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FINNISH CENTRE FOR PENSIONS, REPORTS

# EXECUTIVE SUMMARY

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## Private sector wage-earners' earnings-related pensions by birth cohort and gender

In this report, we study the life-time pension contributions and benefits under the private sector earnings-related pension system. We have reviewed the cohorts born between 1940 and 2000 by birth year and gender. Our study is based on a combination of historical statistical data and the results of the long-term projections of the Finnish Centre for Pensions. The projections, used for making the assessments, have been published previously in reports by the Finnish Centre for Pensions. The statistical data used, on the other hand, was compiled specifically for this report.

The pension systems for the public sector, the self-employed and the farmers have not been included in our review. Similarly, national pensions, guarantee pensions and the taxation of pensions have been excluded from our study.

The allocation of pensions and pension contributions between generations can be characterised with an internal rate of return received for the pension contributions. The internal rate of return is an interest rate used to discount the present value of pension contributions and pension benefits of each group in order to equalise these values.

The real internal rate of return on the earnings-related pension contribution of those born in 1940 will be 6.5 per cent. The rate of return for women will be slightly below eight per cent and for men slightly below six per cent. The rate of return for earlier generations will be even higher. The internal rate of return will decline evenly per generation up to those born in the 1970s. Their internal rate of return level will be approximately 2.3 per cent. Women's internal

rate of return will settle at about 2.8 per cent and men's at two per cent. The projections for the internal rate of return of younger generations are based completely on our long-term projections. The future economic growth and the realised pension investment returns will largely determine the realised rate of return on the pension contributions for these generations.

The most important reason for the declining internal rate of return is the rising level of the earnings-related pension contribution. The gender gap in the internal rate of return is due to women's higher life expectancy and the fact that most surviving spouse's pensions are paid to women.

For those born in 1940, the combined real amount of lifetime pension benefits will exceed their lifetime contributions by more than five times. The ratio will decline evenly for the generations until those born in the early 1970s. For those born in 1970 or later, the pension benefits will amount to more than twice the size of the contributions. The economic growth and the return on pension assets make it possible for all generations to receive more in pension than they have paid in contributions.

For each birth cohort, the amount of lifetime pension income relative to the amount of lifetime earnings will be more than 50 per cent. In other words, for each euro earned, an average of more than 50 cents will be paid as a pension. The pension benefits relative to the lifetime earnings will be highest for those born in the 1940s. For the later age cohorts, the ratio between pension benefits and earnings will be rather stable. This means that the accrual of pension benefits will be of nearly the same level among the currently working generations; still, the pension contributions paid by the younger generations are higher than those paid by the older generations.

When adding up the lifetime amounts of pension benefits and pension contributions, we have not taken the time-value of money into account. By discounting the money amounts to a fixed point in time, we can examine the present values of contributions and benefits. The net present value is the difference between the present value of lifetime pension benefits and the present value of lifetime pension contributions. The net present values will be positive for those born at the beginning of the 1950s and earlier. For those born in the latter half of the 1960s and later, the net present values will be negative.

The generational effects of the 2017 pension reform will be relatively minor. People born in the mid-1960s will be affected most negatively. The pension reform will reduce their pension benefits and increase their pension contributions slightly. The combined effect of these factors is less than half a percentage point of the present value of the lifetime earnings of the age cohort in question. People born in the mid-1990s will be affected the most positively. The reform will raise their pension income by an ample half a percentage point of the present value of their lifetime earnings. These results are in line with previous assessments of the Finnish Centre for Pensions.

Due to the very low current interest rate, the future investment returns may turn out to be lower than previously projected. If the return on capital and the discount rate were one percentage point lower, then the net present values relative to the lifetime earnings of people born in the 1970s and later would increase by approximately five percentage points. This is a ten times bigger change compared to the largest generational effects of the pension reform.

Partial funding has been applied in the private-sector earnings-related pension system ever since the pension acts came into force. One of the reasons behind this solution is that it allows for a partial allocation of pension costs to the generations that accrue the benefit. Without prefunding, the contribution level of those born in the 1940s would have been an ample three percentage points lower than the realised level while the generations born in the 2000s would have to pay a contribution that is more than four percentage points higher than projected under the current law.

Increasing the pension funding or switching to a new funded system would allow for higher pension benefits or lower pension contributions, but the effects would materialise only after a very long period of time. Increasing the funding would not change the fact that the population is ageing, nor would it do away with the need to finance pensions currently in payment and pensions already accrued. Increasing funding would result in growing expenses for the generations currently working or approaching working age.

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