Outcome-oriented multi-asset strategies, such as the Russell target date funds (TDFs), do not exist in a vacuum. Markets change over time, and so do plan participants’ contribution habits. This ever-changing environment requires that we periodically update our approach so we continue to provide individual investors and our plan sponsor clients with solutions designed to meet retirement income needs. However, our objective for the Russell TDFs remains the same: providing the means for a “typical” plan participant to achieve a sufficient level of retirement income, via strategies implemented in an open-architecture framework across a diversified set of asset classes.

In this paper, we describe Russell’s research into both plan participant characteristics and the TDFs’ glide path.

**Research objective and process**

Our research objective was to refresh our knowledge of the broad assumptions that determine TDF design. Since we originally designed the TDFs in the mid-2000s, much more information has become available to practitioners. Our research effort encompassed academic papers; demographic data from clients and published surveys, as well as the EBRI/ICI 401(k) database; and Russell’s capital market assumptions.

There are five key findings from this research process that influence the glide path.

1. New data provides a clearer understanding of contribution and earnings behavior of plan participants.

2. Findings on retiree spending patterns and Social Security benefits have offsetting effects on the retirement income goal.

3. Unexpected retirement expense shocks should be taken into account.

4. There are several consequences to market interest rates having declined over the past several years.

5. There are potential benefits to modestly changing the allocation to growth assets within the glide path.

In this target date white paper update, we provide additional detail on our research and how the latest findings influence our glide path design.
1. New data provides a clearer understanding of contribution and earnings behavior of plan participants

In the original glide path model, the assumption was that the typical participant begins by saving 6% early in their career, and that the contribution rate — for both employee and employer matching contributions — increases steadily until reaching 11.7% just prior to retirement. In this model there was no assumption of additional employer contributions.

Based on our new research, we have updated the employee and employer matching contribution rate assumptions and have allowed for a small amount of employer non-matching contributions. The employee contribution rate assumption is based on a combination of sources, and it increases at an increasing rate each year, as opposed to increasing by the same amount each year. For the employer matching contribution rate, we assume a rate of 50% up to 6% of earnings, since this is the most commonly used match structure in 401(k) plans. We also found that half of plan sponsors make an employer non-matching contribution, at an average rate of around 5% to 6%, so we conservatively include a modest flat-rate employer non-matching contribution of 1.5% of earnings. Based on all of this, our model contributions now begin at a more robust 9% of earnings early in a career and gently accelerate to 14.5% by retirement.

When we combine our contribution rate and earnings growth assumptions, we get the path of total contributions depicted in Figure 3. Note how new assumed contributions are substantially higher, particularly in the middle of the hypothetical participant’s career.

In closing the discussion of contributions, the combined result of the new assumptions for contribution rate and earnings significantly increases our assumption for lifetime contributions.
2. Findings on retiree spending patterns and Social Security benefits have offsetting effects on the retirement income goal

Having discussed contributions, we now move on to findings related to the target replacement income, or TRI – the amount of retirement income the typical participant wants to achieve via her savings plan, expressed as a percentage of final earnings. Clearly, no single income-replacement goal is appropriate for all individuals. Rather, there may be as many different goals as there are people, and elaborate models can provide great insight into individual income-replacement goals. However, these models are of little use in a TDF, where we have limited information on individuals; thus, we use a broader TRI model to determine the retirement income needs of the average participant.

Our original model for the TRI drew heavily on historical studies that helped us arrive at a TRI of 42% from the defined contribution plan (net of Social Security benefits of 36% income replacement) for a participant earning $80,000 at retirement.

Our updated model for the TRI utilizes that same model with some additional twists (see Figure 4). In particular, we do not assume that individuals spend at the same level in every year of retirement, and we have developed our own estimation of Social Security benefits based on current benefit formulas and a hypothetical earnings history as discussed in the prior section 1 and illustrated in Figure 2.

Figure 4: Total contribution amount assumption

<table>
<thead>
<tr>
<th>Total Target Replacement Income (TRI) rate</th>
<th>Social Security</th>
<th>Target Replacement Income (TRI) rate from savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>79%*</td>
<td>30%</td>
<td>49%</td>
</tr>
</tbody>
</table>

*of pre-retirement income

We found that spending tends to evolve over the course of retirement. While spending varies by individual, the trend appears to be that real spending decreases by 1% to 2% each year until around age 80. While this is a broad generalization, the trend is consistent with each of the sources we reviewed on the topic. This trend results in a lowering of the assets needed to fund future spending for a 65-year-old male retiree, by about 5% to 10%, which decreases the TRI by about 5%. We did question whether retirees are reducing spending by necessity rather than by choice, and while this is certainly true in some cases, it appears that most retirees tend to accurately anticipate their retirement spending needs.

