SUERF
The European Money and Finance Forum

SUERF Policy Brief
No 755, December 2023

Pension Reform and Saving Behaviour: How Much Does Voluntary Saving Go Down When Mandatory Saving Goes Up?*

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Keywords: Pension reform, occupational pensions, saving, retirement.
JEL codes: E21, E24.

Recently, mandatory pension contributions in Iceland were increased substantially in the private sector while remaining unchanged in the public sector. Taking this as a large natural experiment, we study the effects of this change on households' voluntary saving using comprehensive third-party reported information on taxpayers' income, assets, and debt for all taxpayers. We find that households do not reduce voluntary saving when faced with a rise in mandatory saving and future pension income. Our results are supported by an event study of workers switching from the private sector to the public sector. Survey evidence suggests widespread ignorance about the pension contribution and expected pension income.

*This policy brief is based on Central Bank of Iceland Working Paper 92/2023. The views expressed are those of the authors and not necessarily the views of the Central Bank of Iceland.

The lack of pension savings is a widespread phenomenon and, as large cohorts reach retirement age, a significant share of households do not possess adequate savings (Poterba, 2014). Furthermore, almost 20% of people over age 64 in the EU are at risk of poverty or social exclusion (European Commission, 2021). The process of population ageing is widely expected to intensify further in coming decades, putting public finances under greater pressure. Therefore, to increase households' retirement savings, governments have sought to reform pension systems.

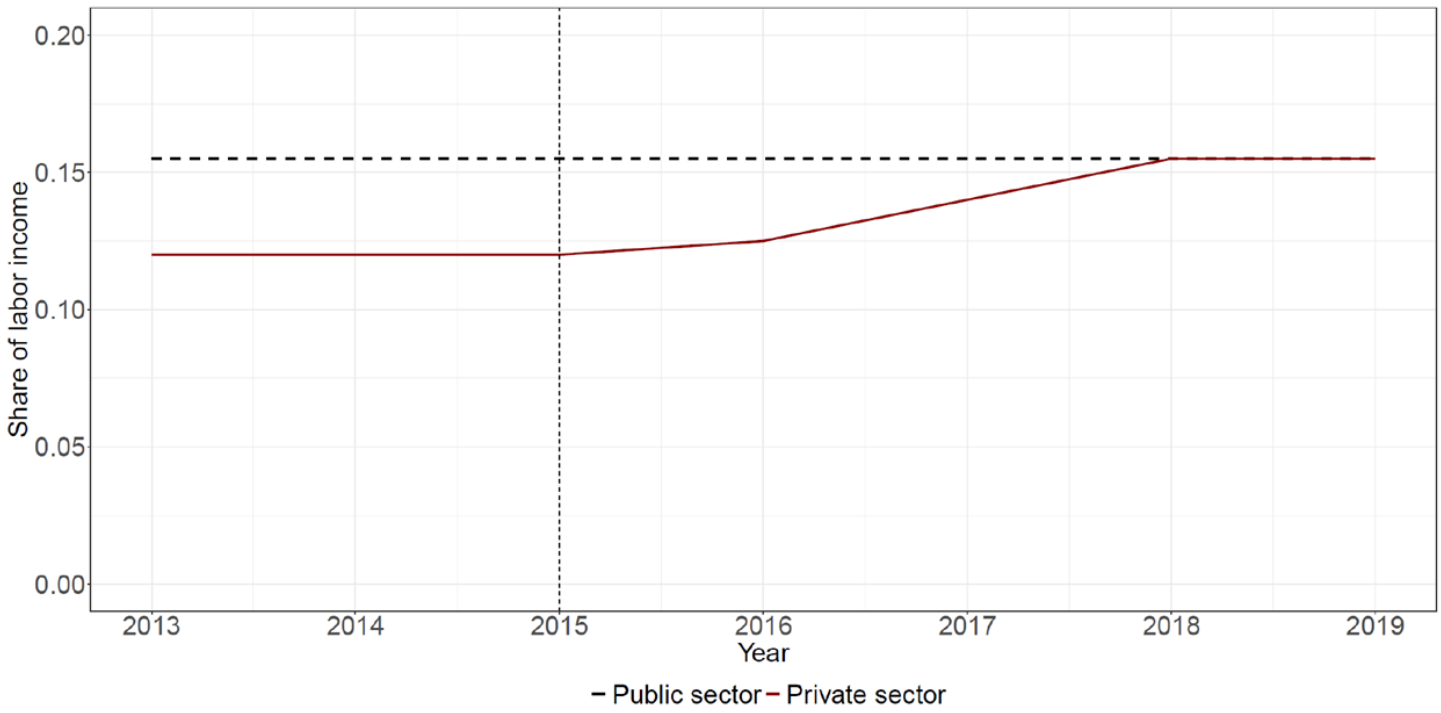
Key elements of such reforms have included introducing longevity adjustment of retirement age or increasing the reliance on defined contribution (DC) pension plans. Therefore, understanding the implications of higher mandatory pension contributions is crucial to gauging their success in terms of raising total saving and thereby relieving pressure on tax-financed social security systems.

