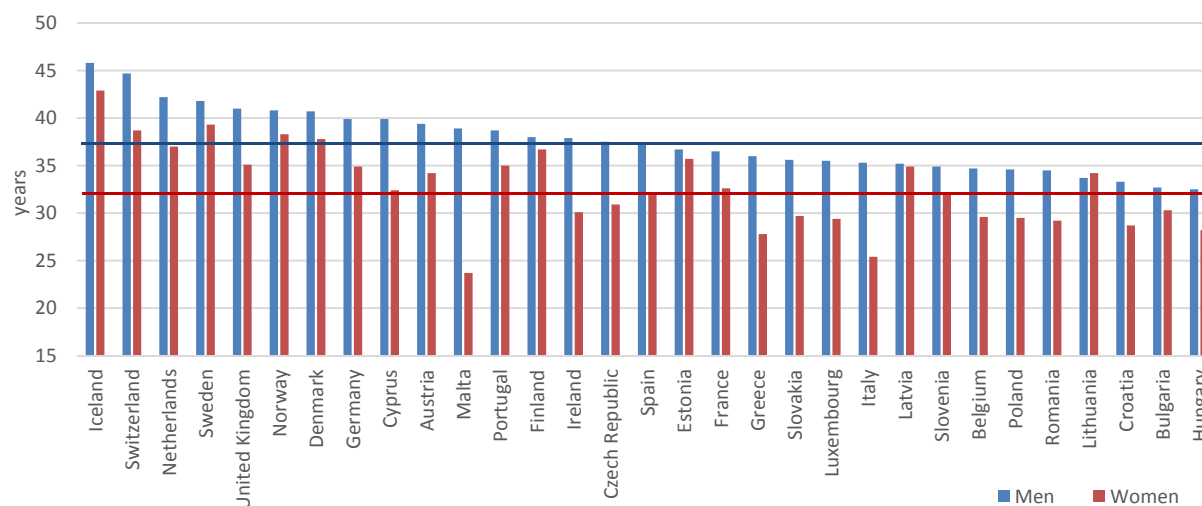
Low participation rates are also reflected by the length of working lives.<sup>7</sup> The number of years a Polish worker is expected to participate in the labor market is considerably below the EU-28 average, especially for men (Figure 14). The recent pension reform which increased the retirement age and limited the possibilities to retire early contributed to more time being spent in the labor market. Still, Poland's potential to increase labor force participation among older adults is among the highest in the EU-28.

The projected demographic change will impact the size and composition of the workforce for the coming decades. Assuming no major changes in labor force participation across gender and age groups, Poland's labor force will shrink by 5.1 million workers over the next 50 years (Figure 15, Panel A). The biggest decline will occur among the younger workers (aged 15-39) as their numbers will decrease by 4.2 million between 2010 and 2060. Over the same time period, the projected decline of the prime and

<sup>7</sup> The duration of working life indicator measures the number of years a person aged 15 is expected to be active in the labor market throughout his/her life. This indicator is calculated using a probabilistic model combining demographic data with age group specific activity rates (Eurostat, 2014).

middle aged workforce (aged 40-64) amounts to 1.7 million. Only the number of workers aged 65 and above is projected to increase, partially counterbalancing the sharp decline among younger cohorts.

**Figure 14: The average number of years Polish workers spent in the labor market is significantly below the EU average**



Source: Eurostat, 2014. Duration of working life, 2012. Countries are sorted by duration of working life for men.

Notes: Blue line shows duration of working life for men in EU 28 countries (37.6 years); red line is EU 28 average for women (32.2 years). (graphs – labor market & poverty.xlsx)

The above scenario assumed that future cohorts will participate in the labor market at similar rates than current workers do. Institutional changes in the Polish labor market (e.g. increase minimum retirement age) and behavioral changes, however, can lead to different projections of the size of the labor force. There is only limited potential to increase the numbers of younger and prime-aged workers as the size of younger cohort will decline. The biggest potential in curbing the projected decline of the labor force lies in activating older workers as their current participation is low and their numbers will continue to grow (Figure 15, Panel B).

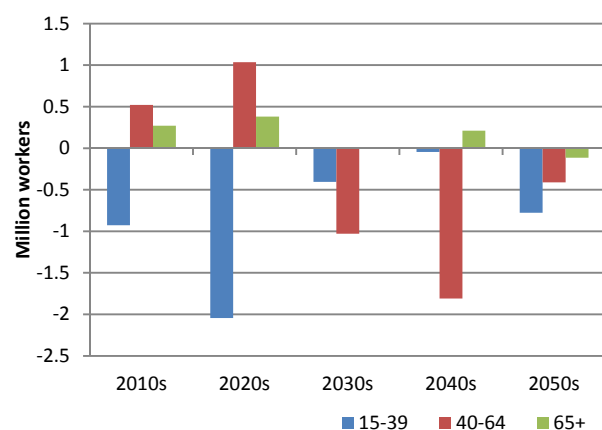
To give an example, if Poland had similar participation rates as Iceland, the decline of the labor force would already be much smaller. The number of younger workers would still decline by around 2.9 million, but many older workers would stay in the labor market. The total decline of the labor force would amount to 1.1 million people between 2010 and 2060.

Policies aiming at bringing female participation rates on par with participation rates among males are unlikely to yield large improvements. The drop among younger workers will still be significant and the number of older workers staying in the labor market will only increase slightly, compared to the status quo. In total, the labor force is estimated to contract by 3.8 million workers over the next 50 years. Extending work life by 10 years will help boosting the number of older workers substantially, but will not stop the decline of the total workforce. Only combining all scenarios would help to turn things around as the numbers of older workers increases by 4.7 million, enough to offset the declining younger work force. In any case, all scenarios imply a drastic aging of the labor force as the median age of the Polish

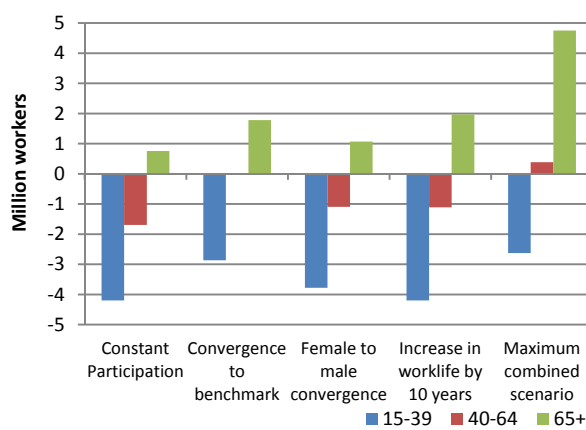
worker will increase significantly. Subsequently, the world of work will have to change as well to accommodate the needs of an older workforce.

**Figure 15: Assuming today's participation rates, the Polish labor force will change dramatically over the next 50 years; only drastic changes in participation and longer working lives can maintain the size of Poland's workforce**

**Panel A: Status quo - constant participation rates**



**Panel B: Scenarios (2010-2060)**



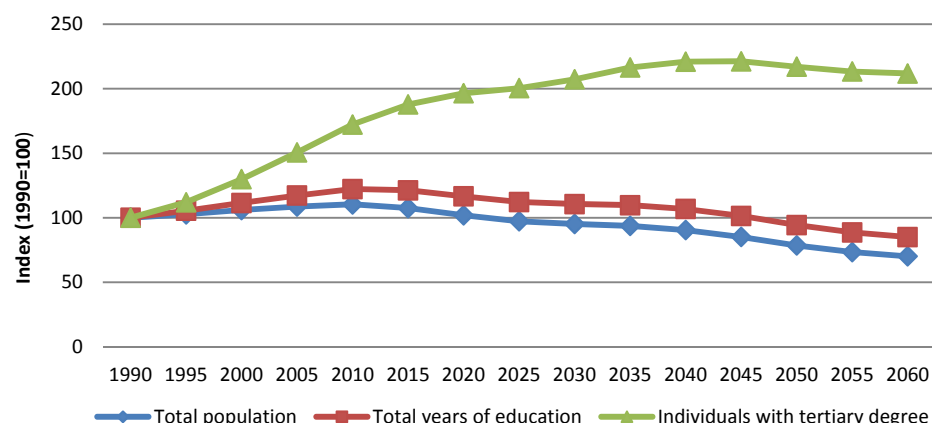
Source: Gady files: LF\_estimates and projections\_15-75+\_1980-2060\_with\_educ.dta. Evolution of the labor force by age group. (graphs – labor market & poverty.xlsx)

Going forward, bringing more people into the labor force and having them participate longer will be critical but not enough. It will be as important to ensure that the workforce remains adequately educated. Typically, younger cohorts that enter the labor market are better educated than older, exiting cohorts. If new labor market entrants were much better educated than older workers, the overall stock of human capital<sup>8</sup> may stay constant or even increase - despite a shrinking labor force. To some extent this has happened in Poland during the 1990s: the stock of human capital grew at a faster rate than the working age population, suggesting that younger generations accumulated much higher levels of education (Figure 16).

In the near future, this trend is likely to change: As the labor force starts to decline, so will the stock of human capital eventually. However, as younger generations continue to obtain more education, the smaller workforce will be better educated and the number of workers with tertiary education will double by 2025. In other words, the share of working age population with tertiary degree will increase from 12 percent in 1990 to 25 and 37 percent in 2025 and 2060, respectively.

<sup>8</sup> The stock of human capital is approximated by the number of years of education among the working age population.

**Figure 16: A shrinking labor force with better-educated workers only postpones the projected decline of the total human capital stock**



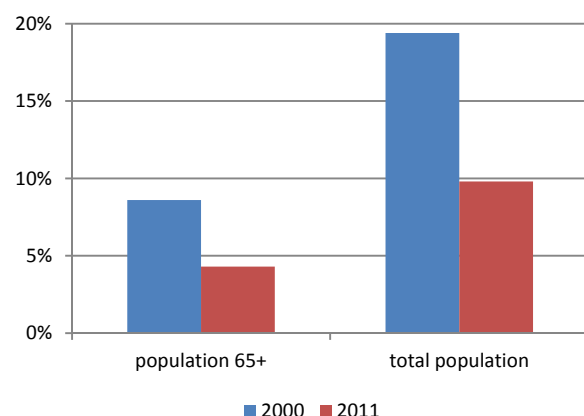
Source: Gady files: LF\_estimates and projections\_15-75+\_1980-2060\_with\_educ.dta. Trends and projections in the stock of human capital, Poland 1990-2060. Total population refers to total working age population. (graphs – labor market & poverty.xlsx)

## Poverty profile of the elderly

In line with the overall trend, poverty among the elderly (65+) declined from 8.6 percent in 2000 to 4.3 percent in 2011 (poverty line \$5.00 per day). However, the share of elderly among the poor increased over the same time period, from 4.9 percent to 5.6 percent. The risk of being poor increased for both sexes, but elderly women seem particularly vulnerable to poverty. In 2011, the share of elderly women among all poor was 3.5 percent, compared to 2.1 percent for elderly men.<sup>9</sup>

