Welfare Gains of Auto-IRAs

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OVERVIEW

Automatic enrollment in IRAs is gaining popularity in the United States amidst a growing concern for poor retirement savings practices. Numerous states have instituted programs that require eligible employers, who do not offer retirement benefits, to auto-enroll employees into IRAs. Programs include features such as opt-outs, incremental contribution increases, and small asset-based fees, as well as all standard guidelines for the contributing fund, typically a Roth IRA. The goal of our research is to analyze the welfare effects of automatic IRA enrollment programs. We focused on the behavior of the utility of consumption, while noting the path of savings and income in our life cycle model, and generated welfare measures to interpret our results. We considered different cases in our models, and found varying results dependent upon interest rates and consumer behavior.

BACKGROUND

Policymakers advocate that the institution of savings programs will help individuals prepare for retirement. Neoclassical economic theory suggests that in the absence of frictions, such policy will have no effect, as the household will adjust its behavior to reflect preferences. However, if the household has credit debt, it may face borrowing constraints and policy can have negative effects. Alternatively, tax advantages of programs can lend positive effects to those who had not already benefited from savings. A lack in data for auto-IRA enrollment programs encourages a quantitative approach to measure the tradeoff between borrowing constraints and tax advantages.

METHODS

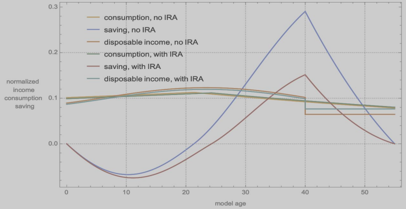
$$\max \int_0^T e^{-\rho t} u(c(t))dt$$

Time is continuous and indexed by *t*. The individual receives working life disposal income, $y_1(t)$, consisting of wage income net of social security taxes and IRA contributions. At retirement t_R, the individual receives retirement income $y_2(t)$ consisting of a social security benefit and an annuity payment from the IRA account. Income follows a hump shaped profile, while the path of consumption c(t) and asset holdings k(t), (positive if saving and negative if borrowing) are determined by our utility maximizing function and the interests rates below. The individual is born with no assets k(0) = 0 and also dies with no assets k(T) = 0.

	Case 1	Case 2	Case 3	Case 4
r_s	0.0085	0.0085	0.03	0.03
r_{IRA}	0.01	0.01	0.0345	0.0345
r_b	0.04	∞	0.04	∞

Table 1: Interest rate parameterizations

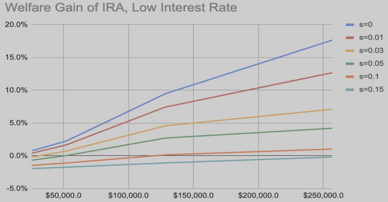
We allow for the interest rate to depend on the state of asset holdings, and use four different cases noted above. For example, if assets are positive and the individual is saving, the interest rate after tax would be r_S. In each of the cases, we use our code in Mathematica to compute the path of each variable, and calculate our welfare metric.

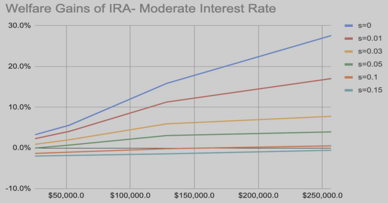


RESULTS

Welfare Metric = fraction of lifetime consumption an individual with an IRA would be willing to give up such that their discounted lifetime utility is equal to that without an IRA.

Rule of Thumb Model





CONCLUSION

The objective of our research was to quantify the effects of auto-IRA enrollment programs on individuals' discounted lifetime utility. Our team referenced numerous functioning programs, and created a utility maximizing function to compute welfare results. In a variety of different cases and models, results were highly dependent on interest rates. Those who faced borrowing constraints were worse off, while others who claimed tax benefits were better off. Together, we found that the credit effect on borrowing dominates the tax effect on savings if interest rates were low. Finally, in a non-optimizing model, we saw significant positive welfare results.

Future work may include extensions to our model such as more complex wage profiles, additional parameters (fees & age variance), and implementing behavioral models.

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