A 2016-2018 pension reform raised private sector mandatory pension saving

Does an increase in mandatory pension savings raise aggregate household saving or does it simply crowd out voluntary saving? To answer this question, we study a 2016-2018 pension reform in Iceland. The reform, negotiated in collective bargaining agreements, raised the mandatory pension contribution rate of private employers from 8.0% to 11.5% while that of public employers remained fixed at 11.5%, thus producing a natural experiment.

Figure 1 illustrates the reform which was implemented in three stages; the contribution rate was raised by 0.5pp in mid-2016, by 1.5pp in mid-2017, and by 1.5pp in mid-2018.

Figure 1: The mandatory pension contribution rate out of labour income



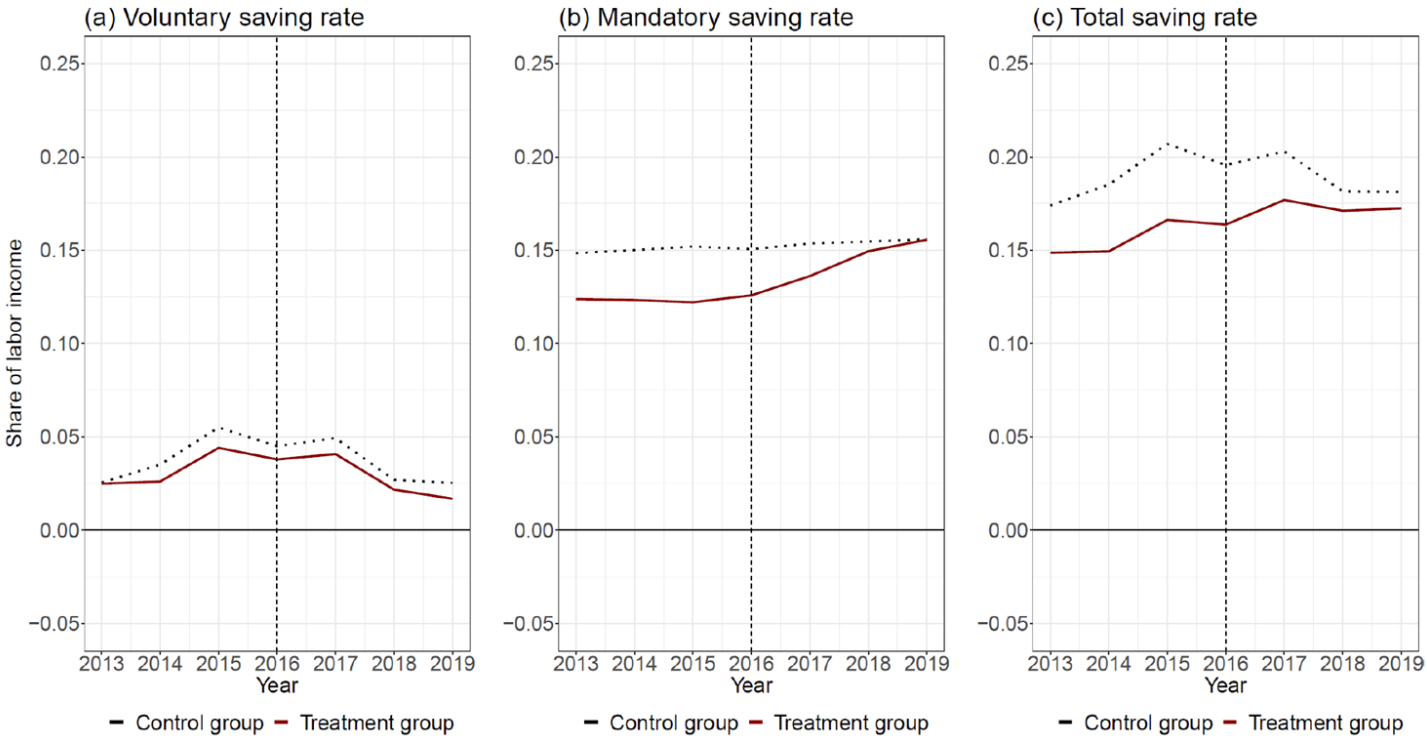
Notes: Figure 1 shows mandatory contribution rates to occupational pension funds out of pre-tax labour income in 2013-2019 for the public sector labour market (black horizontal dashed line) and the private sector labour market (solid red line). With an employee mandatory contribution rate of 4% in both sectors of the labour market, the total mandatory contribution rate now equals 15.5% for almost all workers in Iceland. The last year before the reform is implemented is marked with a black vertical dashed line.