**Figure 17: Poverty among the elderly declined, but the share of older people among the poor increased**

**Panel A: Trends in poverty rates**



**Panel B: Share of elderly (65+) among the poor**



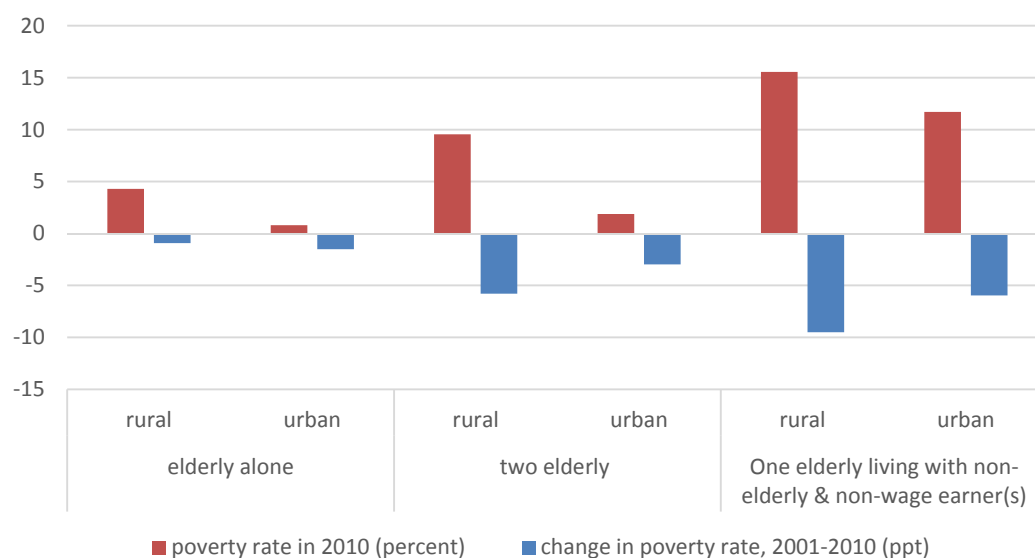
Source: ECAPOV database. (graphs – labor market & poverty.xlsx)

<sup>9</sup> ECAPOV data; output Ana Maria. Other results include trends in dependency ratios by poverty status, share of income from labor or pension, growth decomposition - but not broken down by age groups.

In many European countries including Poland, households with pensioners are less likely to be poor than households without pensioners and for both types of households, poverty declined by a similar degree between 2001 and 2010 (World Bank 2014b). Yet, poverty is closely tied to the structure and composition of households as well as their location. Among the 65+ population in Poland, urban single-adult households face the lowest risk of being poor with a poverty rate of less than 1 percent in 2010, followed by urban households comprising only two elderly people. The poverty rate among households with one pensioner and younger, non-working family members is substantially higher, reaching 15.6 percent in rural areas and 11.7 percent in urban areas. Despite the fact that since 2001 rural poverty declined at a faster rate, rural households still face a significantly higher risk of being poor in 2010 – regardless of the household structure (Figure 18).

Poverty is more widespread and persistent among the oldest old, especially if they live in rural areas. In 2010, one in five rural households consisting of two people aged 80 years and more was poor – only a small improvement compared to ten years ago when the poverty rate was 21.9 percent. Similarly, 7.7 percent of the rural 80+ population living alone was poor in 2010, down from 8.4 percent a decade ago. Living standards for the oldest old living in urban areas improved considerably as poverty came down by 9 and 6 percent, respectively, for urban households comprised of two elderly or one elderly and younger family members.<sup>10</sup>

**Figure 18: Elderly living in rural areas or living together with younger, non-working household members are more likely to be poor**



Source: Word Bank 2014b. Poverty rates among the population 65+, by household type and location. Welfare aggregate: ECAPOV harmonized consumption aggregate (?).(graphs – labor market & poverty.xlsx)

<sup>10</sup> Poverty rates for 80+population living in household type “one elderly living with non-elderly, non-wage earner(s)” were 15.7 percent in rural areas and 11.4 percent in urban settings – very similar to the rates shown in Figure 18 for the 65+ population.



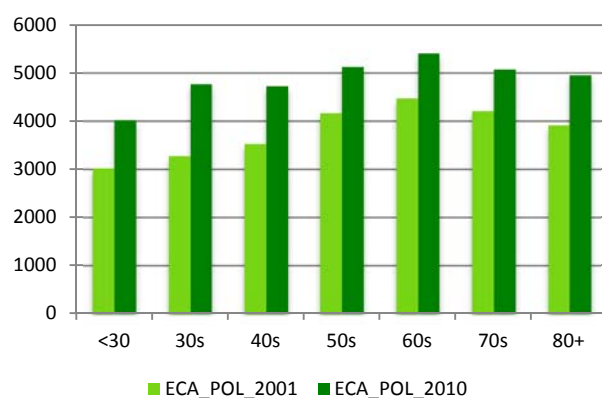
## Consumption patterns among the elderly<sup>11</sup>

As people age, their preferences and consumption patterns are likely to change. Cross-country longitudinal data that would allow studying these changes at the individual level and over the life cycle are still limited. To learn more about changing consumption patterns when people age, a standard approach is to compare consumption patterns across age cohorts.

Pre and post retirement consumption patterns may differ for two main reasons: (1) Market and out-of-pocket expenditures may decline as needs and preferences change with age. Also, many countries provide pensioners with discounts on fuel, electricity, health products etc. and subsidized services, such as for public transport or entertainment (World Bank 2014b). (2) The opportunity cost of spending time at home tends to fall once people have retired from work. Household consumption can be considered an outcome of 'home production' which was derived from a combination of market expenditures and household members' time spent at home. When 'time spent at home' becomes more abundant (cheaper), one would expect this (production) factor to be used more intensely. (and consumption of market products to decline).

How does consumption change over the lifecycle and across cohorts in Poland? Per capita consumption increases with age and people in their sixties enjoy the highest per capita consumption levels. For older age groups, consumption levels decline somewhat (Figure 19). This profile holds for both older and younger cohorts, but consumption levels of younger cohorts are consistently higher, reflecting relatively strong economic growth during the period 2000-2010.

**Figure 19: Consumption increases with age and declines only slightly for people in their 70s and 80s**



Source: World Bank, 2014c. Unit: per capita annual total consumption, in USD 2005, PPP.

The proportion spent on food is typically the largest budget item. In Poland, the share of food consumption in total consumption remains fairly stable over the lifecycle<sup>12</sup>, but the relative importance of purchased versus non-purchased food items changes considerably. In line with international

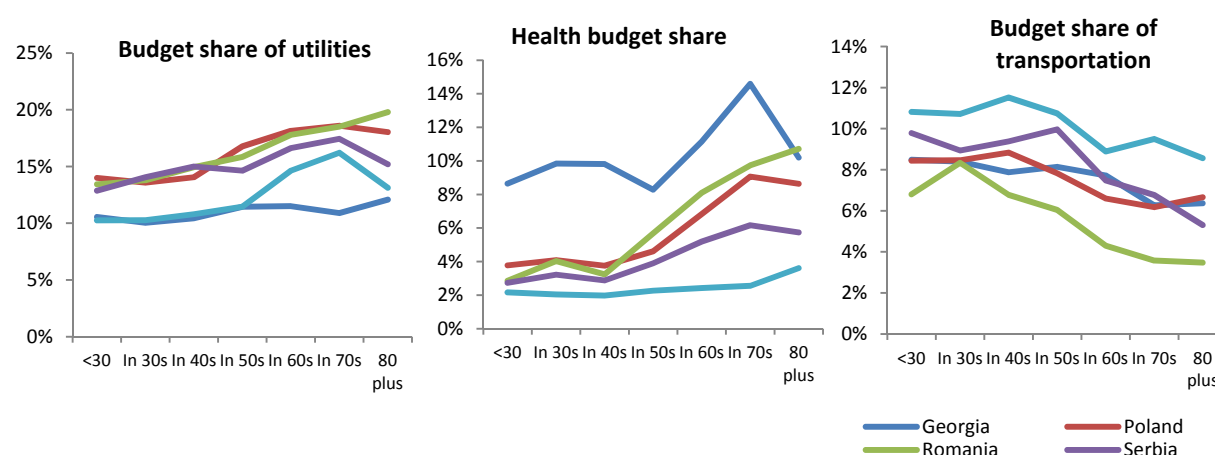
<sup>11</sup> This section largely draws upon recent work "How does consumption change over the lifecycle? Evidence from emerging economies in ECA" (World Bank, 2014c).

<sup>12</sup> The food share varies between 25 percent for people in their thirties and goes up to 30 percent for the oldest age groups.

evidence, the elderly are less likely to eat out<sup>13</sup>; at the same time, Polish elderly appear to spend more on purchased food items (Figure A3). One way to reconcile these somewhat opposing spending patterns is to assume that elderly are more likely to prepare food at home, using mainly purchased food inputs.

Budget shares spent on utilities and health increase substantially over the lifecycle, whereas the share spent on transport declines with age (Figure 20). Utilities include expenses like rent, heating, water, or maintenance and for Poland, the expenditures start to increase for people in their forties. It is likely that higher heating costs are the main reason for the larger budget share on utilities as more time is spent at home, but also houses may be relatively large for this age group. For older people (60+ and 70+), more heat may be needed to feel comfortable.

**Figure 20: Utilities and health expenditures increase with age, less is spent on transportation**



Source: World Bank, 2014c. Data circa 2010.

In Poland, the share of the health budget starts to increase when people are in their forties; by the time people are 70 years and older, the budget share spent on health has more than doubled from 4 percent to 9 percent. A more detailed analysis of the rising health cost shows that in Poland, the main drivers are increasing expenditures on pharmaceuticals and medical equipment rather than services received as outpatient or in hospital.

The share going to transportation starts to drop when people are in their forties and continues to decline after retirement. Less commuting for work and fewer recreational travels may contribute to the declining budget share among older age groups.

Differences in consumption patterns do not only emerge across age groups, but also by gender. Households with older female heads allocate a larger share to health and utilities. For health, this may be due to higher life expectancy for women which can be linked to increasing health-related costs. Male headed households spend more on transportation. Interestingly, gender differences for food expenditure shares can only be detected among younger age groups, with male heads spending up to five percent more on food than female heads. For age groups 60+, the gender differences disappear.

<sup>13</sup> Atkinson, Hayes, 2010: Consumption patterns among older consumers. ILC December 2010.

