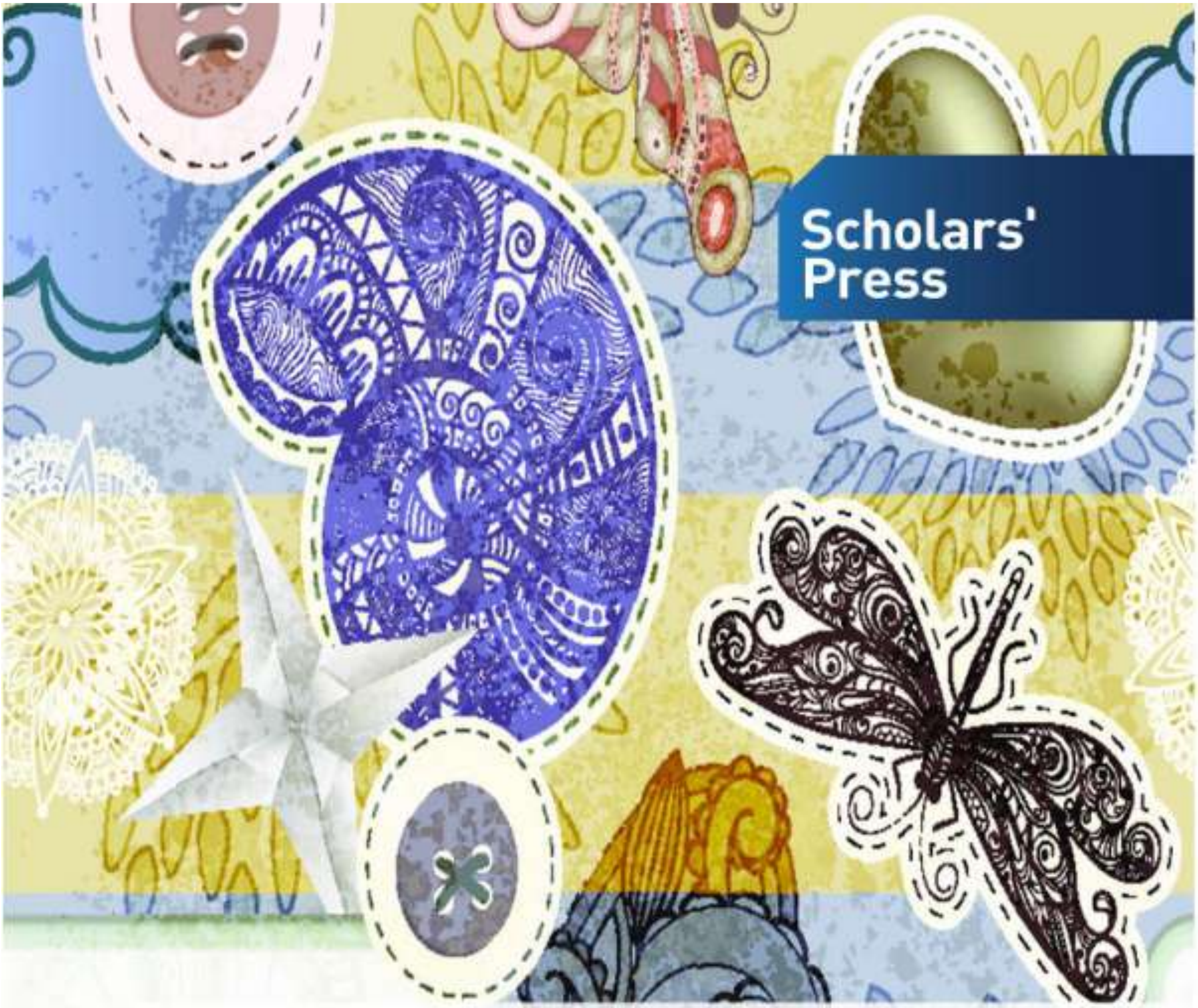

Scholars' Press

Ronald Surz

The Remarkable Metamorphosis of Target Date Funds

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Preface

In 2014 we published the ***Fiduciary Handbook for Understanding and Selecting Target Date Funds***. This new book goes into detail on the subsequent and future progress of the metamorphosis in TDFs.

Despite their emerging popularity, growing to over $2 trillion in 2018, target date funds (TDFs) are still in the early stages of their metamorphosis, having been given life by the Pension Protection Act of 2006, as described in Chapter 1 – the Egg, the Beginning.

In this book I take the view that TDFs are currently still in their larva stage, with challenges that include fiduciary misbehaviors and design flaws, such as one-size-fits-all. Chapters 2 through 5 form the Larva Section of this book which describes the formative deficiencies in TDFs. A TDF is a good idea, but current implementations are nowhere near the high quality they will ultimately become.

TDFs are morphing and will eventually overcome their current deficiencies. In the Pupa Section of the book – Chapters 6 through 9 -- I describe these emerging triumphs.

Ultimately, Adult TDFs will emerge in all their glory, as I describe in the Conclusion

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In Ron's 40 year career he has consulted to $trillions of institutional assets in the areas of asset allocation and investment policy.

Chapter 1: The Egg

The Beginning

Target date funds (TDFs) were first introduced in the early 1990s by Barclays Global Investors (BGI) and were originally used for college savings plans. The target date, for example the 2020 fund, is an event date. In the case of college savings plans, it's the year that a student intends to enroll in a college. Target date funds' asset allocation mix typically provides exposure to return-seeking assets, such as equities, in early years when risk capacity is higher, and becomes increasingly conservative as time progresses with exposure switched progressively toward capital-preservation assets, such as short-term bonds. This asset movement through time from more to less risk is called a "glide path." Eventually, target date funds began to be used for retirement savings plans, especially 401(k) plans. The event date in this application is the year in which an investor intends to retire.

Usage of TDFs remained minimal until 2006. Two major events brought TDFs to the forefront. First, behavioral scientists recommended that 401(k) plans use automatic enrollment to encourage participation. Employees would need to choose to be excluded from the plan, whereas they formerly needed to sign on for the plan. Behavioral scientists were right. 401(k) participation skyrocketed, but this created a new challenge. Many 401(k) participants were either unable or incapable of making an investment decision so they defaulted to their employers who, typically, placed their contributions in very safe assets, like cash. This led to the second major event: passage of the Pension Protection Act of 2006 (PPA).

The Passage of the Pension Protection Act of 2006 is Significant

The PPA specifies three Qualified Default Investment Alternatives (QDIAs) that plan sponsors can use for participants who do not make an investment election: Target Date Funds, Balanced Funds, and Managed Accounts (accounts managed by outside professionals). By far the most popular QDIA has been TDFs. It's important to remember that most of the assets in TDFs are there by default, so these investments are employer-directed rather than participant-directed.

Subsequent to the PPA, target date fund assets grew from $0 to about $150 billion in just two short years. This set the stage for serious disappointment in 2008 when the typical 2010 fund lost 25%. The market crash of 2008 exposed the fact that far too much risk was being taken, especially near the target date, as discussed in the next Chapter. Note that the 2010 fund is designed for those retiring between 2005 and 2015. Participants who defaulted their investment decision to their employers believed they were protected, especially near retirement, so they were devastated and shocked. As a consequence of this pathetic loss, the U.S. Securities and Exchange Commission (SEC) and the Department of Labor (DOL) held joint hearings in 2009, and subsequently threatened to regulate TDFs in a variety of ways, specifically by requiring more disclosures. At the time of this writing, these threats remain to be carried out. In the meantime, TDFs have actually become riskier, prompted by a performance horserace. Vulnerable participants are in more jeopardy today as they were in 2008.

