

Subjective Well-Being in Retirement, Public Pensions and Income Inequality in Europe

Claudius Garten

Federal Institute for Population Research (BiB), Wiesbaden

Introduction

Pension systems in Europe are facing the challenge of demographic ageing. Europe is one of the regions of the world where the population is ageing most rapidly (United Nations, 2024). This means that fewer and fewer contributors are supporting more and more pensioners, who are receiving pensions for ever longer periods (Ebbinghaus, 2015b). This is putting pressure on the financing of pension systems. In order to reduce the financial burden, many European welfare states have been attempting since the 1990s to strengthen occupational and private pension provision, while increasingly restricting public pension provision and raising the statutory retirement age (Hinrichs, 2021). While public pension schemes account for the largest share of old-age security in all European welfare states, there exists a multitude of ways to finance public pensions and define public pension benefits (Hinrichs, 2018). Thus, public pension schemes can redistribute income in old age on the one hand and protect against poverty in old age on the other (Barr & Diamond, 2006). At the same time, however, comprehensive public pension schemes can also contribute to greater income inequality if the level of pension entitlements is more closely linked to employment (Ebbinghaus & Neugschwender, 2011). There are major differences between European welfare states in the extent to which old-age provision, and public pension schemes in particular, redistribute income and reduce poverty (Ebbinghaus, 2021). In addition to its importance for material security, old-age provision also has symbolic significance: it is understood as (lack of) recognition of the ‘lifetime achievements’ of gainful employment and family care work (Hayward et al., 1998; Hyde & Dixon, 2009). It can also increase the subjective well-being of people who are less dependent on it, as it represents a safety net for everyone (Sjöberg, 2010). Public pension provision can also contribute to subjective well-being if it helps to reduce income inequality, which has a particularly negative impact on the subjective well-being of disadvantaged people (Lous & Graafland, 2022). By reducing income inequality, it improves the relative position of people who are more dependent on public pension provision.

Empirical research shows that people with discontinuous employment histories are at greater risk of poverty in retirement, particularly women (Madero-Cabib & Fasang, 2016; Möhring, 2018) and people with low socioeconomic status (SES) (Flores et al., 2020). Interruptions in employment are mainly due to unemployment, incapacity to work due to illness or taking on family care responsibilities (Bravo & Herce, 2022; Fasang et al., 2013). Together with high workloads, these factors are also associated with involuntary early retirement, which is accompanied by reductions in pension payments (De Breij et al., 2020; Heisig, 2016). The composition of old-age provision also differs along these social dimensions. People with continuous employment histories and higher incomes have more opportunities to contribute to occupational and private pension schemes, while discontinuous employment histories and low incomes offer fewer opportunities for contributions to occupational and private pension

schemes if occupational and private pension schemes are not actively promoted or mandatory (Marcinkiewicz, 2019; Möhring, 2015). People with discontinuous employment histories therefore not only receive lower pensions, but are also more dependent on public pension provision.

Over the course of a lifetime, differences in subjective well-being between people with high and low SES increase (Baetschmann, 2014; Patzina, 2022). Discontinuous employment histories in particular are associated with lower subjective well-being (Falkingham et al., 2020; Ponomarenko, 2016; Wahrendorf, 2015). Furthermore, subjective well-being in old age is related to morbidity and is a strong predictor of mortality (Gerstorf et al., 2010). To date, there have been few studies on the relationship between public pension provision and subjective well-being in old age in European welfare states (Airio & Nurminen, 2016; Esser & Palme, 2010; Palomäki et al., 2023), but these do not take income inequality into account.

The theory of cumulative advantages and disadvantages (CAD) (Dannefer, 2003) can help to understand the differences in subjective well-being in old age and their connection to material conditions across the life course. According to this theory, advantages and disadvantages in several dimensions, such as education, employment opportunities, social relationships or health, are unevenly distributed between groups according to factors such as gender or SES and are reinforced by feedback processes (DiPrete & Eirich, 2006). The inequalities in different dimensions are mutually reinforcing, so that, for example, health disadvantages can lead to disadvantages in employment opportunities, and poorer employment opportunities can have a negative impact on health (Ferraro & Shippee, 2009; Ross & Wu, 1996).

The following questions are therefore examined in this paper:

- I. Are there differences in the relationship between public pension provision and subjective well-being for retired people with different socioeconomic statuses?
- II. What role does income inequality play in the relationship between public pension provision and subjective well-being?

Data & Methods

The question is examined using data from the Survey of Health, Ageing and Retirement in Europe (Börsch-Supan et al., 2013). Individual data and macro indicators from 25 countries for the period between 2006 and 2022 are included in the analysis. Life satisfaction, which is measured on an 11-point scale, is used as an indicator of subjective well-being. Life satisfaction is a frequently used indicator of subjective well-being, which Ryff and Keyes (1995, p. 719) describe as a 'key indicator of well-being' in sociology. The question aims to provide a global understanding of subjective well-being and asks about evaluative aspects.