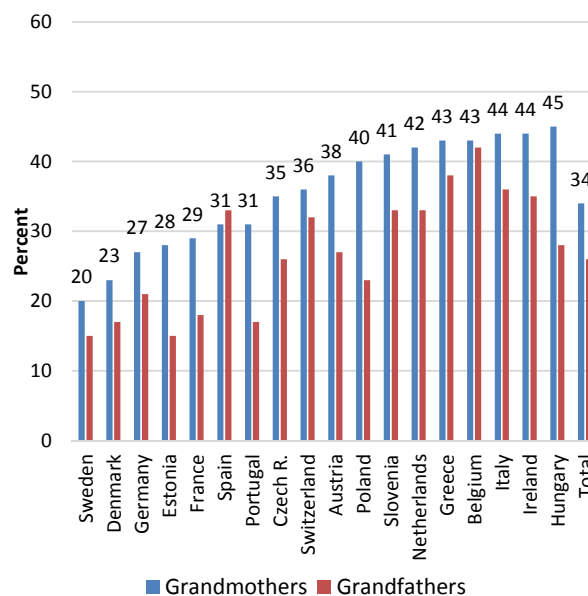
## Risk factors of old age poverty

### 1) The increasing burden of care:

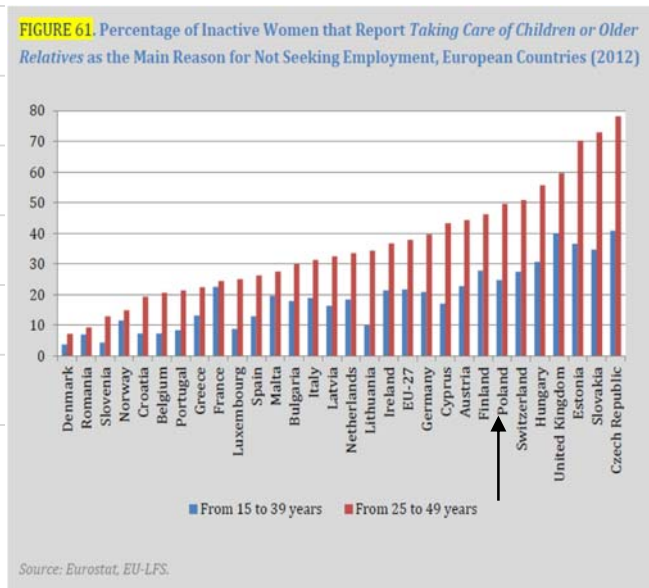
Poland's current care arrangements already involve significant exchange of time and resources between generations (Poland CEM, 2014). For example, in 2011 almost every second grandmother reported to look after their grandchildren at least once a week; the share of prime age women who report to be inactive because they are taking care of children or older relatives reached almost 50 percent in 2012 (Figure 21).

**Figure 21: In Poland, care for children and elderly is often provided informally by female family members**

(a) Share of grandmothers and grandfathers providing care at least once a week:



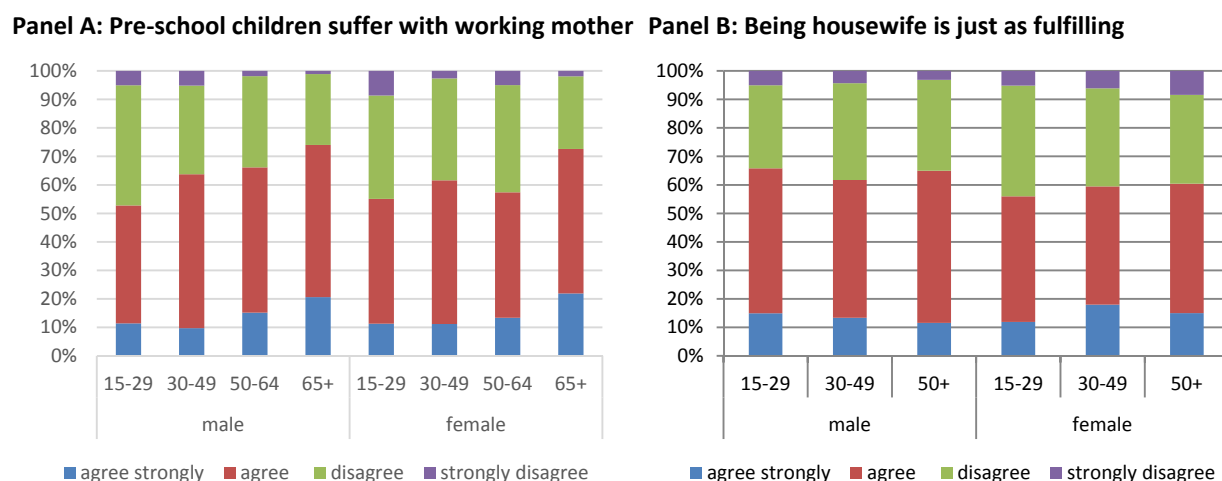
(b) Share of inactive women reporting "Taking care of children or older relatives" as the main reason for not seeking employment, selected countries, 2012:



Sources: Panel A: Grandparental childcare across Europe. Background paper. Data: SHARE wave 4 (AT, DE, SE, NL, ES, IT, FR, DK, CH, BE, CZ, PO, HU, PT, SI, EE) and wave 2 (GR, IE). N=19,099 grandparents with at least one grandchild under the age of 16 years. Panel B: Sundaram et al. (2014): Portraits of labor market exclusion

Limited availability of affordable quality care services for children and elderly but also negative associations with formal care services are often behind such informal care arrangements. For example, more than 60 percent of respondents aged 30-64 years believe that pre-school children suffer with a working mother. Interestingly, acceptance levels are similar for men and women. When asked about whether being a housewife is as fulfilling as having a professional career, more men than women agree, but acceptance among females remains relatively high, reaching almost 60 percent. Among Polish men aged 15-29, almost two in three believe in traditional gender roles.

**Figure 22: In Poland, many people believe that pre-school children suffer when the mother is working and that being a housewife is just as fulfilling**



Source: Panel A: EVS, 2008. Panel B: WVS, 2005. (graphs – labor market & poverty.xlsx)

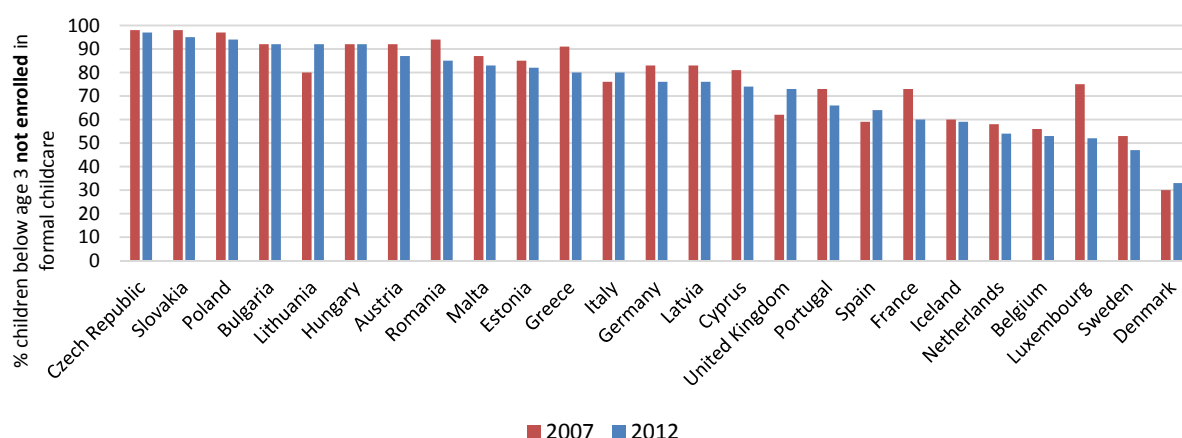
Against this backdrop, it is not surprising that less than 10 percent of all children under the age of 3 were enrolled in formal child care in 2012 (

**Figure 23).** The national averages mask substantial differences between urban and rural settings. The share of children 3-6 years old covered by formal childcare services is above 80 percent in urban centers, but accounts for only 50 percent in rural areas in 2010 (OECD 2013). Similarly, availability of formal elder care is limited and coverage rates for the frail old are among the lowest in the EU 27, barely adding up to 5 percent in 2010.<sup>14</sup>

Social norms that reinforce traditional gender roles and favor informal care arrangements limit the number of years women can participate in the labor market. Shorter working lives impact negatively on women's lifetime earnings, their accumulated pensions and wealth. With a rapidly aging population, care responsibilities of female family members are likely to increase even further. Hence, female care providers face a substantially higher risk of post-retirement poverty. Women's longer life expectancy exacerbates the disadvantaged economic position during retirement, as women may have to depend on their own pension entitlements and survivor benefits, leading to a significant deterioration in living standards upon widowhood (care and aging, May draft).

<sup>14</sup> Saraceno, Keck (2010): in care and aging draft. Coverage rates for residential and home-based care options are expressed as a share of the 65+ population.

**Figure 23: Less than 10 percent of children below the age of 3 are in formal childcare in Poland**



Source: Eurostat, 2014. Percentage of children less than 3 years old not enrolled in formal childcare. (graphs – labor market & poverty.xlsx)

## 2) Pension adequacy is expected to decline dramatically:

Since the comprehensive reform of the public pension system in 1999, Poland's old age pension system consists of two pillars. The first pillar is an (unfunded) notional defined contribution scheme; the second pillar is a fully funded scheme of open pension funds. Both pillars are obligatory for new members. At the time the new system was implemented, people aged between 30 and 50 years could choose whether to contribute to both pillars or only participate in the NDC scheme, whereas those above 50 remained in the old system. In a second round of reforms, access to early retirement was tightened in 2008 and since 2013, the retirement age started to increase by three months every year. This gradual increase will continue until the uniform retirement age of 67 years<sup>15</sup> is reached (EU Commission 2012, OECD 2013).

Today's pension entitlements were largely accrued under the old system and are based on the defined-benefit formula. Prior to the 1999 reform, contributions and benefits were not strongly connected and shorter working lives or low incomes did not result in inadequate pensions (Poland CEM 2014). Unlike in other countries, median pension benefits are similar to median earnings of older workers – thanks to the strong redistributive nature of the old Polish pension system (Figure A5). Hence, public retirement