The good news about 2008 is that not much was at stake, with $150 billion in TDFs, which was less than 10% of 401(k) assets. The next 2008 will be devastating by contrast, and it's not a matter of *if* – it's a matter of *when*. At the time of this writing, TDFs held $2 trillion, which was about 35% of all 401(k) assets.

Chapter 2

Design Flaw: A Gamble That Jeopardizes Quality of Life in Retirement

Target date funds currently have serious flaws, some widely recognized while others are not recognized at all. For example, the one-size-fits-all flaw is widely recognized, and I discuss a solution to this flaw in Chapter VII: Personalized Model Accounts. In this Chapter I discuss a flaw that is not recognized at all, but should be, namely excessive risk near the target date that exposes beneficiaries to potential diminution of lifestyles in retirement.

The $trillions invested in Target Date Funds (TDFs) and Individual Retirement Accounts (IRAs) are destined to be devastated by a risk that is well documented but generally unrecognized. Sequence of Return Risk will destroy lifestyles and the next time it will be much worse than 2008. Fortunately, each of us can control this risk because it's personal, but not if we wait until it's too late. We only get one chance in a lifetime to dodge this risk. Unlike other risks, this risk is individualized and we know when it is greatest so we can protect or take the gamble that losses won't occur in our own personal Risk Zone. It's like sky-diving risk where there is little chance of recovering from being unlucky; the odds of bad luck may be low but the consequences are huge.

All investors knowingly take some risk of losing money, but there comes a time in all of our lives when, unless you do something about it, risk of loss morphs into the risk of ruin. We all run the mandatory gauntlet of ruin as we transition from our working lives into our retirement years. Losses sustained during this transition period can devastate lifestyles even if markets subsequently recover. That is why Professor Moshe Milevsky calls this the Risk Zone. Most investors are unaware of this risk so it is exceedingly high. It could and should be much lower, as we explain in the following. Unless you feel extraordinarily lucky, you want to be protected against sequence of return risk. It's a risk that can and has blindsided many investors. Don't let this happen to you.

Sequence of Return Risk Defined

The mathematics of investment return is complex when investment withdrawals come into play. Without withdrawals, the sequence of returns doesn't matter. We can rearrange return sequences in any way we want and the compound cumulative return is unchanged. Ending wealth is the same regardless of the order in which returns are earned. But if we are withdrawing money, as we are in retirement, the sequence of returns matters a lot. Losses in earlier years can be devastating, while the same losses in later years don't matter much. Here's an example:

Managing Sequence of Return Risk

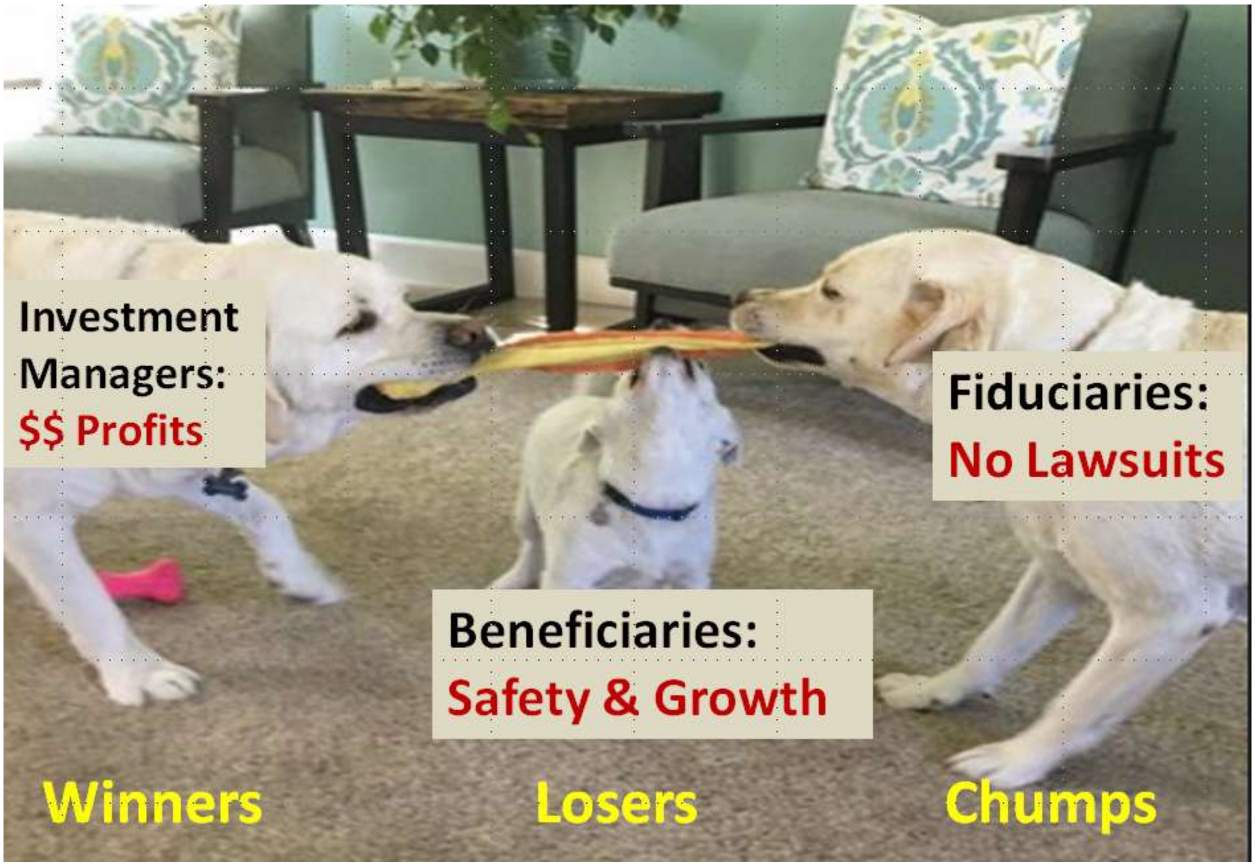
The simplest and most dependable way to manage sequence of return risk is to keep your investments safe during the Risk Zone that spans the five years before and after retirement. This will of course create opportunity costs if markets perform well, but it is a price well worth paying because you only get to do this once. Your savings are likely to be at their highest as you transition from working life into retirement, so there is more to lose. Behavioral scientists tell us that we feel the pain of loss much more than the benefits of gain. "Save and protect" is a very good mantra for retiring with dignity.

IRAs are exposed to excessive loss in the Risk Zone. The Employee Benefits Research Institute (EBRI) report on IRAs reveals that equity allocations are approximately 55% across all ages, a surprising reality. TDFs are also exposed to excessive risk, with an average 55% allocation near the target date. This is the allocation that lost 30% in 2008, and risk has increased since. To guard against the devastation that lies ahead, IRAs and TDFs should have very low risk in the 5-10 years before and after retirement, but they don't.

Because they are currently in the larva stage of their metamorphosis, TDFs are not conservative enough at the target retirement date to defend against sequence of return risk. Chapter VI: U-shaped Glide Paths describes how this will change when TDFs morph to their pupa stage.

Conclusion

Despite their popularity, TDFs and IRAs are ticking time bombs that will destroy lifestyles when the next market correction occurs. This is a shame because safety near the target date can and should be the norm. Investors should be protected against sequence of return risk, and they will be when TDFs morph into their pupa phase.