Our estimate of the percent of income to be replaced by Social Security benefits has also been reduced from 36% of final salary (in real terms) to 30%, largely because we now assume a single benefit rather than a couple’s benefit. Our original Social Security assumption of 36% income replacement included a couple’s benefit of 38% of a participant’s individual benefit (i.e., [100% + 38%] x individual benefit = 36% income replacement). Recent research from the Government Accountability Office indicates that the use of the spousal benefit is becoming the exception, rather than the norm. From 1960 to 2011, the number of women receiving Social Security benefits based on their spouse’s benefit has decreased from 56% to 25%, consistent with the notion that more women are expected to qualify for their own benefit based on their own work record. In light of this finding, we have eliminated the spousal benefit from our model.

Our own findings on spending patterns and Social Security assumptions have led us to slightly increase the TRI from 42% to 43% of final salary, net of Social Security.

3. Unexpected retirement expense shocks should be taken into account

While 43% represents a typical TRI target, retirees can experience shocks in spending needs. One well-known shock is health care expense in retirement. On average, the cost of retiree health care is somewhere between “big” and “scary.” While most pre-retirees are aware of this expense, fewer are familiar with the tail risk associated with health care spending. Among 65-year-olds, about two in three will require some type of long-term care for an average of three years, and it will most likely be at significant cost. For example, the median annual cost of living in a nursing home in the United States now exceeds $80,000.

Therefore, we believe it is prudent for retirees to set aside some savings to deal with unexpected health care expenses in retirement, and we have explicitly incorporated a set-aside within our TRI model. Utilizing detailed research on the distribution of retiree prescription drug and long-term care expenses, we have selected a set-aside that corresponds to the gap between median expenses for these items and the 75th percentile of expenses. The size of this set-aside is about $75,000 in current dollars, which translates to an increase in the TRI of about 6%.

When we add the 6% set-aside for an unexpected expense shock, we arrive at a final TRI goal of 49% income replacement (43% without expense shocks), up from 42% in our original analysis.

4. There are several consequences to market interest rates having declined over the past several years

The decline in interest rate levels has left the DC participant in an uncomfortable position. Low returns to cash and fixed income instruments have forced savers to bear extra risk in order to have a realistic chance of attaining a positive real return. This low rate environment also makes the management of retirement income risk an expensive proposition: annuity prices are higher, safe rates of portfolio withdrawal are lower, and long-term care insurance premiums are rapidly increasing.
Forward-looking capital market assumptions across all asset classes are affected by the current environment. Today, Russell’s assumed returns for both equity-like (growth) and fixed income (capital preservation) assets have decreased materially from when we first designed the glide path, making asset accumulation more difficult. Our assumption of the average interest rate faced at retirement – which we use to determine participants’ income replacement rates – has declined by nearly 2%, making retirement income more expensive. Given these headwinds, participants likely need to adjust their retirement portfolio allocations, now and over time. Our updated glide path factors in the impact of the current low interest rate environment.

5. There are potential benefits to modestly changing the allocation to growth assets within the glide path

The composition of the growth assets within the TDFs and how that allocation changes as the target date draws near are important components of a participant’s retirement readiness. Our new research has shown that with some modest changes to allocations to growth assets within the glide path, we may be able to improve participant outcomes.

- We have increased the maximum allocation to growth assets from 90% to 93% for the longer-dated funds used primarily by participants with longer horizons to retirement. That 3% allocation will be shifted from an aggregate bond-type portfolio to a combination of growth assets.

- In order to increase exposure to growth asset classes that we project to outperform other growth asset classes over a multi-decade horizon, we have tilted the longer-dated funds slightly toward riskier emerging markets and U.S. small cap equities.

For the shorter-dated funds, used primarily by participants nearing retirement, we have added riskier high-yield fixed income within the growth portfolio and have tilted slightly toward large cap domestic equities and real assets. These changes both seek to mitigate risk and increase diversification within the growth asset allocation in the critical years leading up to retirement.

Discussion

The discussion points in this paper are a few of the most important and interesting inputs in the creation of an appropriate target date glide path series. Not only does each of them individually have its role in altering the shape of the glide path and its underlying allocations; but just as important is the way they interact with each other. For example, our assumption of a higher savings rate early in a participant’s career would lead to a glide path that has the ability to de-risk earlier. On the other hand, a higher TRI needed from the DC plan may lead to the need for a higher allocation to risk assets for longer and a higher growth asset allocation at retirement. The potential impact of each input and the interactions among all inputs are complex matters, outside the scope of this paper.