In our analysis, we use comprehensive third-party reported information from administrative tax records of all Icelandic taxpayers. The data, which includes information on various income, assets, and liabilities as well as pension contributions, is merged with other administrative socio-demographic data. Finally, we use the tax records to calculate household-level consumption and saving.

Higher mandatory saving led, almost one-to-one, to higher total saving

Getting to the results, we first present preliminary findings from a simple comparison of average saving of private sector (treatment group) vs. public sector (control group) households. Panel (b) of Figure 2 shows that the contribution rate of the control group is stable over the period, while that of the treatment group rises in the post-reform period. Panel (a) of Figure 2 shows that voluntary saving rate of both groups moved in tandem both before and after the reform. We would therefore expect some differences to arise in total saving, which adds the mandatory saving rate to the voluntary saving rate. This is confirmed in panel (c) of Figure 2, which shows the narrowing gap in total saving rates between the two groups as the mandatory saving rate of the treatment group rises.

Figure 2: Average voluntary, mandatory, and total saving rates



Notes: Figure 2 shows the average voluntary (panel (a)), mandatory (panel (b)), and total (panel (c)) saving rates out of household wages for the control group (dotted black line) and the treatment group (solid red line). The dotted vertical line in 2016 shows when the first stage of the reform was implemented.

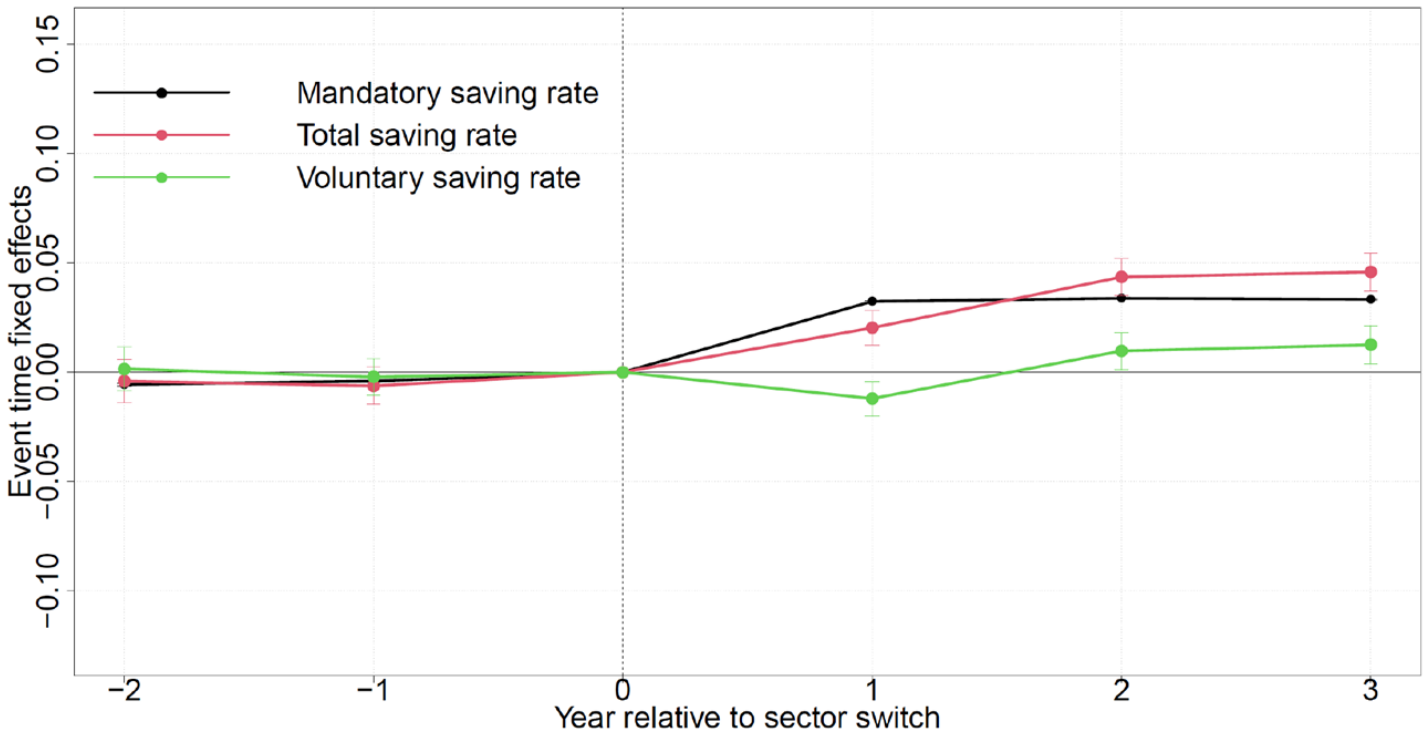
Using difference-in-differences, we estimate the magnitude of the crowding-out effect of the reform. Across several samples and model specifications, we find a statistically insignificant crowding-out coefficient in the range of 0 to 10%. Our findings, thus, suggest that raising mandatory saving led to higher total household saving, as households did not respond by cutting voluntary saving. The reform therefore translated into a higher saving rate for the economy as a whole on a nearly one-to-one basis.

Job switches also suggest limited crowding-out of pension saving

Next, we test the robustness of our results by looking at the pre-reform period and analyse job-switches from the low-contribution private sector to the high-contribution public sector. Figure 3 plots an event study of households who switch jobs from the private sector to the public sector. Under a full crowding-out of mandatory saving, the voluntary saving rate (green line) would decline in period 1 thereby leaving the total saving rate (red line) unaffected after the job switch.

We infer that a 1pp increase in the mandatory saving rate caused the total saving rate to increase by 0.64pp for the whole sample, and 0.88 for single households. As such, the crowding out effect on voluntary saving rate was 0.12-0.36pp. We conclude that households' total saving behaviour is heavily influenced by automatic contributions made on their behalf.