Chapter 3

Conflicting Interests

- Target Date Funds (TDFs) have three interest groups: investment managers, fiduciaries, and beneficiaries
- The interests of these three groups are not aligned.
- Beneficiaries will be the losers in the next market correction because of these misalignments .

Investment managers create TDFs for profit, which is after all their business. **Fiduciaries** choose TDFs, presumably for the benefit of participants, but that's not what is happening. **Beneficiaries** want to be protected, especially as they enter retirement, but they are actually exposed to substantial risk. In the following we discuss the interests of each of these groups with the intention of moving those interests toward better serving beneficiaries.

Investment Managers

Investment managers have seized upon the TDF opportunity to package product, populating glide paths with proprietary funds. The major misalignment with beneficiary best interests is at the target date, where the typical TDF is 55% in equities which is riskier than the allocation in 2008 that lost 30%. Risk is born by investors, not fund companies who get paid a premium for higher risk regardless of the outcome. Allocations at the target date are the most important because assets are likely to peak at that date. Management fees for equities are higher than those for bonds.

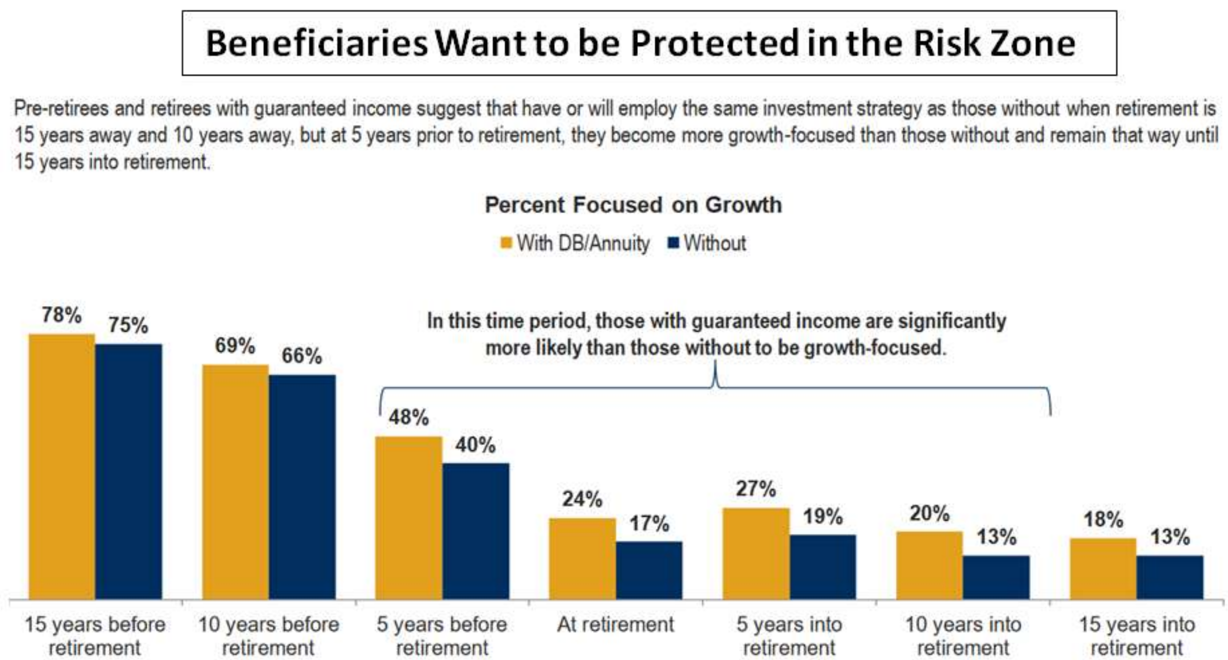
Investment managers sell the risky allocation as the solution for inadequate savings. Growth trumps safety because participants have not saved enough.

Fiduciaries

Fiduciaries, namely plan advisors and trustees, want to protect themselves against lawsuits and believe that (1) any Qualified Default Investment Alternative (QDIA) will do, and (2) you can't wrong with the Big 3 Oligopoly – Vanguard, Fidelity, and T. Rowe Price -- because everyone else is using them. This is a breach of the Duty of Care that, like our duty to protect our children, holds fiduciaries responsible for harm to our dependents that should have been prevented. Fiduciaries are duty bound to seek the best TDFs for their beneficiaries, but this is not happening. The next market correction could bring lawsuits that remedy this imprudent practice. See Chapter III on Unethical Fiduciary Practices.

Beneficiaries

Beneficiaries want to be protected as they enter retirement, and may think they are, but they are not. A recent MassMutual Retirement Savings Risk Study examines beneficiary risk preferences in 401(k) plans, summarized as follows:



Source: Mass Mutual

At 15 years to the target date, the vast majority (75%) want growth over safety, but this preference shifts dramatically so that only 17% prefer growth over safety at retirement. Also shown in the graph, those with another source of income, like a DB plan, opt for somewhat more growth, obviously because their other assets are safe.

Conclusion

Because of disparate interests, there are winners and losers and chumps in TDFs. Investment managers are winning big time since $2 trillion has poured into TDFs in just the past decade. Beneficiaries will be the big losers in the next market correction, but this could be avoided if fiduciaries refuse to be duped by mistaken beliefs of lawsuit protection. The best fiduciary protection is prudent selection of TDFs.

Chapter 4

Unethical Fiduciary Practices

Ethics is knowing the difference between what you have a right to do and what is right to do. Judge Potter Stewart

Despite its growing popularity and importance, there is a lot of confusion surrounding target date funds. Some of this confusion leads to bad decisions that can harm beneficiaries and should expose fiduciaries to legal action, although no one was sued for investment losses in 2008. When beneficiaries are harmed by well-intentioned but misinformed fiduciaries, restitution is warranted because fiduciaries -- plan sponsors and their advisers -- should know better. In this case, the defenseless are millions of "little guys" with an average account balance of $90,000 at retirement, paying 100 basis points each to be in TDFs.

The law didn't protect beneficiaries from TDF investment losses in 2008; not a penny of the 30%+ loss was recovered. From an ethical perspective, no one likes to see the little guy get hurt, but the law allows it, or at least it did in 2008. We all want what is fair and just. As a practical matter, the applicable legal requirements for TDFs are fulfilled with "procedural prudence," namely acting as other experts act in a similar capacity. In fact, as you'll see in this article, TDF fiduciaries rely on procedural prudence and the safe harbor protection of TDFs as Qualified Default Investment Alternatives (QDIAs). This is not sound ethical practice since it does not protect beneficiaries.

Fiduciaries should be ashamed, and may be surprised by an aspect of fiduciary law that holds them to a higher standard called substantive prudence, which is doing what is best. The fiduciary duty of care requires fiduciaries to try to do what is best for beneficiaries. The duty of care is a requirement to be ethical. You don't have to be the best, but you must try to be the best. That's not what is happening now. Fiduciaries are breaching their duty of care. Following the herd is not substantively prudent.

Ethical Breaches

In his Trifecta of Imprudence report, Edward Siedle, a pension investigator says:

> *It appears that (a) opacity; (b) fees and expenses; and (c) illiquidity, conflicts of interest and related risks, all dramatically increased as the Fund's financial condition worsened—*

all contrary to prudent fiduciary practice. In my experience, such a trifecta of imprudence is all-too-common among failing pensions.

