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Trends and Issues
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Registered Index–Linked Annuities in qualified retirement plans

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Introduction

While many other developed nations have strong social security and government pension systems, the United States relies heavily on employer-provided retirement plans and individual saving for households to facilitate their financial retirement planning. With the shift in employer-provided plans from Defined Benefit (DB) to Defined Contribution (DC), individuals are even more responsible for ensuring they have enough savings to fund retirement. Recent studies have demonstrated that—despite considerable tax incentives—many U.S. workers are not saving sufficiently to maintain their standard of living through retirement (Munnell et al., 2019; Poterba, 2014). This problem has led to much public policy debate regarding how to encourage individuals to save with DC plans. Fortunately, many employers now offer and contribute to a qualified retirement plan (QRP) on behalf of the employee, going as far as automatically enrolling them in a QRP upon hire, a practice that is now mandated by the SECURE 2.0 Act of 2022.

How should these savings be invested? Conventional wisdom suggests that young employees invest heavily in equity since they have a longer time horizon to smooth out market fluctuations and to take advantage of the higher average returns of stocks relative to fixed-income securities. As employees near retirement, they naturally prefer safer investment strategies (Mitchell & Utkus, 2012); however, it is still up to employees to choose their QRP investment allocation. Evidence shows that they tend not to reallocate

or adjust their portfolios over time (Ameriks & Zeldes, 2001; Madrian & Shea, 2001; Mitchell et al., 2006). As part of an automatic enrollment plan design, employers must choose a default investment option for employees, typically one that mimics the likely investment choices made by a financially savvy individual in the same situation. This feature is particularly important considering that people tend to stick with the default choice, irrespective of what that choice is (Beshears et al., 2006).

A common choice for such a Qualified Default Investment Alternative (QDIA) is target date funds (TDFs) since they address many of these issues. TDFs offer a mix of equity and fixed-income securities and automatically allocate and rebalance the investment, tailored to each employee's target retirement date. On the other hand, TDFs tend to lack predictability and underperform (Shoven & Walton, 2021), be expensive (Massa et al., 2021), and lack transparency (Sherill, 2019). In this study we present and analyze an alternative to TDFs that avoids these undesirable features but maintains their customized target date nature. In the following sections we briefly describe the product, highlight the main insights from a theoretical modeling exercise, and discuss the results of a randomized lab experiment.

How does a Target–Date RILA work?

Registered index-linked annuities (RILAs) have emerged only recently as a promising retirement savings vehicle offered by U.S. life insurers, with sales rapidly increasing to over $40 billion in 2022. They provide investors diversified equity exposure with protection against adverse market movements, transparently and at very low cost, without exposing carriers to any equity risk (Moenig, 2022). We propose to enhance the RILA product with a target date feature, which will maintain the benefits of RILAs for both investors and carriers.

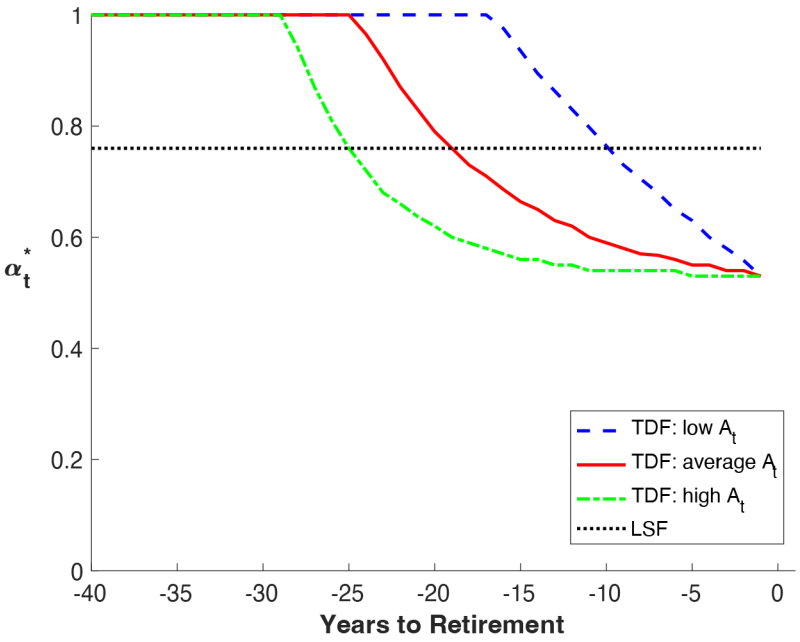
This target date RILA (TD-RILA) entails an investment into a separate account (within the QRP) that is managed by an insurance company. The account evolution is linked to the performance of a popular market index, such as the S&P 500. At the end of each year, the insurer credits the investor's account with the index return, subject to downside protection in the form of a floor or buffer. For instance, with a 10% floor the investor can lose at most 10% of her funds over the crediting term, and with a 10% buffer the loss of the index would be reduced by up to 10%. Over time, as the investor nears her target retirement date, the floor level is automatically reduced (or the buffer level is automatically increased), in order to reduce her exposure to equity risk. In exchange for the downside protection, the investor accepts an upside cap that the credited return cannot exceed that year. Over time, the cap rate is automatically lowered in conjunction with the reduced equity exposure. As such, TD-RILAs can mimic the typical equity-reduction pattern of a TDF, but in their own way and with the aforementioned advantages of the established RILA products.