Conclusion

This paper documents key findings from the refreshed inputs into the Russell TDFs. The original work in researching Russell’s TDFs was completed in the mid-2000s and documented in 2006 (revised 2008). While our methodology remains unchanged, the breadth of available information, the DC marketplace and capital markets have evolved. There has been a great deal of new research into the retirement needs of American workers. The Russell TDFs reflect the latest inputs while still holding to our core belief of managing the risk of retirement income shortfall. Although success cannot be guaranteed, we believe our research and the resulting refinement of the TDFs puts our plan sponsor clients and participants they serve on a better path to successful retirement outcomes.

1 A special thank you to Jack VanDerhei and his colleagues at EBRI for assistance with database queries.
2 Russell’s TDFs are designed for the “typical” DC plan participant who saves for retirement. It makes little sense to design a glide path for non-participating employees and/or people who do not save. We have no savings to allocate on the behalf of these individuals, and our goal is to avoid “punishing” people who do contribute to a DC plan by implementing a solution designed also for non-savers. Hence, when we describe the “typical” participant’s contributions, we are describing the typical participant who does save.
4 Aon Hewitt (2012); EBRI (2013 queries); Russell (2013 research); Vanguard (2013).
5 EBRI (2013 queries); Vanguard (2013).
6 Ibid.
8 Consistent with realized average wage growth since the original design of the glide path. See, e.g., http://www.ssa.gov/oact/cola/AWI.html.
9 Aon Hewitt (2012); EBRI (2013 queries); Holden and VanDerhei (2002); Russell (2013 research).
10 Our primary basis for this assumption is cross-section earnings data from EBRI (2013 queries); however, other sources we reviewed are consistent with real wage growth below 1.5%.
11 MacDonald and Moore (2011); Scholz and Seshadri (2009); Skinner (2007).
13 The current benefit formulas are sourced from www.SSA.gov.
14 Banerjee (2012); Blanchett (2013); Fisher et al (2005); Pfau (2012); Hurd and Rohwedder (2011); MacDonald and Moore (2011); Tacchino and Saltzman (1999).
15 Based on assumptions of Annuity 2000 basic mortality table for males, 4.2% interest rate and a 2.2% annual cost-of-living adjustment.
16 Hurd and Rohwedder (2005) indicate that retirees anticipate spending reductions.
17 Aon (2008).
18 GAO (2014).
19 Note that our updated methodology reframes the assumptions related to income objective and Social Security to be consistent with a real spending approach.
20 Possibility for extreme values
23 Park (2011) and VanDerhei (2006).
24 E.g., Blanchett et al. (2013).
25 E.g., Carns (2014).
REFERENCES


EBRI (2013 queries). From the EBRI/ICI 401(k) database.


ABOUT RUSSELL INVESTMENTS

Russell Investments provides strategic advice, world-class implementation, state-of-the-art performance benchmarks and a range of institutional-quality investment products, serving clients in more than 35 countries. Russell provides access to some of the world’s best money managers. It helps investors put this access to work in defined benefit, defined contribution, public retirement plans, endowments and foundations and in the life savings of individual investors.

FOR MORE INFORMATION:

Call Russell at 800-426-8506 or visit www.russell.com/institutional

Important information

Target date fund investing involves risk, principal loss is possible. The principal value of the fund is not guaranteed at any time, including the target date. The target date is the approximate date when investors plan to retire and would likely stop making new investments in the fund.

Diversification does not assure a profit and does not protect against loss in declining markets.

Investments that are allocated across multiple types of securities may be exposed to a variety of risks based on the asset classes, investment styles, market sectors, and size of companies preferred by the investment managers. Investors should consider how the combined risks impact their total investment portfolio and understand that different risks can lead to varying financial consequences, including loss of principal.

Nothing contained in this material is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of any investment, nor a solicitation of any type. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

Russell Investment Group, a Washington USA corporation, operates through subsidiaries worldwide, including Russell Investments, and is a subsidiary of The Northwestern Mutual Life Insurance Company.

The Russell logo is a trademark and service mark of Russell Investments.

Copyright © Russell Investments 2014. All rights reserved. This material is proprietary and may not be reproduced, transferred, or distributed in any form without prior written permission from Russell Investments. It is delivered on an “as is” basis without warranty.

First used: June 2014
USI-19562-05-17