Figure 3: Saving rates of job switchers



Notes: Figure 3 plots the results from an event study of 22,277 households that moved from the private sector to the public sector once and only once in 2004-2016. The identification assumption is that the total saving rate would have remained unchanged between period -1 and period 0 in the absence of a job switch.

Survey evidence points to widespread ignorance on pension matters

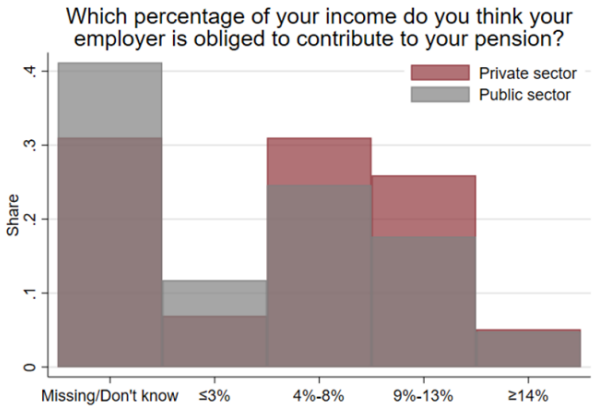
Finally, we conduct a survey to better understand the reasons for our results. First, we test the awareness of the reform and knowledge about pension saving more generally. Only around 26% of respondents answered correctly that the employer contribution was between 9% and 13% of wages. When asked about changes in the employer contribution in the past six years, 36% of the treatment group responded, correctly, that the employer contribution had increased. Only 34% of public sector workers answered correctly that the employer contribution had not changed. This implies that workers are largely uninformed about their pension contribution.

Second, we test four hypotheses for lack of response to the reform:

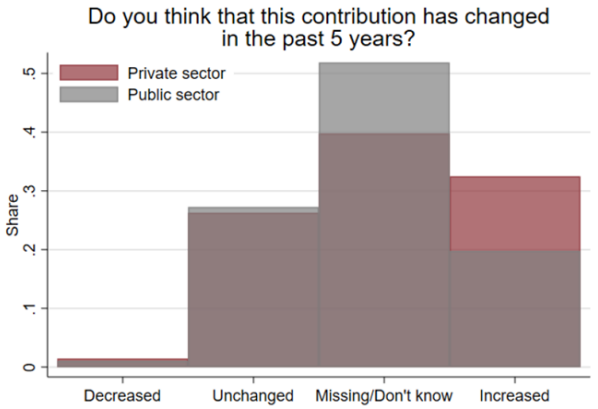
1. Lack of awareness about the reform might explain why an individual's responses were muted.
2. Liquidity-constrained individuals might lack the means to respond by reducing their voluntary saving.
3. Saving methods might affect individuals' responses.
4. Saving motives might affect individuals' responses.

Out of all these hypotheses, the only group for which we find significant crowding-out responses to the reform is those who say that saving for retirement is their main saving motive. This small subgroup of people, consisting of only 14% of the treatment group, seem to have reduced their saving after the reform was implemented.

Figure 4: Knowledge about pension saving and the pension reform



(a) Beliefs about contribution rate



(b) Beliefs about change in contribution rate

Conclusion

We study whether increasing mandatory pension saving rates leads households to reduce their voluntary saving or whether the increase is passed through to total saving. We use a large increase in the mandatory pension saving rate in the private labour market in Iceland as a natural experiment providing exogenous variation in pension saving.

We do not find evidence suggesting that households responded to the pension reform by materially reducing their voluntary saving. Rather, the evidence suggests that the increased mandatory pension saving largely passed through to higher total saving, thereby succeeding in raising the overall saving rate of the economy.

Our findings potentially have important policy implications. It is now widely accepted that a well-designed pension system requires a combination of public (pay-as-you-go, defined benefits) and labour market (funded, defined contributions) pensions, see, e.g., World Bank (1994). Indeed, occupational pensions are critical to avoid a sharp fall in living standards after retirement. Our findings bring comforting evidence that it is in fact possible to raise aggregate saving by expanding the second pillar of the pension system.

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