Insights from a theoretical modeling approach

Our theoretical analysis provides insights into the efficacy of TD-RILAs. We model the QRP contributions of a generic investor and project the value of her account at retirement under various investment options. For the purpose of this analysis, we assume that the investor is moderately risk averse, and each investment has been optimized to suit her risk appetite. For instance, for a TD-RILA with a buffer feature, the buffer level is adjusted each year in order to achieve the largest possible risk-adjusted account value ("certainty equivalent") at retirement. Comparing the different investment options, we obtain the following insights:

1. As Figure 1 shows, the optimal target date strategy sees a decrease in equity exposure as the investor nears retirement: consistent with the real-world structure of TDFs, our model projects that the investor seeks a reduced equity participation rate over time. The same pattern can be seen for TD-RILAs, with a lower floor level and a larger buffer, respectively.

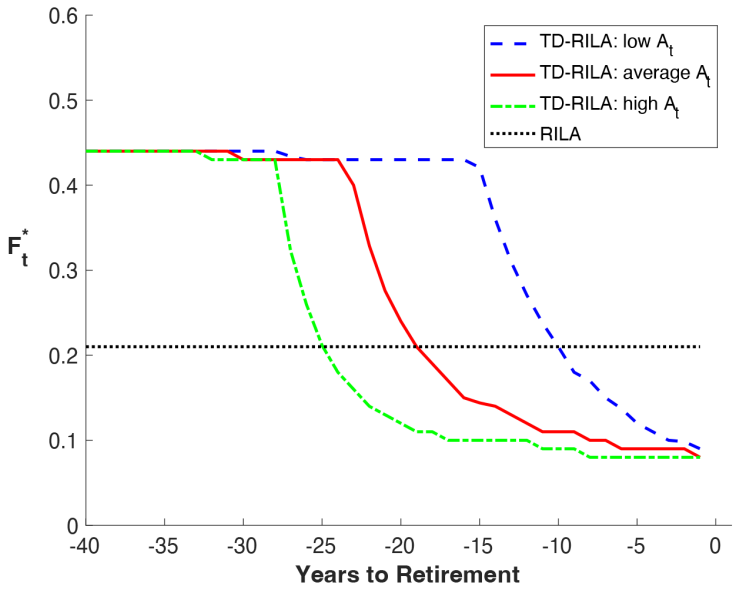
Figure 1. Optimal target date allocation strategies



(a) Target Date Fund

(b) Target-Date RILA with buffer

Figure 1. Optimal target date allocation strategies (continued)



(c) Target-Date RILA with floor

Note. The figures display the investor's optimal asset allocation patterns over time, under the parameterization of Section 2.4 without fees, and for varying paths of the QRP account value A_t. Under the "average" path (solid red line) the account evolves under the assumption of a constant 8.5% investment return p.a. (in addition to the specified contributions). The dashed-dotted green line assumes twice the equity return and the dashed blue line reflects a zero-growth market. The dotted black line reflects the investor's optimal choice for a time-invariant allocation rate.