In the months and years to come, hundreds of corporate multiemployer and public pensions will approach insolvency. Participants in these pensions have a choice: do nothing and hope for the best, or fight back—band together, dig for answers and take action.

Participants whose retirement dreams have been devastated deserve to know why and those responsible should be held accountable. In my experience, there has never been a pension that failed that didn't have a roomful of experts saying it wouldn't.

In addition to Mr. Siedle's specific observations of unethical behavior, here are four unethical TDF practices that arise from just plain laziness:

Unethical TDF practices

(1) Not vetting the TDF selection
(2) Failing to protect, especially near the target date
(3) Paying excessive fees
(4) Falling for gimmicks

I use the word "unethical" to mean "not in the best interests of beneficiaries," as detailed in the following:

(1) **Not vetting the TDF selection**

Fiduciaries believe they are protected by two safe harbors in their selection of target date funds:

1. Properly structured TDFs are Qualified Default Investment Alternatives

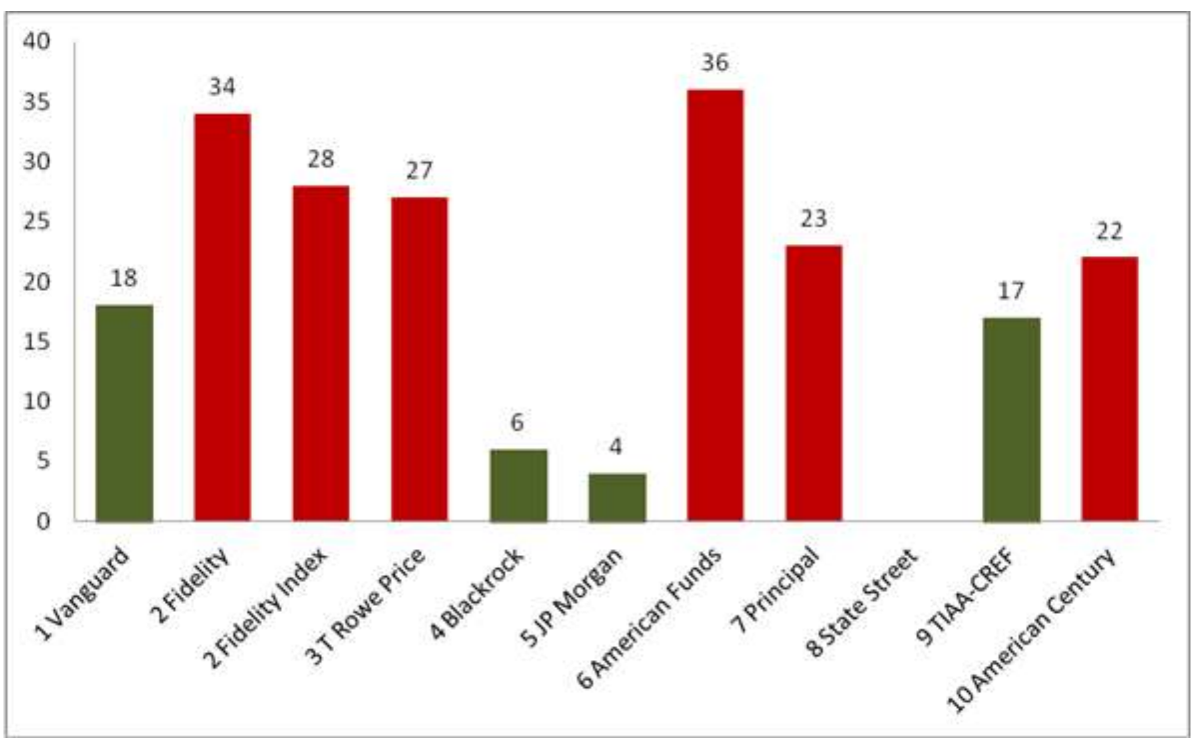
(QDIAs) under the Pension Protection Act of 2006. Form over substance.

2. There is safety in numbers, so choosing one of the most popular TDF providers is prudent. Fidelity, T. Rowe Price and Vanguard manage 65% of the blossoming TDF market. You can't go wrong with a brand name. Or can you?

These beliefs fall in the "empty head but good heart" wishful thinking category. They are neither prudent nor ethical. Lazy fiduciaries choose their bundled service provider without researching alternatives. Vanguard, Fidelity and T. Rowe Price are fine firms, but their target date funds are not the best.

If fiduciaries were shopping for what's best for their employees they would buy prudence. The data shows that the top 10 TDF managers are not the most prudent. In the following graph we show the Prudence Ranking (see Chapter 6) for the Top 10. We've ranked the 41 largest mutual fund TDFs. A low rank is good – 1 is the best . As you can see, only 4 of the top 10 are above median, with a rank below 21. (We don't have data for State Street).

Prudence Rankings (out of 41)



(2) Failing to protect, especially near the target date

In 2008, 2010 TDFs lost more than 30% and there was a public outcry to never let such losses happen again, especially to those in or near retirement. It was a shocking wake-up call. Beneficiary lifestyles were devastated while at the same time fiduciaries were not only unscathed, they were unphased, choosing to increase risk in the years that followed. Rather than correcting 2008's problem TDFs have become riskier because (1) U.S. equity allocations have increased in order to compete in the performance horserace and (2) bonds have become very risky because of Quantitative Easing.

Just because fiduciaries got away with large losses in 2008 doesn't mean excessive risk is right or that fiduciaries will continue to get away with it. The basic ethical dilemma here is that TDFs are being sold, not bought, and what is being sold is not safe. You can't blame the fund companies because they are not fiduciaries; they're vendors whose business is making profits. Fiduciaries are to blame. Fiduciaries should be seeking the best solutions for their pension plans rather than settling for their bundled service provider or the best sales pitch, or worse, a round of golf.

Since most participants either withdraw their assets or purchase an annuity when they retire, the duration of TDF assets should more closely approximate the participant's retirement date. In other words, allocations at the target date should be very safe, mostly in short term bonds. Prior to the Pension Protection Act's declaration of QDIAs, the common practice was to default participants into cash or stable value. This may have been too conservative for younger employees, but it was just about right for those nearing retirement.

(3) Paying excessive fees

Books were written and TV shows were aired about the excessive fees in 401(k) plans, but nothing changed until lawsuits were won. As reported by the 401(k) HelpCenter, the list of litigants is long and includes Insperity, Allergen, TIAA, JP Morgan, Wells Fargo, Oracle, T. Rowe Price, Aon Hewitt, Edward Jones …

So now fund companies are racing to the bottom on fees because fiduciaries fear lawsuits. Lawsuits are the stick that changed this unethical behavior. It's a shame that ethical behavior requires successful lawsuits, but that has been the history of such matters. Excessive fees still remain in hidden places that fiduciaries need to ferret out, or they could wait for lawyers to discover them.

The current focus on fees is distracting attention away from more important considerations like glide path design, risk control and diversification.

(4) <u>Falling for gimmicks</u>

Not surprisingly, opportunists have entered the TDF game, including:

- custom funds
- market timing
- ESG funds.

Spurred on by the DOL's 2013 Tips, some vendors are selling custom target date funds as a means to match workforce demographics. These one-size-fits-all glide paths cannot match a diverse group of employees. The best "custom" fund matches the one demographic that all defaulted participants have in common: lack of financial sophistication. In other words, safety first is the way to match the one demographic that can actually be matched.