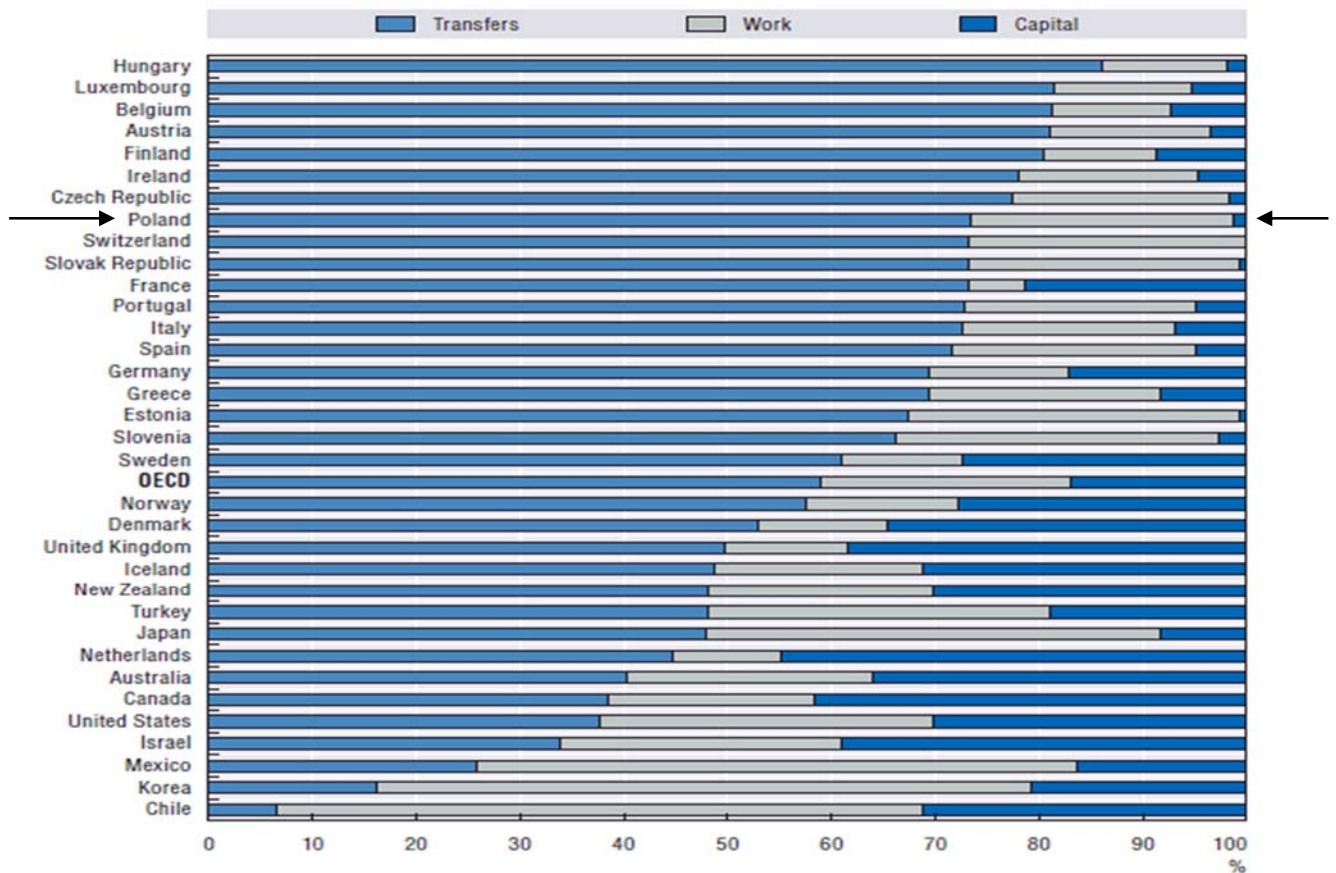
<sup>15</sup> The new retirement age of 67 years will be reached in 2020 for men and 2040 for women.

transfers play a large role in ensuring that on average today's pensioners are as well-off as non-pensioners.

Projections of adequacy indicate that for the next generations of retirees the pension benefits will be less of a protection against old age poverty. Once the changes of the 1999 reform have fully matured, replacement rates are expected to decrease substantially as future entitlements will be based on life-time earnings rather than best earnings. In addition, average life expectancy at the time of retirement is fully taken into account when determining the benefit (EU 2012, OECD 2013). These changes will result in much lower pension benefits than today: The net theoretical replacement rate for a hypothetical male worker retiring at 65 after a 40 working years is projected to decrease from 75.5 percent in 2010 to 43.3 percent in 2050. When expressed as a share of the average wage, pension benefits are expected to fall from 51 percent in 2011 to 26 percent by 2075 (World Bank 2014b, ECA pension report). While many countries will experience a decline in replacement rates, the decline in Poland is expected to be particularly large (EU commission 2012). Women in particular are at risk of receiving inadequate pension benefits as they are more likely to have shorter working lives and work in low wage jobs.

Post retirement living standards are not only determined by the generosity of the pension benefits, but other factors such as real estate, financial assets, labor and capital incomes or the value of publicly-provided services that are targeted to the elderly can play a large role. For pensioner households in Poland, however, public transfers account for more than 70 percent of the retirement income; the contribution of capital income is particularly low (Figure 24).

**Figure 24: Poland's elderly rely heavily on public transfers; public pensions account for more than 70 percent of their retirement income**

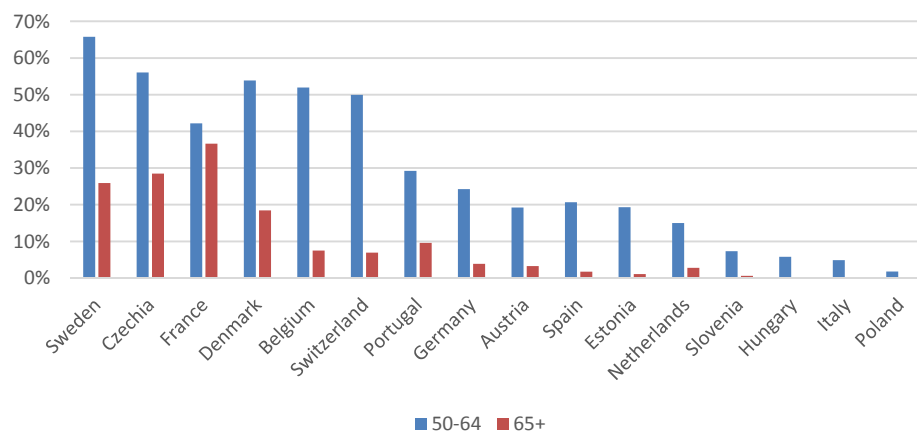


Source: OECD, 2013b. Sources of income of the 65+ population, late 2000s.

### 3) *Low private savings and assets accumulation:*

To maintain a fair standard of living in old age, today's Polish workers are required to make their own provisions. This could involve staying longer in gainful employment, save more or contribute to the voluntary third pillar of the pension system. The private saving rate has declined since 2001, from 10 percent of GDP to 3 percent in 2012. Ten years after the first private voluntary pension scheme was established in 1999, total assets of all Polish voluntary private pension accounts were less than 1 percent of GDP (Poland CEM 2014). The coverage rate of voluntary occupational pension schemes or individual retirement accounts is among the lowest in Europe (Figure 25). For future generations to enjoy replacement rates that are similar to those pensioners enjoy today, younger cohorts will need to save an additional 10 percent of their incomes. Without a dramatic change in the attitudes toward savings and consumption, many households will be at risk to live in poverty once they retire.

**Figure 25: Less than 2 percent of older Polish workers hold an individual retirement account**



Source: Share, wave 4. (graphs – wealth analysis.xlsx)

Certain trends prevalent in the Polish society may help to boost private savings. Firstly, saving rates typically increase with household income; as younger cohorts are richer, they can save more. Similarly, average savings increase with the level of education of the household head. Younger cohorts are better educated and might be less myopic about future public pension benefits. Secondly, households with fewer dependents tend to save more. As the number of children per woman has been falling for many years, households may be able to save more. Finally, there is preliminary evidence that, after controlling for various factors like income and age, younger cohorts have a greater propensity to save (Poland, CEM).<sup>16</sup>

People living in Eastern European countries have had fewer opportunities and less time to accumulate wealth. The median net worth<sup>17</sup> in countries like Czech Republic, Poland, Hungary or Estonia is much lower than in other countries where households could invest and save over a much longer time period. Noticeably, countries like Switzerland, France or Czech Republic, people aged 60-69 continue to accumulate wealth, whereas in Poland - with many people in this age group already having retired from the labor market- wealth levels are slightly below the levels of people aged 50-59.

**Figure 26: In Eastern European transition countries, people had fewer opportunities to accumulate wealth**

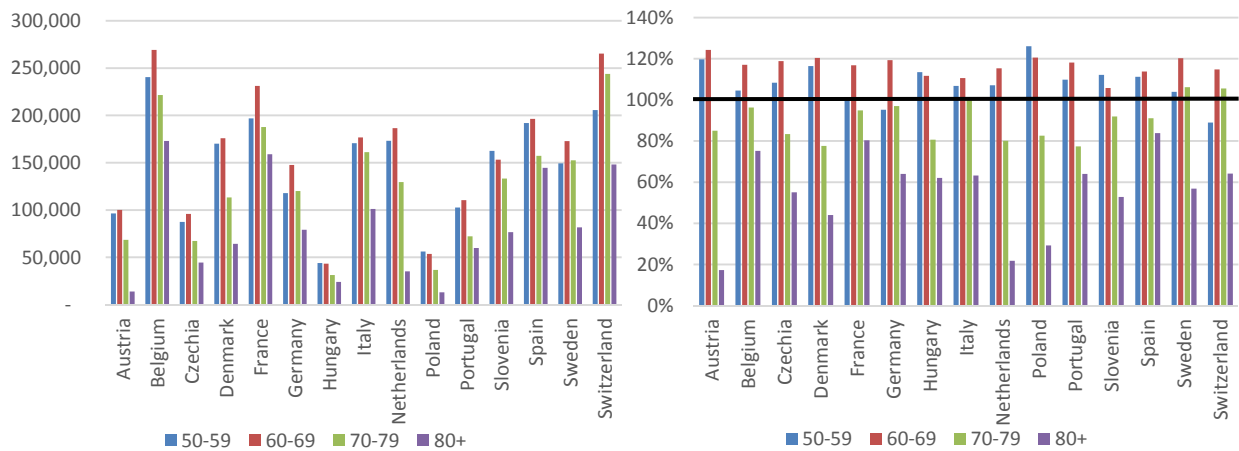
**Panel A: Median net worth by age group, in absolute numbers**

**Panel B: Median net worth by age group relative to country-specific median net worth**

<sup>16</sup> Recent research has also shown that female headed households save more than male headed households (Poland CEM).

<sup>17</sup> Net worth is the sum of net real assets and net financial assets.





Source: Share, wave 4. Household median net worth in Euro, 2005 PPP.<sup>18</sup>

## A more detailed look at the elderly's wealth: composition and distribution

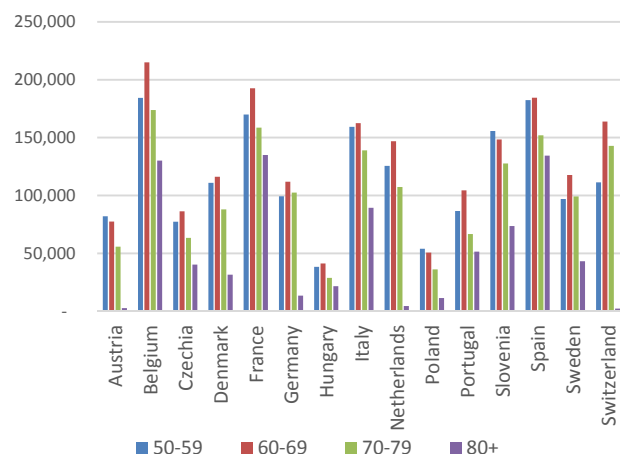
Separating real assets from financial assets reveals a number of remarkable insights. Net worth mostly comprises real assets such as the value of the main residence, other real estate or ownership of firms, equipment etc.; financial assets like bonds, stocks, and saving accounts only play a minor role for total wealth. Both types of assets decline with age – as predicted by the lifecycle hypothesis – but the relative wealth held by older age groups is still substantial in many countries, including Poland. Only for a few countries do real assets among the oldest old become almost negligible, including Austria, Germany, the Netherlands, and Switzerland (Figure 27, A6). Favorable tax legislation to bequeath especially real assets during one's life time is the likely reason for this finding.

