

Comment on Target Date Fund Rules to SEC/DOL: File No. S7-12-10

The False Promise of Target Date Funds as QDIA Investments

The Department of Labor (DOL) should disallow blanket fiduciary relief for Target date funds (TDFs) as qualified default investment alternatives (QDIAs). Our recent research (Esch and Michaud, 2014) based on thousands of simulations of possible investment scenarios and verified with long-term historical data definitively demonstrates that TDF glide paths fail to guarantee low-risk wealth at target date and leave investors exposed to large active bets in their portfolios. Since investor risk tolerance varies across individuals and is related to many factors besides age, a QDIA should reflect a neutral level of stock/bond global market risk. Retirement investors are best served with Target Risk Funds (TRFs) in which a fixed stock/bond risk level can be chosen from a sensible set of predetermined settings, either from a neutral perspective or adjustable to user's particular objectives and circumstances. Ideal TRFs should reflect an effectively diversified set of low cost well-diversified funds from best-in-class providers and include adjustable levels of risk relative to lifestyle changes and liabilities for investors who do not want or do not know how to choose an investment fund suitable for meeting long-term investment goals.

Glide paths do not reduce risk at retirement and may be ill-timed to markets

TDFs claim to reduce risk as retirement approaches by assuming greater stock exposure relative to bonds early in the investment horizon. Esch and Michaud (2014) show that the glide path does not provide any meaningful reduction in risk of wealth at the time of retirement over a fixed stock/bond risk portfolio, may lock in losses rather than gains, and leave investors exposed to the possibility of loss when the portfolio is overweighted in badly performing assets. A far more important factor affecting wealth outcomes than the choice of glide path is the total lifetime risk of the portfolio, determined by the investor's own willingness to take on risk to meet target date liabilities. Concentration of equity risk in early periods in the investment term is a bet on market cycles, and absent reliable knowledge that equities will outperform more short-term than long-term, is not likely to benefit the investor in any predictable way.

Glide path risk tolerance is unlikely to match investor risk tolerances

Assessing an investor's risk tolerance is a complex undertaking that requires more inputs than simply the investor's age. Empirical evidence is inconsistent with simple age-based glide path risk.¹ A common TDF critique is the view that no fixed age-based rule for defining risk can be appropriate for all or even most. Indeed, appropriate risk tolerance may even rise as an investor's portfolio grows. TDFs too often encourage recklessness for the young and excessive conservativeness for the elderly. An unemployed 25 year old may be rightfully far more conservative than a wealthy octogenarian. More generally, TDF portfolios are inappropriate for a very wide variety of investors in retirement, who may rightfully benefit from continued equity exposure. Even the "through" retirement glide paths that achieve their most conservative portfolios well after retirement may be too conservative toward the end of their cycles.

TDF Fund Management Limitations

TDF families have widely differing definitions of the stock/bond ratio for similar target dates even near term retirement. Widely varying risk indicates that many TDF families are unlikely to guarantee their QDIA mandates as appropriate long-term retirement investments even for short horizons.

DOL regulations do not address TDF risk control guidelines. Consequently, competitive pressures often motivate TDF managers to perform and garner market share that encourage engagement in short-term market timing by varying the stock/bond ratio of the fund. While intended for enhancing return short-term, market timing may often dramatically increase the risk of not meeting long-term objectives. Many academic empirical studies have shown that market timing is rarely successful long-term.

TDF Popularity

There are many reasons why DOL fiduciary relief associated with TDFs is very popular among fund managers. One reason is that it greatly facilitates the fund sales process. TDFs garner a perception of DOL sponsorship that encourages the perception of safety and relevance for retirement investing. The sales process is also facilitated because a broker or advisor only needs to know a client's age in order to recommend a presumably appropriate retirement investment.