The DOL is wrong in thinking that a one-size-fits-all vehicle can somehow be tailored to individual participant circumstances. It is also wrong in emphasizing the "to-through" distinction because it's a distinction without a difference.

Another gimmick is market timing, modifying the glide path in response to a vendor's crystal ball predictions. The implied promise is that these providers will get out of the way of the next 2008. Time will tell of course, but history suggests that this is a very tough call. A more reliable course of action is to use a glide path that always protects near the target date.

The most recent gimmick is ESG (Environmental, Social, Governance) Funds, intended to make the investor feel good. Since TDFs are chosen by fiduciaries rather than participants, the good feeling is targeted to fiduciaries who really should focus on more important matters like selecting the best.

Bottom line

Target date funds should be bought, not sold. With $trillions in TDFs, the stakes are much higher today than they were in 2008 when TDFs were only $150 billion, which is less than 10% of the current assets.

It is unconscionable for lazy, go with the flow (To/Through}, fiduciaries to jeopardize a dignified retirement for even a single participant. Ethical fiduciaries will research and implement superior alternatives for defaulted participants.

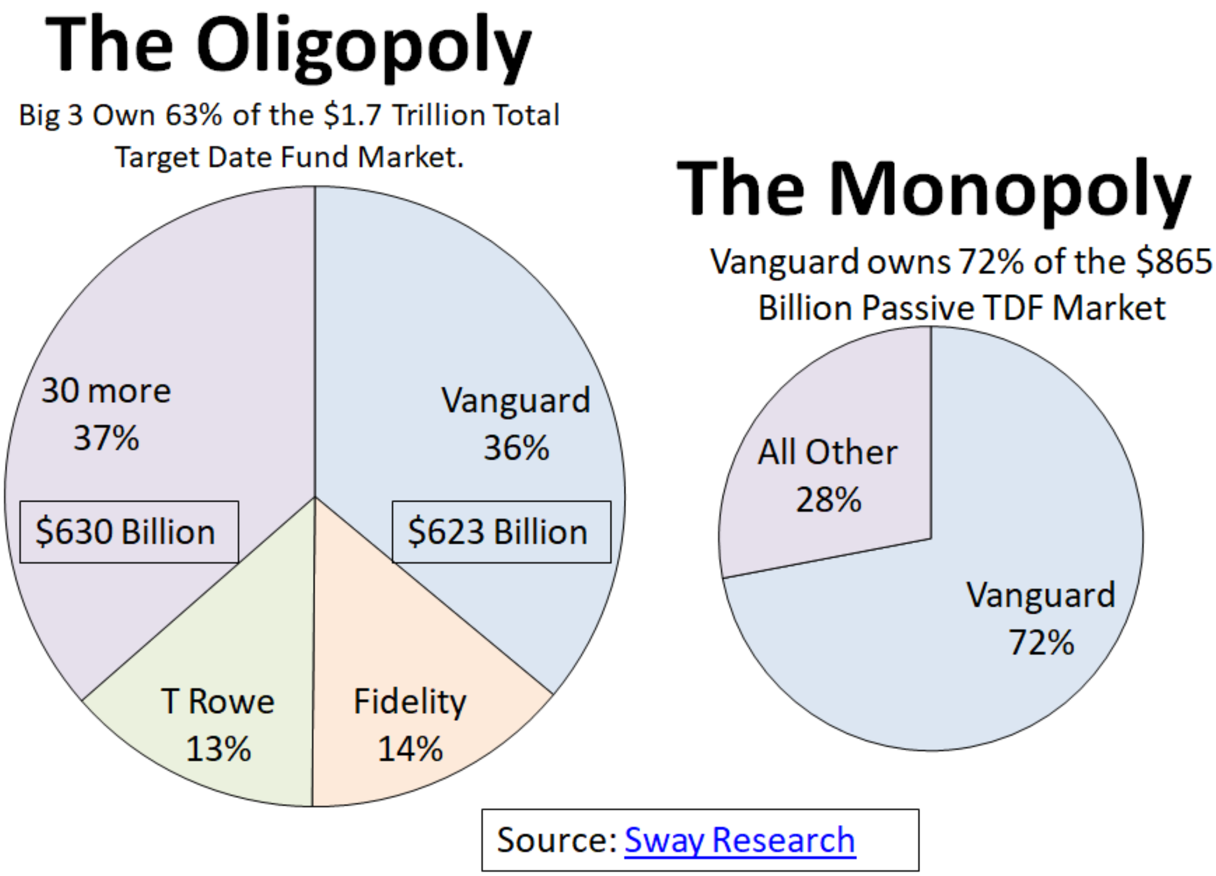
It is equally unconscionable for asset management companies to market TDFs under the wrong premise…hyping phony objectives that sacrifice prudence for performance. The intention of TDFs is to provide a safe path to retirement and not inject undo, unneeded and potentially catastrophic risk particularly in the later stages of a participant's working life. It's not just good business or good investing…it is the cornerstone of the covenant every fiduciary has made with all participants.

Incentives modify behavior and come as carrots and sticks. Ethical decisions that protect employees are the carrots. Fiduciaries can feel proud for doing the right thing. Ethics did not motivate fiduciaries to seek low fees. Sticks, namely successful lawsuits, got the job done. So it may be with other unethical practices.

Chapter 5
Oligopoly of the Big 3

An **oligopoly** is a market structure in which a small number of firms has the large majority of market share. An oligopoly is similar to a monopoly, except that rather than one firm, two or more firms dominate the market. A **monopoly** is a market structure dominated by one firm.

As reported in a [Sway Research Report](), and shown in the following graph, the target date fund market as a whole is an **oligopoly**, while the passive segment of this market is a **monopoly.**



The Big3 trio of Vanguard, Fidelity and T. Rowe Price is an **oligopoly**, having a large share of the TDF market. Also, the next 8 TDF firms in size comprise most of the rest, as shown in the following table. Vanguard is a **monopoly** in the passive TDF market, constituting a whopping 72% of this market.

Top 10 TDF managers by assets under management

COMPANY	TOTAL AUM*	TOTAL MARKET SHARE**	MUTUAL FUND ASSETS	CIT ASSETS
Vanguard Group	$623	36.0%	$381	$242
Fidelity Investments	$244	14.1%	$227	$17
T. Rowe Price	$232	13.4%	$168	$64
BlackRock	$140	8.1%	$18	$122
American Funds	$89	5.1%	$89	N/A
J.P.Morgan	$87	5.0%	$53	$33
Principal	$60	3.5%	$26	$34
SSgA	$44	2.6%	$4	$40
TIAA	$44	2.5%	$44	N/A
American Century	$24	1.4%	$19	$5

*Notes: *Figures in billions of dollars as of end-2017. **Market share includes mutual fund and CIT assets. Figures exclude assets in custom products*

Source: Sway Research

So what?

According to Investopedia : *the economic and legal concern is that an oligopoly or monopoly can block new entrants, slow innovation, and increase prices, which harms consumers. Firms in an oligopoly set prices, whether collectively – in a cartel – or under the leadership of one firm, rather than taking prices from the market. Profit margins are thus higher than they would be in a more competitive market.*

The conditions that enable oligopolies to exist include high entry costs in capital expenditures, legal privilege (license to use wireless spectrum or land for railroads), and a platform that gains value with more customers (in this case it's recordkeeping).