Although housing is a major determinant of overall wealth in many countries, the extent to which older people own their homes varies significantly by country and socio-economic factors. In Poland, around 74 percent of the 50+ population own their home which is on par with countries like Denmark or Belgium but the share is significantly lower than what is found for other transition countries (Figure 28, Panel A). The share of elderly who rent is comparatively small; however, Polish elderly report the highest share of “renting for free” with almost 15 percent. This type of housing arrangement is even more common among single, mostly widowed women, reaching 23 percent.

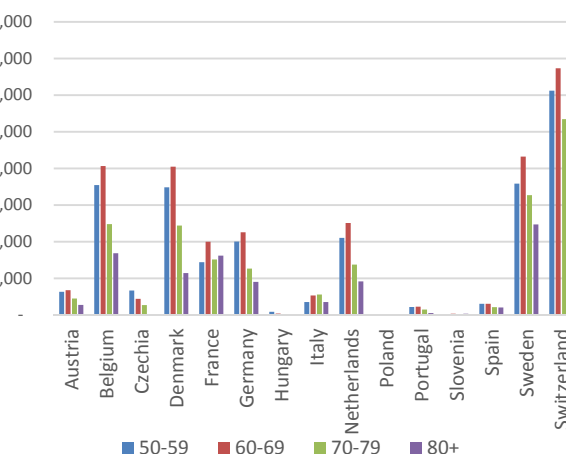
<sup>18</sup> Please note that since CPI, which is used to measure PPP, does not take into account changes to asset prices (only goods and services), deflating asset prices by PPP, is not an accurate representation of the real value of assets across the countries. Ideally, one should deflate physical assets such as houses by an index of asset prices. Some central banks, like South Africa, do produce an index of asset prices. Therefore, deflating asset prices by PPP may only be interpreted if one sold such an asset in a particular country, what is the real value of goods and services the individual may purchase across these countries.

**Figure 27: Housing and other real assets are the main components of households' wealth; more liquid assets only play a minor role**

**Panel A: Median net real assets**



**Panel B: Median net financial assets**



Source: Share, wave 4. All values are in Euro, 2005 PPP. (graphs – wealth analysis.xlsx)

Ownership differs a lot by gender. 80 percent of elderly Polish men are home owners whereas only 71 percent of women aged 50 and above own their home. Among single women (i.e. widowed, never married or divorced), the share is even lower with 58 percent. Although these gaps are sizeable, in other countries they are even larger. For example, the ownership gap in Portugal is among the largest in the sample, despite the fact that the rate at the aggregate level is similar to the one in Poland. Gender gaps are smallest in countries with very high ownership rates, including Slovenia and Estonia, as most people own their homes (Figure 28, Panel B).

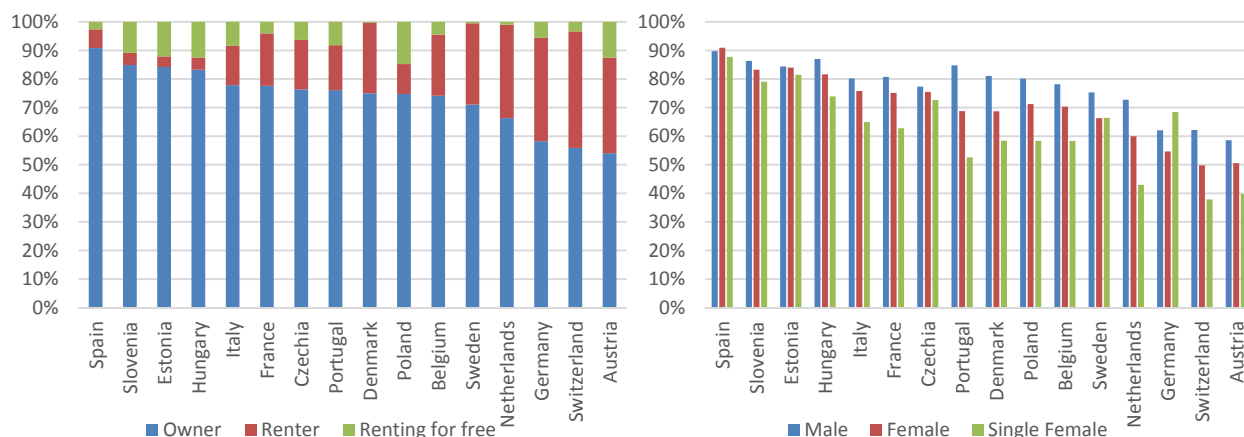
Another factor determining homeownership is age. In many countries, ownership rates go up for 'new' retirees (60-69 years old). This could indicate that upon retirement, people invest in property, and maybe even move to a different location. Only among the oldest old are ownership rates significantly lower. This holds for many countries, including Poland which registers one of the largest declines. When becoming frail, old people may move closer to or move in with their family, or titles are transferred to younger generations during the life time of the elderly (Figure 29, Panel A).

Observing different cohorts at the same age allows us to detect generational trends in homeownership. Results suggest that younger generations invest more often in property as homeownership rates have gone up. In 2007, homeownership among people aged 50-59 was 72 percent; in 2011, the share was 78 percent for the same age group (Figure 29, Panel B). Similar cohort effects can be observed for older age groups. Only among the oldest old, younger cohorts are less likely to own their home as the rate was 63 percent in 2007 and declined to 54 percent for people that are 80 years and older in 2011.

**Figure 28: The majority of Polish elderly owns their home; ownership rates are higher for men than (single) women**

**Panel A: Housing tenure, population 50+**

**Panel B: Ownership differs by gender, marital status**

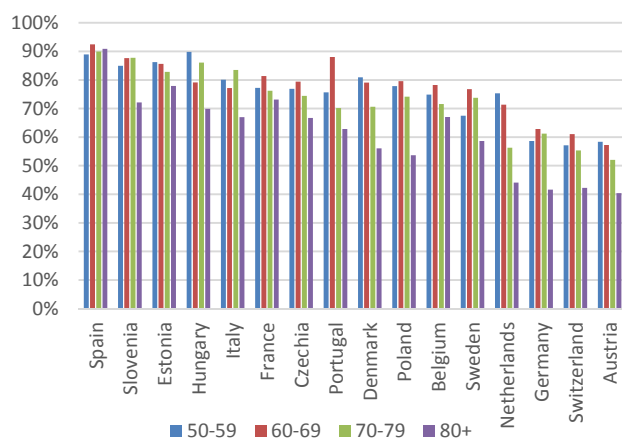


Source: Share, wave 4. (graphs – wealth analysis.xlsx)

Poland's home values are comparatively low - again partly reflecting the fewer opportunities to accumulate wealth in transition countries. In contrast to many other countries, home values in Poland remain relatively stable across age groups. Home values tend to be lower for older age groups; this trend could be related to 'downsizing', i.e. older people live in smaller homes, or elderly spending less on modernizing and maintaining the values of their homes (Figure 30, Panel A).

**Figure 29: Homeownership is significantly lower for the oldest old; generational trends promote homeownership among younger cohorts**

**Panel A: Ownership rates by age group**



**Panel B: In Poland, share of homeowners higher for younger cohorts**

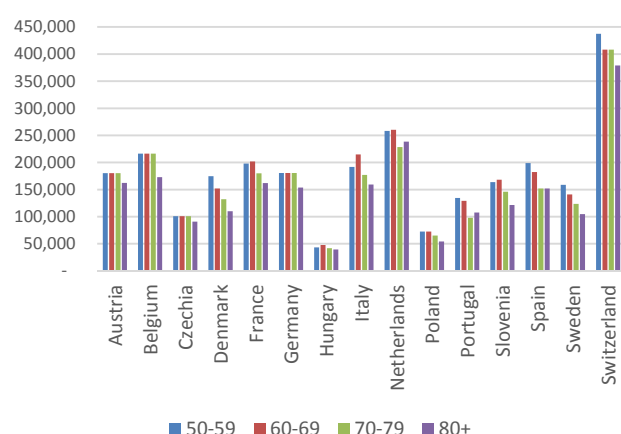


Source: Panel A: Share, wave 4. Panel B: Share, wave 2 (2007, release 2.6.0) and wave 4 (2011) (graphs – wealth analysis.xlsx)

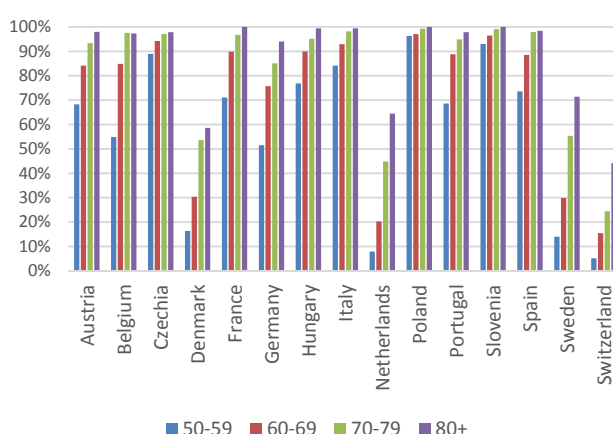
Within countries, the share of mortgaged homes is often positively related with household income. That is, the number of households paying a mortgage is lower for households at the lower end of the income distribution. A similar relationship seems to hold across countries, as richer countries like Switzerland have a significantly larger share of mortgaged homes. Among younger age groups, paying a mortgage is quite common, but people aged 70 and older have typically paid off these debts. In countries with high median home values like Switzerland or the Netherlands, however, the share of mortgage-free homes among the oldest old is only 44 percent and 64 percent, respectively. The opposite holds for Poland, where less than three percent of houses owned by the elder population are burdened with mortgage, and differences across age groups are negligible.

**Figure 30: Poland's median home values are among the lowest; the rate of mortgage-free homes is very high**

**Panel A: Median home value, by age group**



**Panel B: Share of mortgage-free homes increases with age**



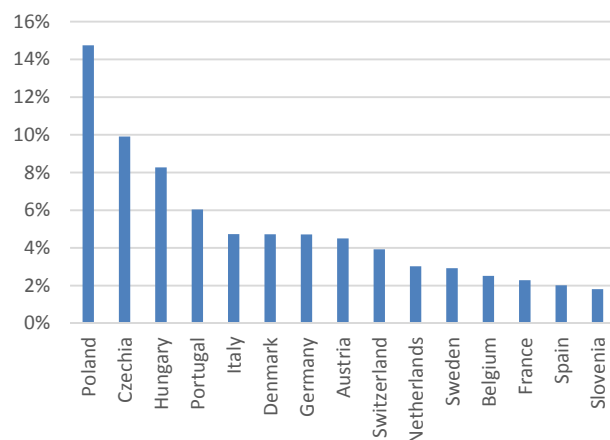
Source: Share, wave 4. Median home values expressed in Euro, 2005 PPP. (graphs – wealth analysis.xlsx)

The previous discussion showed that Poland's elderly largely hold their wealth in the form of housing with home values being relatively low and the share of mortgaged homes negligible. However, this is only part of the story. To gain a more complete picture of the wealth situation in Poland and its implication for poverty, a detailed look at the distribution of wealth is required.

