Welfare losses from uniform pension contracts

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Pension contracts are typically not tailored to individual characteristics. In the first pillar, for example, the statutory retirement age (AOW age) is linked to population life expectancy. It is well-known, however, that the low-educated on average live substantially shorter than the high-educated, and that they more often experience poor health before retirement date.

Likewise, in the second and third pillar, the conversion of pension wealth into annuity benefits is often based on portfolio-average mortality rates, which implies that the low-educated on average face welfare losses and the high-educated enjoy welfare gains when the pool is heterogeneous with respect to educational level. In addition, retirees of all educational levels face welfare losses when the investment strategy used by the annuity provider is not tailored to their personal risk preferences.

This becomes particularly relevant in the new pension contract (WtP), which allows for risk taking in the decumulation phase. Specifically, retirees can hold a variable annuity where the level of the benefit payment depends on the returns of a chosen investment strategy. While some retirees may be quite risk averse and would like their funds to be invested predominantly in low-risk investments, others may prefer more risk taking on their behalf. Any mismatch between the investment strategy that is used by the annuity provider and the retiree's preferred strategy creates a welfare loss for that retiree.

This article discusses recent literature that sheds light on the magnitude of welfare losses or gains that Dutch retirees with different educational levels face when pension contracts are not tailored to their personal mortality rates and/or risk preferences.

CONSEQUENCES OF A UNIFORM INCREASE IN PENSION AGE (AOW LEEFTIJD)

To be able to quantify the welfare effects of uniform pension contracts offered to individuals with different educational levels, projections of education- and gender-specific mortality rates are needed. The committee on mortality research ('Commissie Sterfte Onderzoek 'or CSO) of the Dutch Actuarial Society bi-annually produces mortality projections for men and women separately. Because these projections are based on the total population, however, mortality rates are likely overestimated for the high-educated and underestimated for the low-educated. To gain insight into the mortality trends for men and women of different educational levels, Nusselder et al. (2022a) generate projections for Dutch education-specific mortality, using a three-layer Lee and Li (2005) model with data consisting of population-average as well as education-specific mortality rates for the Netherlands and a number of comparable European countries.

	2018	2033	2048
Men	3,2	3,9	4,2
Women	2,3	2,7	3,1

Table 1. (Projected) difference in period life expectancy at age 65 (in years) between high- and low-educated men (women), derived from Nusselder et al. (2022a).

Table 1 shows that the difference between the remaining life expectancy at age 65 of a low- and a high-educated Dutch man (women) is substantial and is expected to increase further in the future. The shorter life expectancy of low-educated retirees implies that they will on average receive pension benefits over a shorter time period as compared to high-educated individuals. Moreover, they on average also are more likely to experience poor health earlier on in life. Social partners in the Netherlands have recently reached an agreement to allow workers with physically demanding jobs to retire up to three years earlier than the statutory retirement age for their cohort, while receiving some financial compensation. However, this may not be sufficient, as forecasts made by Rubio Valverde et al. (2022b) suggest that low-educated men who will reach the statutory retirement age in 2030 will on average have spent up to six years in poor health prior to reaching retirement age. In contrast, high-educated men and women on average are expected to enjoy several years of good health after reaching their retirement age.

WELFARE EFFECTS OF UNIFORM ANNUITIES IN THE SECOND OR THIRD PILLAR

The welfare losses that annuitants face in the second or third pillar when the investment strategy is not perfectly tailored to their risk preferences are well-documented (see, e.g., Dees et al., 2024). However, that literature typically considers individuals with population-average mortality rates. An et al. (2024) quantify the welfare losses and gains that Dutch retirees with different educational levels experience when they are offered a variable annuity that is not perfectly tailored to their mortality rates and/or risk preferences. Welfare gains or losses are quantified by determining the percentage by which wealth contributed to the fund at retirement date could have been reduced (in case of a welfare loss) or should have been increased (in case of a welfare gain), *while still maintaining the same level of expected utility*, if the retiree would have been offered a tailor-made contract. They find that the welfare gains and losses due to mismatches in mortality rates can be substantial. If the annuity provider would use gender-specific average mortality rates of the Dutch population to price the annuities, low-educated men and women would face welfare losses of approximately 7% and 3%, respectively, while high-educated men and women would enjoy welfare gains of approximately 10% and 7%. With gender-neutral population mortality rates based on the portfolio's gender composition, welfare losses increase (and welfare gains decrease) for retirees of all educational levels and of both genders when there are relatively more women in the portfolio. For example, in a portfolio with 70% female annuitants, the welfare losses of low-educated men increase to approximately 13%. In contrast, while welfare losses due to a mismatch in the investment strategy can also be substantial (ranging from 1% to 10%, except for very large mismatches), these welfare losses depend only marginally on gender and educational level.

CONCLUSION

Pension funds are typically not allowed to differentiate pension policies depending on gender or educational level. It is well-known, however, that uniform pension contracts are typically advantageous (disadvantageous) to individuals whose mortality rates are lower (higher) than portfolio-average rates. This article discusses literature that shows that these effects can be substantial. A solution to avoid substantial welfare losses for the low-educated could be to split heterogeneous funds into smaller more homogeneous funds. ■

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