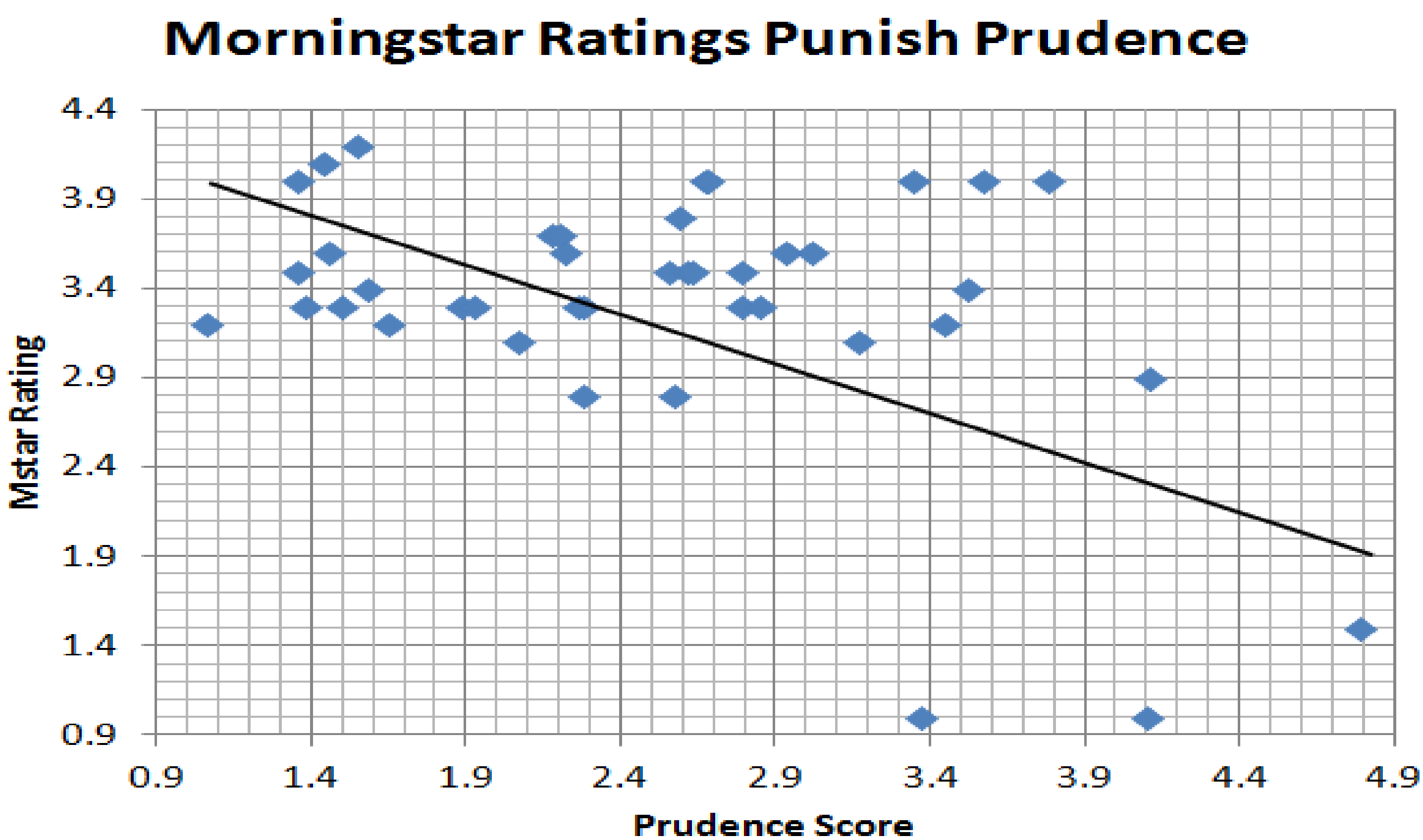
In other words, the current structure is not good for consumers and beneficiaries. The good news is that lawsuits are keeping prices low. It's been a race to the bottom. The bad news is that this structure is hampering advancements in TDFs. There are better, more prudent, TDFs but they don't have a chance. This fact has significantly slowed the metamorphosis of TDFs so it may be awhile before the refinements described in the remaining Chapters actually take hold.

Better TDFs are screaming for attention but can't get it because fiduciaries, namely advisers, are breaching their duty of care by not vetting their TDF selection.

Chapter 6

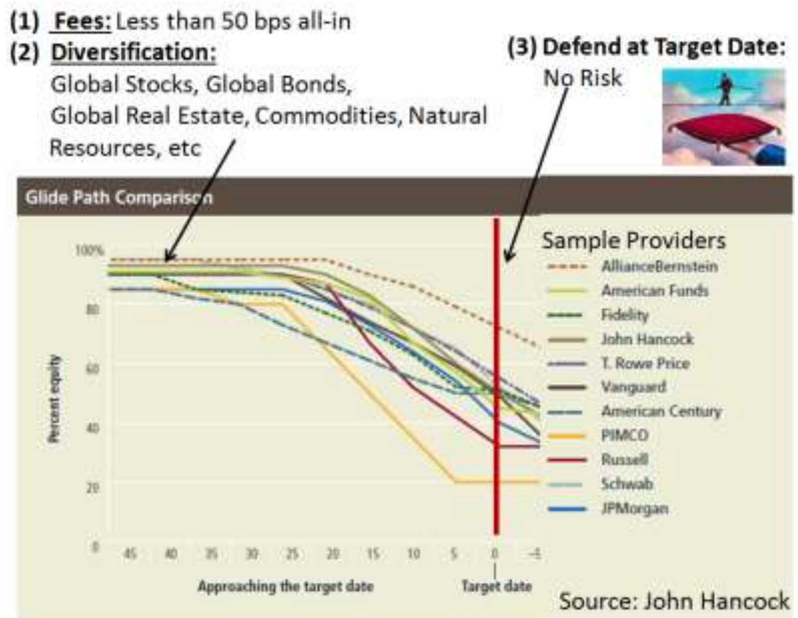
Prudence Ratings

Asset allocation is the primary determinant of investment performance and risk. Many say asset allocation explains more than 90% of investment results, but the fact is that it explains more than 100%. Because of this importance, we provide a detailed examination of target date fund glide paths in order to differentiate the good from the bad. Our focus is on fiduciary responsibility and the characteristics of a glide path that make it Prudent. Prudent glide paths are good. Imprudent glide paths are not good for both beneficiaries and fiduciaries. Fiduciaries face possible legal action for imprudent TDF selections. A glide path does not have to produce high returns to be Prudent. In fact, high returns can be an indication of imprudent risk taking. We use the PIMCO Glide Path Analyzer in the following to examine TDF Prudence and to develop Prudence Ratings that differ from Morningstar Ratings. Morningstar Ratings tend to penalize Prudence.



Defining Prudence

The [three great benefits](#)of target date funds are diversification and risk control provided at a reasonable cost. All three of these benefits vary widely across target date fund providers, as shown in the graph on the right.



Looking to the left of the graph at long terms to target date, we see consensus in high equity allocation – the lines cluster. The differentiator at long dates is diversification. Theory states, and evidence confirms, that diversification improves the risk-reward profile of a portfolio. Greater diversification leads to higher returns per unit of risk, and is a benefit of TDFs.

Looking to the right of the graph, near the target date, we see wide disagreement, with equity allocations at target date ranging from a high of 70% to a low of 20%. The prudent choice is safety at the target date, the other benefit of TDFs.