Since the level of public pension benefits correlates with the level of income (Palomäki et al., 2023), public pensions are presented in the analysis as a share of income. Household income is converted into net equivalent income using the square root scale (OECD, 2008, 2013). The income is then converted into inflation-adjusted purchasing power parities (PPP), which make

incomes comparable over time and across countries in terms of their purchasing power. The SHARELIFE questionnaire collects information on episodes in the educational and employment history from birth to the time of the interview, with occupations also coded according to the qualification levels of the International Standard Classification of Occupations from 2008 (ISCO-08) of the International Labour Office (ILO, 2012). Employment status is differentiated according to years in education, years in employment in ISCO skill levels 1 to 4 (low to high), years in unemployment, illness or reduced earning capacity, and years as a homemaker or in another status. For each status, a variable is calculated that contains the sum of the years in the respective status. The skill levels represent the SES of the employment status. Unemployment, illness and reduced earning capacity represent the lowest SES in the employment history. Years spent in education, as a family caregiver or in other, undefined statuses are not included in the hierarchy of employment status according to SES. In addition, OECD data on income inequality in the population aged 65 and over, measured using the Gini coefficient, are applied to the survey data (OECD, 2024). The analysis models also take into account sociodemographic data on gender, age, migration background, educational attainment, home ownership, marital status and parenthood. Non-linear relationships between age and subjective well-being are taken into account by including the squared term for age. In addition, the models include a variable for the share of individual income in household income, as the share of public pension provision in individual income is more relevant to subjective well-being when individual income accounts for a larger share of household income. The estimated regression models include fixed effects for countries. Due to a high fraction of missing values for central variables, such as public pensions and income, imputed values provided by SHARE were included in the analysis. Furthermore, values were imputed for missing values in employment histories using predictive mean matching (PMM) in a fully conditional specification (FCS).

Results

The results in Table 1 show that a career path in a lower SES is associated with lower life satisfaction. However, the negative effects of unemployment, illness or reduced earning capacity can be mitigated by public pension schemes. To a lesser extent, this also applies to low-skilled employment. The mitigating effect is independent of income inequality in a country. The negative correlation between years spent unemployed, ill or with reduced earning capacity and life satisfaction is lowest when more income is derived from public pension schemes and income inequality is high. For the other indicators of low SES in employment history, the differences in life satisfaction between contexts of income inequality are smaller.

Table 1: Country fixed effects regressions of life satisfaction on employment history and public pension provision according to Gini coefficient

	M1	M2.1	M2.2
Public pensions (%)	0,0008	0,0005	0,0012
Years in employment status (Ref.: years in ISCO-Level 4)			
- Unemployment/sickness/reduction capacity to work	-0,0294***	-0,0396***	-0,0160*
- ISCO-Level 1	-0,0148***	-0,0128***	-0,0174***
- ISCO-Level 2	-0,0048***	-0,0047**	-0,0047*
- ISCO-Level 3	-0,0010	-0,0014	0,0000
- Homemaker/other status	-0,0094***	-0,0080*	-0,0098**
Public pensions (%) x ... (Ref.: years in ISCO-Level 4)			
- Unemployment/sickness/reduction capacity to work	0,0005***	0,0005*	0,0004*
- ISCO-Level 1	0,0002*	0,0002	0,0002
- ISCO-Level 2	0,0001**	0,0001*	0,0001
- ISCO-Level 3	-0,0000	-0,0000	0,0000
- Homemaker/other status	0,0001*	0,0001	0,0001
Confounders included	Yes	Yes	Yes
<i>Within-R</i> ²	0,04	0,04	0,05
n	36 840	21 726	15 114

Note: Based on data from SHARE Release 9.0.0., Eurostat (2022e) and OECD (2024), own calculations. M1 = total sample, M2.1 = countries with low income inequality, M2.2 = countries with high income inequality. Life satisfaction: 0 = completely dissatisfied to 10 = completely satisfied. x = interaction. Control variables: share of individual income in household income, gender, age (incl. squared age), migration background, education, home ownership, marital status, parenthood, years in education and years in education x public pension provision. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusion

Disadvantages due to poorer working conditions, unemployment and involuntary retirement lead to a persistently lower subjective well-being in retirement. The results suggest that public pension schemes can help reduce inequalities, as pensioners with low SES in particular have a higher subjective well-being when they receive a higher proportion of their income from public pension schemes. This can possibly be explained by the fact that these pensioners were unable to contribute to other pension schemes during their working lives through other measures, such as private pension schemes, and are therefore more dependent on public pension schemes. For these pensioners in particular, the symbolic meaning of their pension income may also be greater if they feel that a larger proportion of public pension provision represents greater recognition of their ‘lifetime achievements’. No differences are apparent between countries with high and low income inequality. Income inequality therefore does not appear to contribute to a ‘devaluation’ of public pension provision among people with low SES in the course of their working lives. Rather, it appears that differences in subjective well-being according to SES over the course of working life are smaller overall when income inequality is high.

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