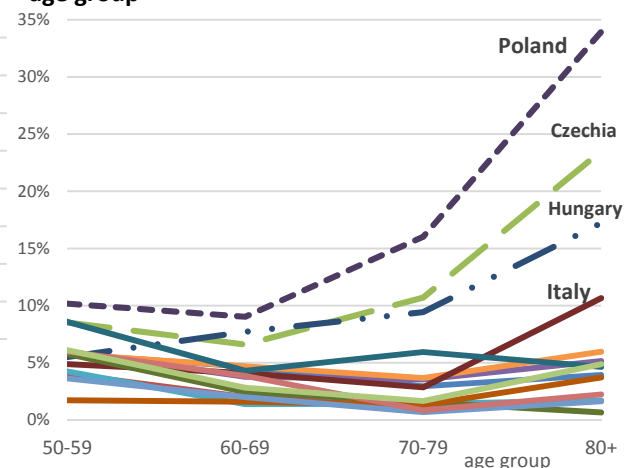
The share of elderly households with zero or negative wealth is high in Poland: 1 out of 7 people aged 50+ has no assets or is in debt (Figure 31). In many European countries, this share remains relatively stable across different age groups. This is different for Poland and other new member states where older age groups are more likely to have zero assets. In Poland, 1 in 3 of the oldest old households are without any assets.

**Figure 31: The share of elderly households with zero or negative wealth is high in Poland, and highest among the oldest old**

**Panel A: Share of households with zero or negative net worth**



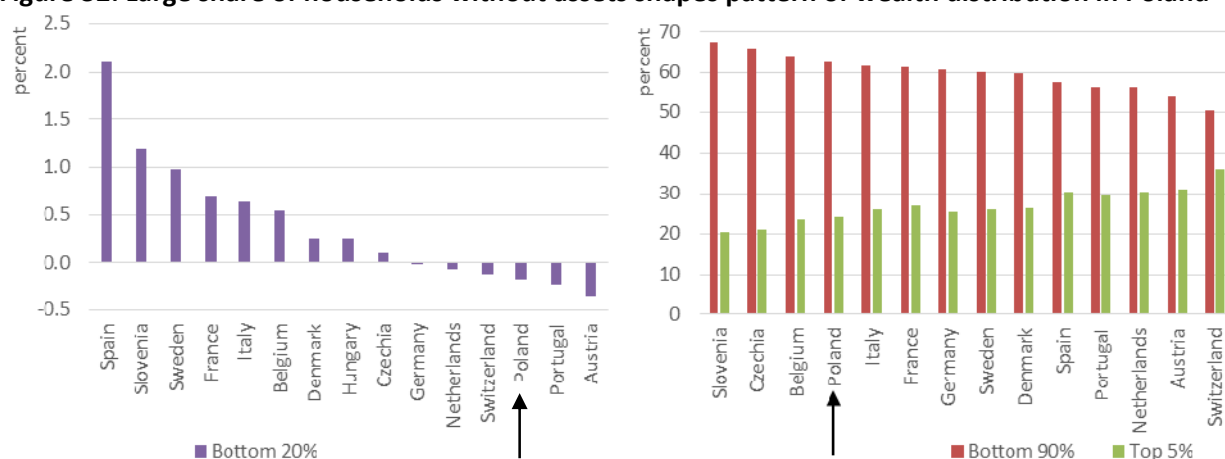
**Panel B: Households with zero or negative wealth by age group**



Source: Share, wave 4. (graphs – wealth analysis.xlsx)

As a result, the distribution of wealth among the Polish elderly is skewed and when ranking countries by the share of total net worth held by the bottom 20 percent, Poland is third to last. Poland's relative position improves significantly when looking at other percentile shares, indicating that the pattern of wealth inequality among the Polish elderly is mainly driven by the significant share of households that have no assets.<sup>19</sup> This is in sharp contrast to Hungary where the share of households without any assets is still large (around 8 percent) but the median household only holds 5.5 percent and the bottom 90 percent of elderly households 23 percent of total net worth, resulting in a Gini coefficient of 0.82.

**Figure 32: Large share of households without assets shapes pattern of wealth distribution in Poland**



Source: Share, wave 4. To maintain the clarity of the second graph, Hungary was excluded. For more information, see Table A1.

<sup>19</sup> Results obtained from earlier comparative studies using SHARE data, wave 2, where Poland was found to have the lowest share for the bottom 90 percent of elderly households and the richest 5 percent had the highest share of total wealth, cannot be confirmed.

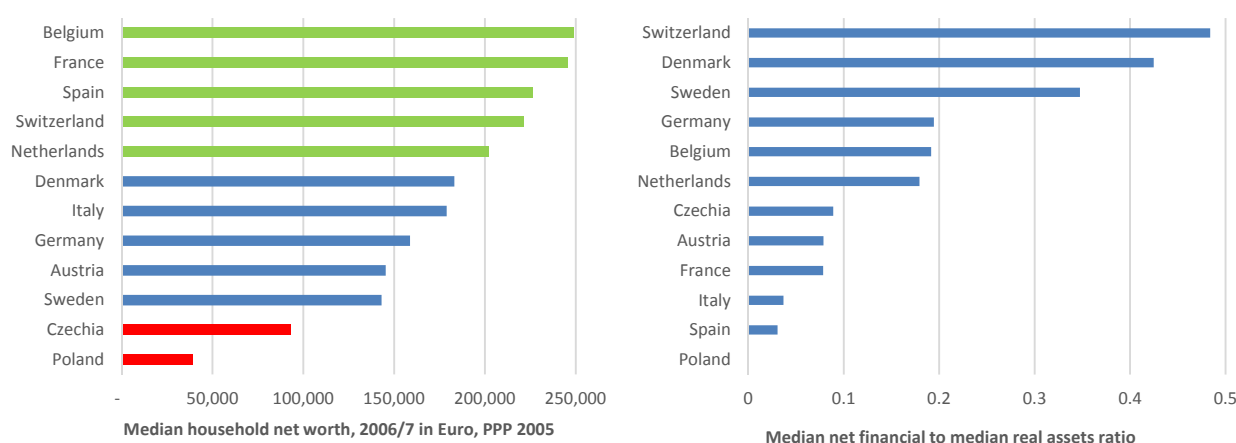
## Changes in wealth and wealth composition: Findings from panel data

How do asset values and portfolio structures change when people age? Do the elderly continue to save and accumulate wealth, do they switch to liquid funds or do they burn up their assets, aiming at wealth levels that are close to zero at the end of their lives? Do elderly people in Poland act similarly to what is observed in other countries?

The previous discussion already shed some light onto some of these questions, although in an incomplete way since results obtained from cross-sectional analysis may be affected by composition and cohort effects. Results presented in this section are obtained from longitudinal data from SHARE waves 2 and 4 which allow us to follow the same person or household over time. Even though the panel dimension is only 4 to 6 years, depending on when each country was surveyed, this analysis will contribute to our understanding of wealth accumulation and dissaving among the elderly.

As shown above, net worth levels differ substantially by country and age group. In wave 2, which corresponds to calendar years 2006 and 2007, median net worth of the population 50+ was highest in Belgium, France, Spain and Switzerland and lowest in Czech Republic and Poland (Figure 33).<sup>20</sup> Regarding net worth composition, a large proportion of wealth is held in real assets such as homes, real estate etc. Only in Switzerland, Denmark and Sweden do the elderly hold between one third and close to half of their net worth in financial assets such as bonds, stocks, mutual funds etc. Notably, more than 50 percent of the elderly in Poland have negative or zero net financial assets and the ratio between financial and real assets (both expressed as the median per country) is equal to zero.

**Figure 33: Median household net worth is highest in Belgium and lowest in Poland; across countries, wealth is largely held in real assets**



Source: Share, panel data, wave 2, release 2.6.0.

How do asset values change when people become older and retire? Despite different starting points of total wealth and portfolio diversity, there seem to be three distinct patterns of wealth dynamics in the SHARE panel data. In one set of countries dissaving occurs early, fast and comprehensively as both

<sup>20</sup> Note that all values are expressed as median values or changes in the median values, respectively. To support ease of reading, the terms net worth, net financial assets and real assets are used in what follows.

financial and real assets are used up. Austria, Spain, Denmark and to a lesser extent Italy and the Netherlands fall into this group. For example, people that were aged 50-59 in Austria in 2006/7 reduced their financial and real assets substantially over the course of four years as indicated by the change in median net worth and its components (Figure 34).<sup>21</sup> Spending continues for older age groups, albeit at a slower rate. In Spain, reducing the value of real assets happens at a faster rate among older people. In Italy, dissaving occurs primarily through reducing the value of real assets since median net financial assets remains unchanged (no bars in graph). Most typical for these countries is that in terms of median values, no further wealth accumulation is happening beyond the age of 50.

A second set of countries is comprised of Czech Republic and Poland, the only two new member states included in the panel dataset, Belgium and Germany. Changes to the median values of net worth and its components are much more moderate. As Poland's elderly have few financial assets, there is not much scope for change. Net worth is primarily determined by the value of real assets (mainly owner-occupied homes) which seems to increase slightly for Poland's elderly aged 50-59. For older age groups, no traceable changes when analyzing median values can be detected.

The last group includes France where the 50+ population owns significant amounts of wealth. Furthermore, it includes Switzerland and Sweden where people have relatively diversified portfolios. In all three countries, people aged 50-59 in 2006/7 continued to (a) accumulate wealth and (b) diversify as both types of assets increased in value. Retirees in France (aged 60-69) seem to revert back to financial assets as the value of real assets was reduced significantly. In Sweden and Switzerland, dissaving occurred primarily by spending financial assets.

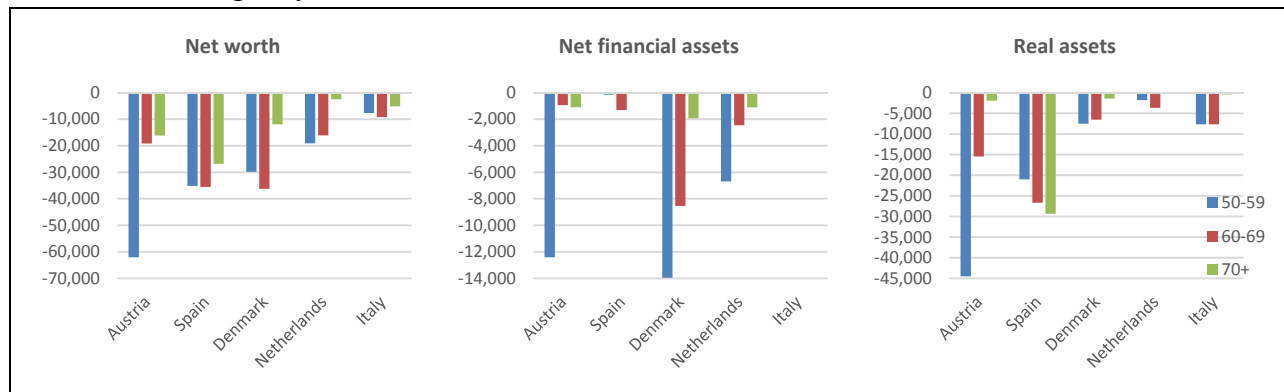
These differences in spending patterns also affect the ranking of countries in the final year of the panel data. Austria is now second to last as the net worth held by the 50+ population was reduced significantly. Sweden, on the other hand improved its relative position, leaving behind countries like Germany and Denmark (see also Figure A7). Poland older generations remain the least well-off when comparing median values of net worth. And also the longitudinal analysis reveals that Poland has the highest share and fastest increase of households without any assets. In the first year of the panel, already 13 percent of people aged 60-69 are without any assets and their share increases to 15 percent by 2012. The increase is even more dramatic for population 70+ where the share of households without any assets increases from 23 percent in 2006/7 to 28 percent in 2012 (see also Table A2).