These two key benefits, plus fees, are discussed in the following in the order of their importance.

The most important benefit is safety at the target date

Safety at the target date is the most important benefit for the following reasons:

1. There is <u>no fiduciary upside</u> to taking risk at the target date. Only downside. The next 2008 will bring class action lawsuits.
2. There is a "risk zone" spanning the 5 years preceding and following retirement during which lifestyles are at stake. Account balances are at their highest and a

participant's ability to work longer and/or save more is limited. You only get to do this once; no do-overs.

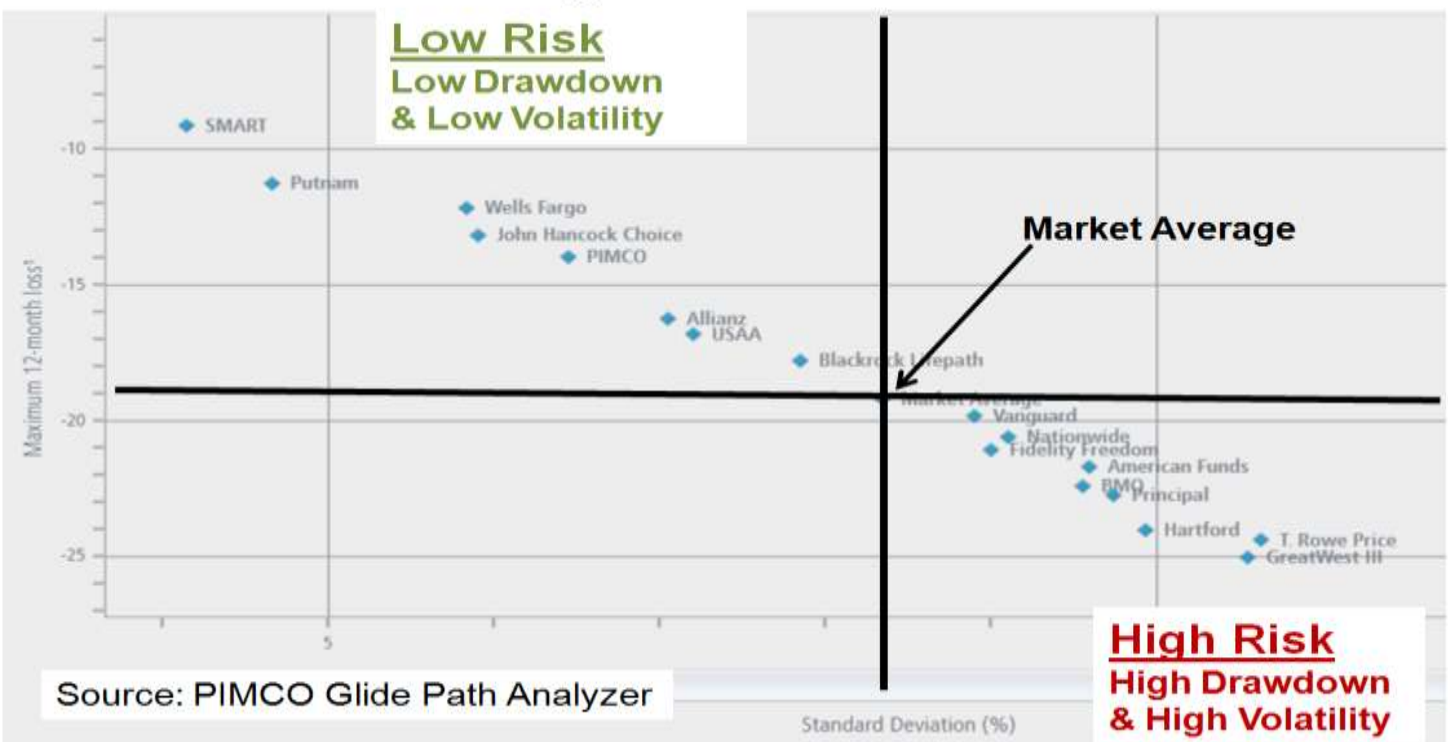
3. Most participants withdraw their accounts at the target date, so "target death" (i.e., "Through") funds are absurd, and built for profit. All TDFs are *de facto* "To" funds.

4. Save and protect. The best individual course of action is to save enough and avoid capital losses. Employers should educate employees about the importance of saving, and report on saving adequacy.

5. Prior to the Pension Protection Act of 2006, default investments were cash. Has the Act changed the risk appetite of those nearing retirement? Surveys say no.

As you can see in the following graph from PIMCO's Glide Path Analyzer, only a handful of TDFs provide true safety at the target date.