2. Adding the target date feature enhances the (risk-adjusted) value of traditional RILA policies by around 4.5%, similar to the enhanced value that TDFs have relative to a mutual fund with constant equity exposure.
3. At equal cost, target date funds are preferable to TD-RILAs. However, when considering typical product costs faced by the investor in today's market, TD-RILAs are distinctly better, yielding the investor a risk-adjusted value that is 2.3%–2.8% above a TDF. In general, we conclude that the *cost* of the investment product is more relevant than its *payout structure*, and that TD-RILAs appear to be a viable investment product to include in QRPs.
4. Within TD-RILAs, the buffer feature is marginally preferable to a floor.
5. Target date RILA products can additionally be adjusted by varying the equity participation rate (while still subject to a floor or buffer and a cap rate). In particular, one could allow for leverage in the investor's equity exposure by choosing participation rates above 1. This would not be possible in a TDF, but our results suggest that this leverage can be of value to younger investors who seek the additional risk exposure. We find that enhancing the TD-RILA products with this leverage makes the product preferable to a TDF, even at equal cost.

All in all, the results of our theoretical modeling exercise support the development of TD-RILA products and their offering as part of QRPs. However, product costs may vary over time and investor preferences and circumstances may differ. Therefore, despite our promising results, we do not (yet) recommend TD-RILAs as a *replacement* for TDFs, only as a suitable *alternative* for employers to offer.

What can a large–scale lab experiment tell us about TD–RILAs?

To obtain a different perspective on TD-RILAs, we conducted a virtual lab experiment with around 800 participants from across the United States. In the experiment, we described TDFs and TD-RILAs in layman's terms and asked participants to choose among various investment allocations *within* each target date product (high risk, medium risk, low risk) as well as *between* the different products. We also investigated how increases in fees and the provision of more detailed information about fund choices, such as the projected monthly benefit from each fund choice, impacts investment decisions. Some participants were told that one of the funds within the investment menu offered to them was the default investment chosen by the employer, allowing us to determine the effect

of default investments on a participant's overall investment choice. Finally, we collected demographic data from each participant, along with asking them questions to elicit their aversion to risk, their financial literacy, their expectations about future stock market performance and inflation, and their prior experience with making retirement investment decisions.

Consistent with our theoretical insights, we find that—at equal cost—participants strongly preferred TDFs over TD-RILAs, and that within TD-RILAs, TD-RILAs with a buffer are moderately preferred to TD-RILAs with a floor. However, and consistent with the predictions of our model, the product cost (or fee) mattered greatly to participants when choosing among different types of target date products. All this goes to show that TD-RILAs can be a competitive alternative to TDFs as long as carriers are willing to offer the product at the same cost as the standard RILA products found in the market today. We refer to Moenig and Samuelson (2023) for a practitioner-driven discussion about why RILAs can currently be offered at such a low cost.

Some (randomly chosen) participants were presented with the medium-risk investment allocation preselected as a *default choice*. That is, participants were told that this investment had been preselected by the employer as the fund in which contributions to the retirement plan would be invested if no other choice was made. Being told there was a default choice convinced a number of participants (for each target date product considered) to switch from the high-risk strategy to the medium-risk strategy. This result confirms that retirement plans with automatic enrollment, which require employers to select a default investment, will prevent some employees from pursuing riskier strategies. Therefore, the default choice selected by the employer plays a significant role in a participant's investment choices, and in some instances, might prevent employees from choosing their optimal investment. We observe no such effect for participants who preferred the less risky investment.

Another treatment arm explored the effect of distributional information. Here, the (randomly chosen) participants received additional information regarding the distribution of their projected monthly retirement income under each potential investment allocation or product choice. That is, participants were given a high, medium, and low estimate of the projected monthly benefit (in today's dollars) associated with each fund choice. We obtained this information through a mathematical simulation and customized it for each participant, based on their QRP choices and demographic data. Our experimental results suggest that having access to distributional information can be more impactful for employees' decision making than being given a default investment choice. Moreover, the distributional information constitutes a decisive improvement for the employee over simply providing the annual fee rate (or, in case of a TD-RILA, the implicit cost of the product).

Conclusions and practical takeaways

Our study sheds light on target date investment products in QRPs. We propose that U.S. life insurers develop TD-RILAs with buffer and floor features. We find evidence—both theoretical and experimental—to support their inclusion in QRPs as viable alternatives to the popular TDFs and potentially even as Qualified Default Investment Alternatives. This is particularly the case if carriers can offer them at the same low cost as standard RILA products.

More broadly, while we find further evidence to support the impact of an employer-selected default investment choice, we also observe that providing employees access to distributional information about their projected retirement income can be of even greater benefit to them. This work provides insights for retirement plan design and highlights the importance of not only the default investment chosen by employers for plans with automatic enrollment, but also the importance of providing participants with estimates of projected benefits associated with various investment options. Participants provided with this additional information could make better choices, which would lead to enhanced retirement security.

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