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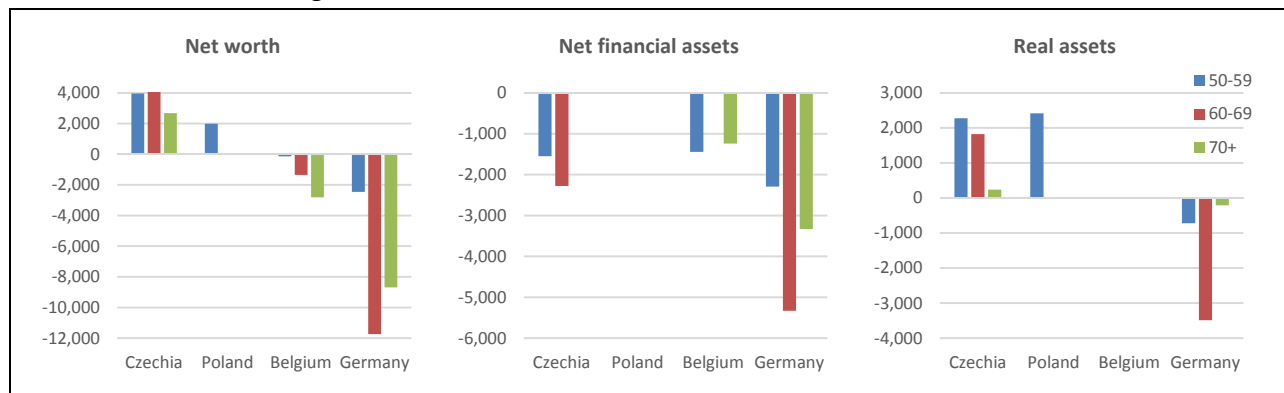
<sup>21</sup> Differences in net worth etc. are calculated at the household level. In a second step, these differences are aggregated at the country level to obtain the country-specific median. In contrast, taking the difference of the country-specific medians for waves 2 and 4 will yield different results, mainly affecting the magnitude of the change. Longitudinal weights that take control for sample attrition due to nonresponse and mortality of the original target population have been calibrated (SHARE, 2013).

**Figure 34: Patterns of wealth changes among the elderly**

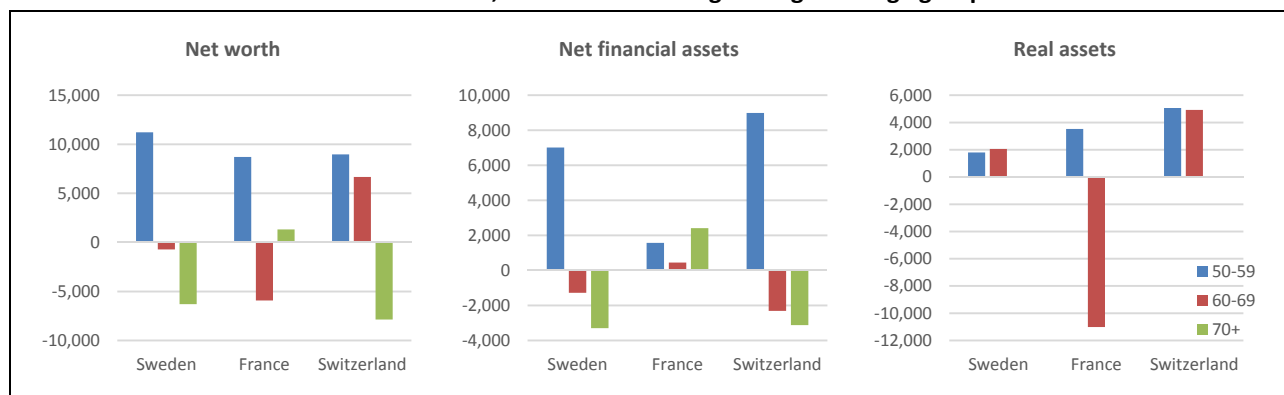
**Pattern 1: Dissaving early and fast**



**Pattern 1: Moderate changes to net worth**



**Pattern 3: Wealth accumulation continues, moderate dissaving among older age groups**



Source: Share, panel data, waves 2 and 4. (graphs – wealth analysis.xlsx)

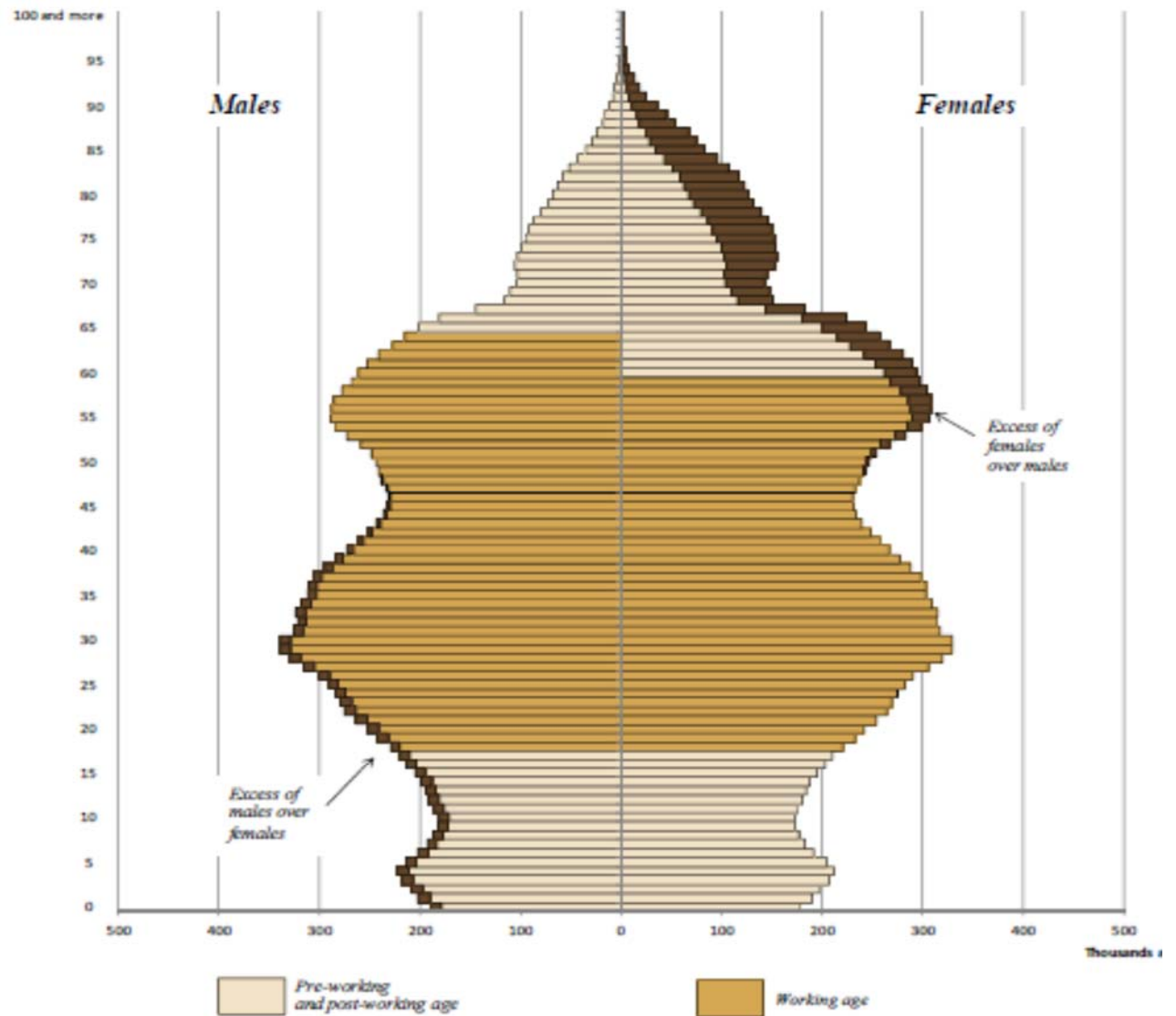


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Annex:

Figure A1: The population pyramid in 2013

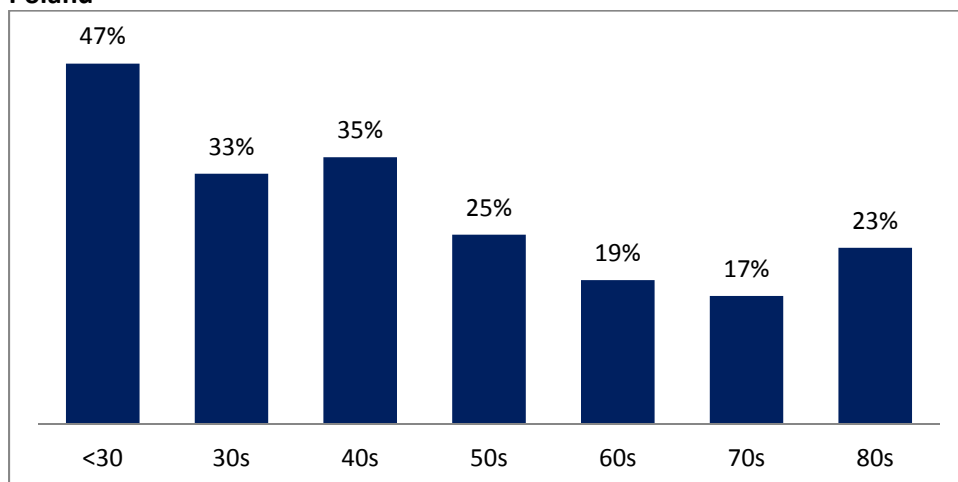


Source: Central Statistical Office, 2013

Figure A2: NUTS 2 provinces, Poland



**Figure A3: Share of food items consumed that is not purchased, as share of total food consumption, Poland**



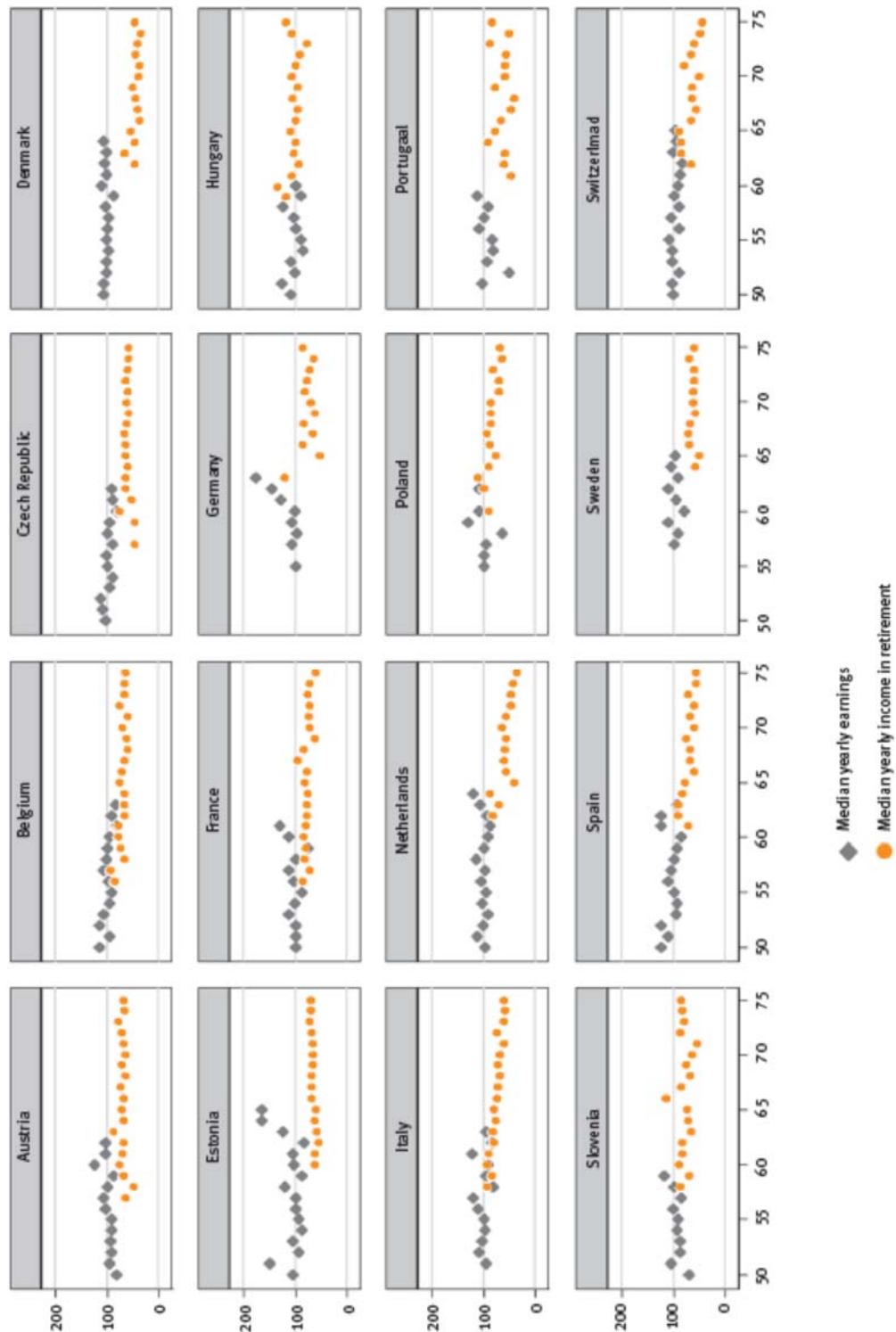
Source: World Bank, 2014c.

**Figure A4: Among older household heads, women spend more on utilities and health, but less on transport than men**



Source: World Bank, 2014c. Gender differences in spending patterns, male heads versus female heads.

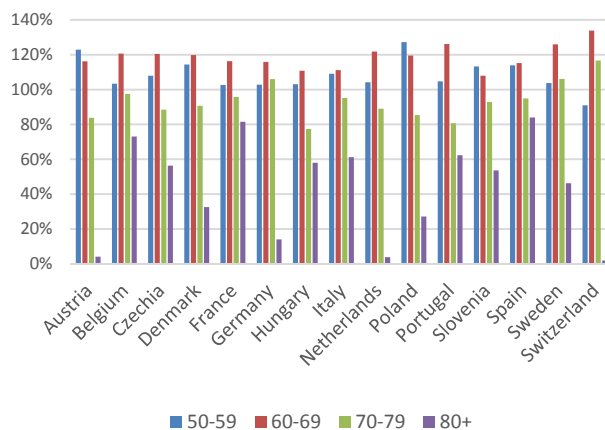
Figure A5: Median earnings and median pension benefits of men, by age



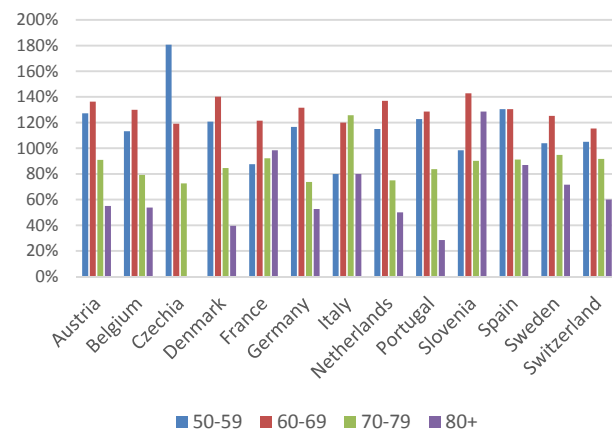
Source: Divenyi, Kezdi: Low employment among the 50+ population in Hungary: the role of incentives, health and cognitive capacities, In: Boersch-Supan, Brandt, Litwin, Weber (eds): Active aging and solidarity between generations in Europe: First results from SHARE after the economic crisis, 2013.

**Figure A5: Median real assets and net financial assets by age group, relative to the respective total median per country**

**Panel A: Relative median net real assets**



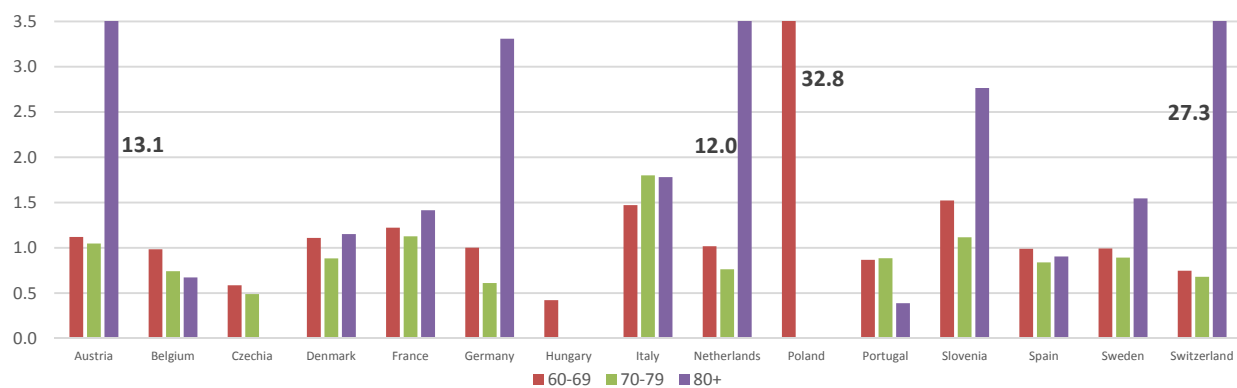
**Panel B: Relative median net financial assets**



Source: Share, wave 4.

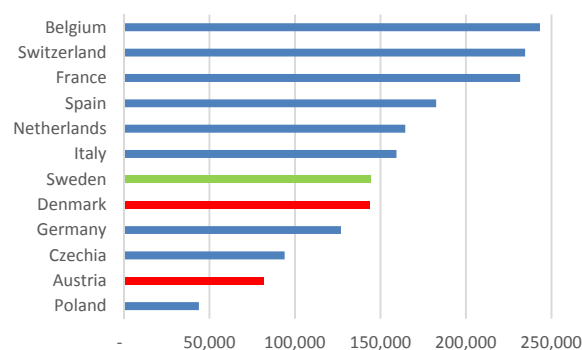
Notes: The graph on net financial assets does not include Poland and Hungary since values could either not be calculated (Poland) or are substantially skewed (Hungary). See also [wealth\\_analysis\\_graphs.xlsx](#).

**Figure A6: Ratio of net financial to real assets, normalized by ratio of age group 50-59**



Source: Share, wave 4. In Hungary and Poland, median net financial assets for people aged 70+ are equal to zero.

**Figure A7: Median household net worth, 2011 in Euro, PPP 2005**



Source: Share, panel data, wave 4.

**Table A1: Share of total net worth by selected percentiles and measures of inequality**

Country	Bottom 20%	Bottom 50%	Bottom 90%	Top 10%	Top 5%	p90/p50	p90/p10	Gini
Austria	-0.4	5.4	54.3	45.7	30.9	5	907	0.66
Germany	0.0	8.7	60.8	39.2	25.5	4	373	0.60
Sweden	1.0	12.0	60.0	40.0	26.0	4	48	0.57
Netherlands	-0.1	9.0	56.3	43.7	30.5	3	284	0.62
Spain	2.1	15.9	57.7	42.3	30.4	3	29	0.54
Italy	0.6	14.4	61.6	38.4	26.0	3	135	0.54
France	0.7	15.1	61.3	38.7	27.0	3	126	0.54
Denmark	0.3	11.4	60.0	40.0	26.3	4	146	0.58
Switzerland	-0.1	7.3	50.6	49.4	36.0	4	222	0.66
Belgium	0.5	15.1	64.0	36.0	23.5	3	127	0.52
Czechia	0.1	13.2	65.9	34.1	21.1	3	nc	0.53
<b>Poland</b>	<b>-0.2</b>	<b>11.8</b>	<b>62.5</b>	<b>37.5</b>	<b>24.0</b>	<b>3</b>	<b>nc</b>	<b>0.56</b>
Hungary	0.3	5.5	23.5	76.5	71.8	3	125	0.82
Portugal	-0.2	9.3	56.6	43.4	29.5	4	1612	0.62
Slovenia	1.2	15.4	67.4	32.6	20.2	3	70	0.50

Source: Share, wave 4, own calculations.

Note: Ratio p90/p10 could not be computed as the upper wealth margin of the poorest 10 percent in Czechia and Poland is zero or negative.

**Table A2: Share of households without any assets increases significantly for Poland's elder generations**

	Cohorts aged 60-69 in wave 2		Cohorts aged 70+ in wave 2	
	2006	2011	2006	2011
Austria	2%	2%	2%	5%
Germany	4%	3%	3%	6%
Sweden	2%	2%	3%	2%
Netherlands	3%	3%	3%	1%
Spain	1%	2%	3%	2%
Italy	4%	4%	7%	9%
France	1%	2%	3%	1%
Denmark	3%	2%	5%	5%
Switzerland	1%	1%	2%	7%
Belgium	1%	0%	1%	1%
Czechia	6%	2%	13%	13%
<b>Poland</b>	<b>13%</b>	<b>15%</b>	<b>23%</b>	<b>28%</b>

Source: Share, panel data, waves 2 (calendar years 2006/7) and 4 (calendar years 2011/12), own calculations.