Age-based rules are also popular because they encourage client lock-in. A TDF promotes the notion that the same fund is appropriate until the retirement date independent of performance. While client lock-in largely benefits managers, it has also been argued that it is one of the benefits of TDF investing. This is because investors are guaranteed to be investing in a diversified fund until retirement. The problem is that the appropriate level of investment risk for individuals may change due to lifestyle changes. As individuals

¹ Smetters (2009) finds empirically that the age to stock/bond ratio has an inverted "U" shape that diminishes as educational level increases.

age many factors, including marital status, income level, health, and others change over time and imply changes in the appropriate level of investment risk. Lock-in can result in catastrophic losses due to inappropriate risk management over an individual's investing lifecycle.

Fund-of-Fund Fees

TDFs are funds of funds that assess management fees for allocating assets to funds that also collect management fees. Consequently TDF managers are often accused of double-dipping. Fund of fund fees may substantially reduce the benefits and desirability of even good-faith asset allocation over time when their compounded effects are considered.

A number of recommendations have been proposed for reducing fund of fund fees associated with TDFs. The most obvious proposal is to limit QDIA investments to low cost index funds or index fund Exchange Traded Funds (ETFs). Index fund or ETF QDIAs also reduce risk by avoiding riskier actively managed funds.

Target-risk fund (TRF) QDIA alternative

A target risk fund (TRFs) is a diversified asset allocation indexed by the stock/bond ratio. TRFs are likely to be more appropriate QDIA investments for many investors.

The DOL provides fiduciary relief for a well diversified 60/40 or balanced TRF.² Such a TRF is a "market neutral" investment suitable for many long-term investors. In aggregate, investors hold claims to the economic productivity of the economy. Mathematically, the average portfolio is roughly equal to a 60/40 risk-target portfolio of capitalization weighted index funds.³ Deviating from this portfolio represents under-weighting of one segment of the economy and over-weighting of another. A fund family may often provide a spectrum of equity exposure TRFs for investors. These may include 20%, 40%, 60%, 75%, 90% and 100% stock/bond ratio TRFs.

One important benefit of a TRF framework is risk transparency. Investors are easily educated in the notion of more or less "capital market" risk. A TRF framework does not encourage either recklessness for the young or excessive conservativeness for the elderly. A TRF framework does not encourage lock-in investing. TRFs can be mandated to have fixed stock/bond ratios and thereby avoid active market timing. Investments can also be mandated to invest solely in low cost index funds of ETFs. TRFs encourage investors to be aware however dimly about investment risk and encourage accessing professional investment advice when appropriate.

² The Swedish Social Security System found that roughly 70% of participants preferred a default risk investment option.

³ The concept of the market portfolio is central in modern finance (Sharpe 1964, Lintner 1965).

Summary

No formal credible financial theory rationalizes an identical investment plan for all retirees of the same age. TDF rules are disputed within the industry, unreliable and often perverse in defining risk suitable for QDIA investing. TDFs are also costly and often exhibit risk management practices unlikely to be beneficial for long-term investing. Fiduciary relief should only be granted for better risk-controlled lower fee investments appropriate for long-term retirement investing. Suitably regulated, TRFs are alternative transparent investments that are likely to more properly meet retirement objectives.

Recommendations

Disallow funds that specify only a date as QDIAs—this includes nearly all current TDFs. Variable risk funds should only be allowed QDIA status if they include their start and end equity ratio in the fund name as well as conform to the best practices listed below.

- Encourage the greater use of balanced and other TRFs as a default QDIA
- Encourage low-cost index funds and index fund ETFs for QDIA investment
- Limit active management in QDIAs
- Encourage modern and effective risk management technology.

Bibliography

Brinson, Gary, L. Randolph Hood, and Gil Beebower. 1986. "Determinants of Portfolio Performance." *Financial Analyst Journal* 42(4): 39-44.

..... 1991. "Determinants of Portfolio Performance II: An Update." *Financial Analysts Journal* 47(3): 40-48.

Chernoff, Joel. 2003. "Markowitz Says Michaud Has Built a Better Mousetrap." *Pensions & Investments*. December 22.

Esch, D. and Michaud, R. 2014. "The False Promise of Target Date Funds." *Journal of Indexes*, (17)1: 50-59.

Lintner, John. 1965. "Security Prices, Risk and Maximal Gains from Diversification." *Journal of Finance*, December.

Markowitz, Harry. 1959. *Portfolio Selection: Efficient Diversification of Investments*. New York: Wiley, 2nd edition, Cambridge, MA: Blackwell.

Michaud, Richard. 1976. "Pension Fund Investment Policy." Presented to the Institute for Quantitative Research in Finance, Spring Seminar.

..... 2003. "A Practical Framework for Portfolio Choice." *Journal of Investment Management*. 2nd Quarter.

..... and Robert Michaud. 2008a. *Efficient Asset Management: A Practical Guide to Stock Portfolio Optimization and Asset Allocation*. 2nd edition. New York: Oxford University Press.

..... 2008b. "Estimation Error and Portfolio Optimization." *Journal of Investment Management*. 1st Quarter.

Rubinstein, Mark. 1973. "A Comparative Statics Analysis of Risk Premiums." *Journal of Business* 46(4): 605-615.

Sharpe, William. 1964. "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk." *Journal of Finance* (19):425-442.

Smetters, Kent. 2009. "Optimal Portfolio Choice over the Lifecycle of Social Security." Presented to: Institute for Quantitative Research in Finance. Wharton, March.

New Frontier Advisors, LLC (NFA) is an institutional research and investment advisory firm specializing in the development and application of state-of-the-art investment technology. Based in Boston, NFA provides consulting and investment advisory services as well as licensing of patented and proprietary software. NFA principals invented the world's first broad spectrum, provably effective, portfolio optimization, rebalancing, and monitoring process; the Resampled Efficient Frontier™ is globally recognized as a landmark development for asset allocation and equity portfolio management. Through monographs, refereed academic and professional papers, patents, white papers, seminars, and invited presentations, NFA continues to pioneer new developments in portfolio management, investment strategy, and financial planning tools. NFA combines practical investment experience, patented techniques, and world class research and management skills to offer uniquely effective institutional quality investment services.

Dr. Richard O. Michaud is President and CIO, New Frontier Advisors. He has a Ph.D. in Mathematics from Boston University and taught investment management at Columbia. He is co-holder (with Robert Michaud) of three U.S. patents in portfolio optimization and management. He has authored numerous refereed academic and professional publications as well as *Efficient Asset Management*, Oxford 1998), 2nd edn. (with Robert Michaud) OUP, 2008. He is a Graham and Dodd Scroll author, former Editor of the *Financial Analysts Journal*, Director of the Institute for Quantitative Research in Finance, and Editorial Board member at the *Journal of Investment Management*. Prior positions include: Director, Research and Development, Acadian Asset Management; Head, Equity Analytics, Merrill Lynch.

Mr. Robert O. Michaud is the Chief Investment Officer at New Frontier and the co-holder of four U.S. patents in portfolio optimization and asset management. Mr. Michaud holds a Masters in Mathematics from Boston University and pursued a PhD in finance from the Anderson School of Management at the University of California at Los Angeles before joining New Frontier. His research interests include risk models, empirical asset pricing, and international finance. Mr. Michaud is the co-author of *Efficient Asset Management: A Practical Guide to Stock Portfolio Optimization and Asset Allocation*, (2nd ed. Oxford University Press, 2008) and research articles in refereed journals.

Dr. David Esch is currently Managing Director of Research at New Frontier Advisors, having joined the firm in 2008. He completed his PhD in Statistics at Harvard University in 2004. His specialties include mathematical statistics, numerical analysis and computation, Bayesian statistics and econometrics. He is author of the article “Non Normality Facts and Fallacies,” (Journal of Investment Management 1st Quarter 2010), selected as one of the best JOIM papers of 2010, and co-author on many other peer-reviewed journal articles. A native of Boston, his educational background also includes a Bachelor of Arts degree from Harvard College and a Master degree in Mathematics and Statistics from Boston University.