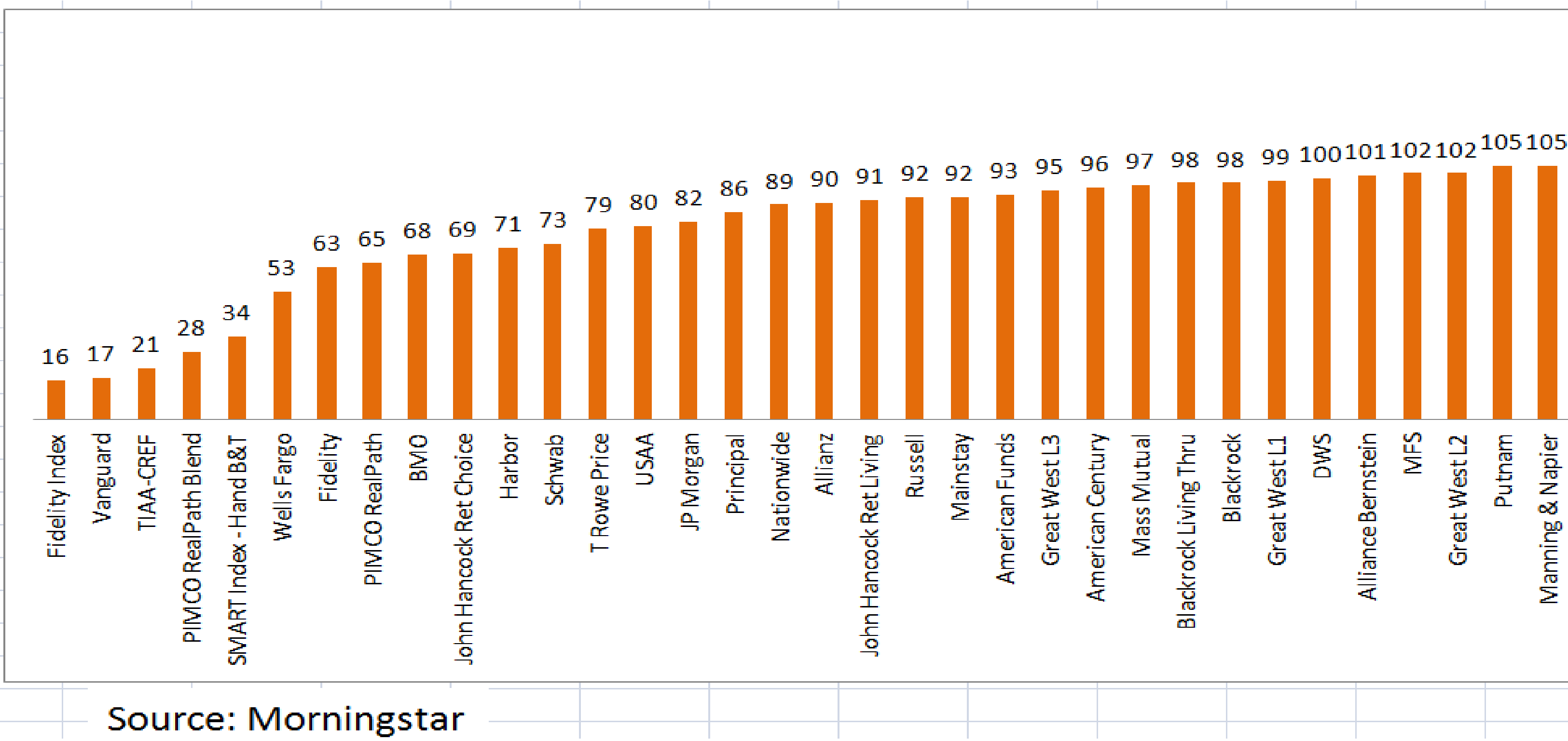
Risk at the Target Date



The second most important benefit is reasonable cost

Fees undermine investment performance and are the basis for several successful lawsuits. You can be the judge of what is reasonable, keeping in mind that you want to get what you pay for. The challenge for plan providers is achieving good diversification for a reasonable cost. Assets that diversify, like commodities and real estate, are expensive.

As shown in the following graph, only a handful of TDFs are low cost, similar to the scarcity of TDFs that provide safety at the target date. You need to ask yourself what you get for a high fee that you can't get for a much lower fee.



Fees

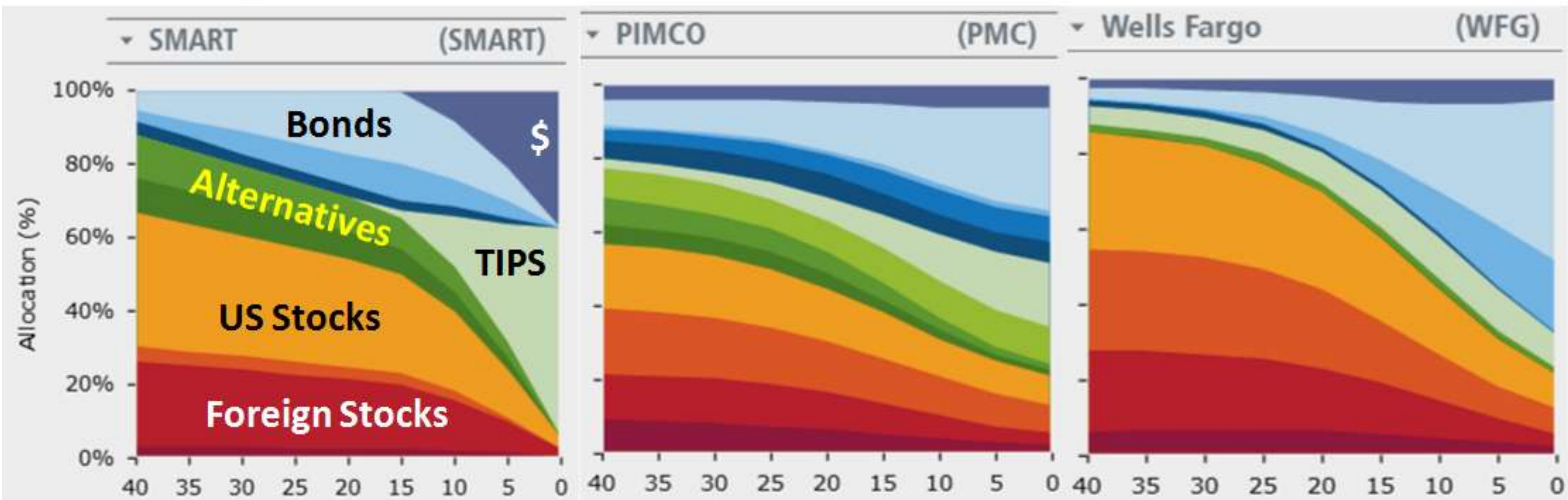
Diversification is the third most important benefit

"A picture is worth a thousand words." Diversification is readily visualized as the number of distinct asset classes in the glide path, especially at long dates. The following

are examples of well diversified TDFs, as seen through the lens of PIMCO's Glide Path Analyzer. Keep these images in mind when you view the other glide paths shown in the next section. Think "A rainbow of colors is diversified."

Broadly Diversified

Source: PIMCO Glide Path Analyzer

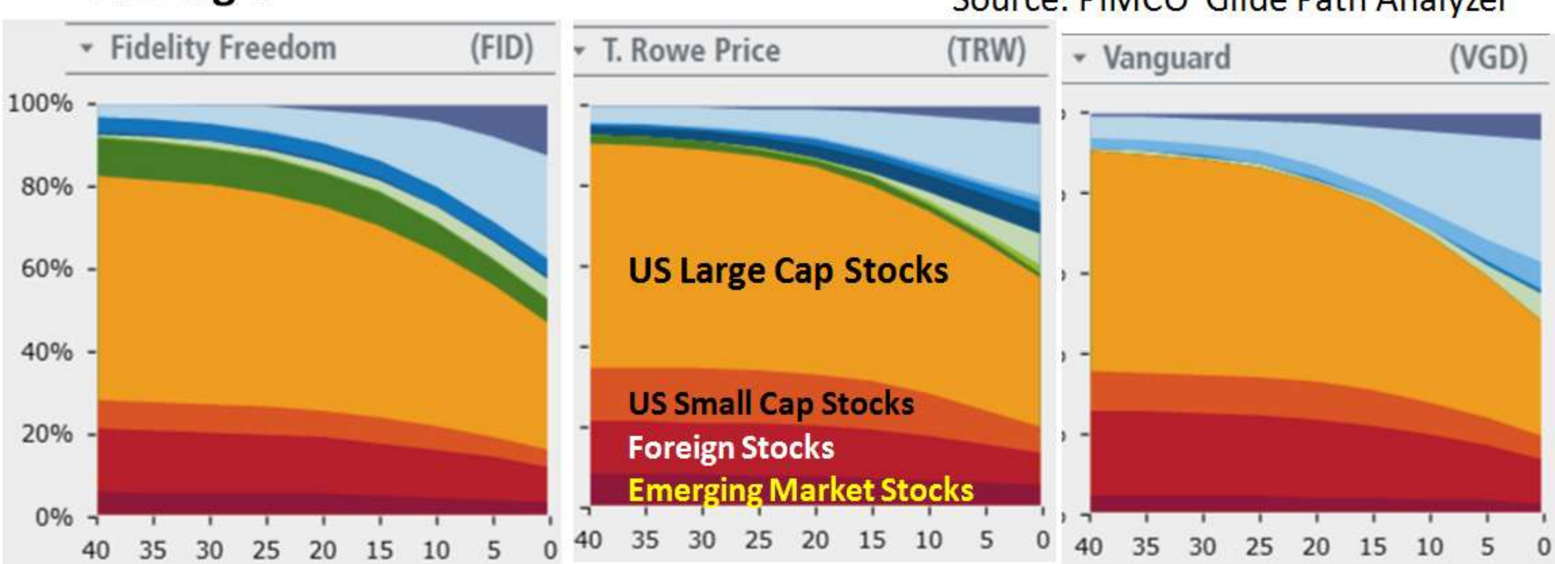


Common Practices

Most assets in target date funds are invested with the Big 3 bundled service providers and with funds that have high Morningstar ratings. Here are the glide paths for these common practices.

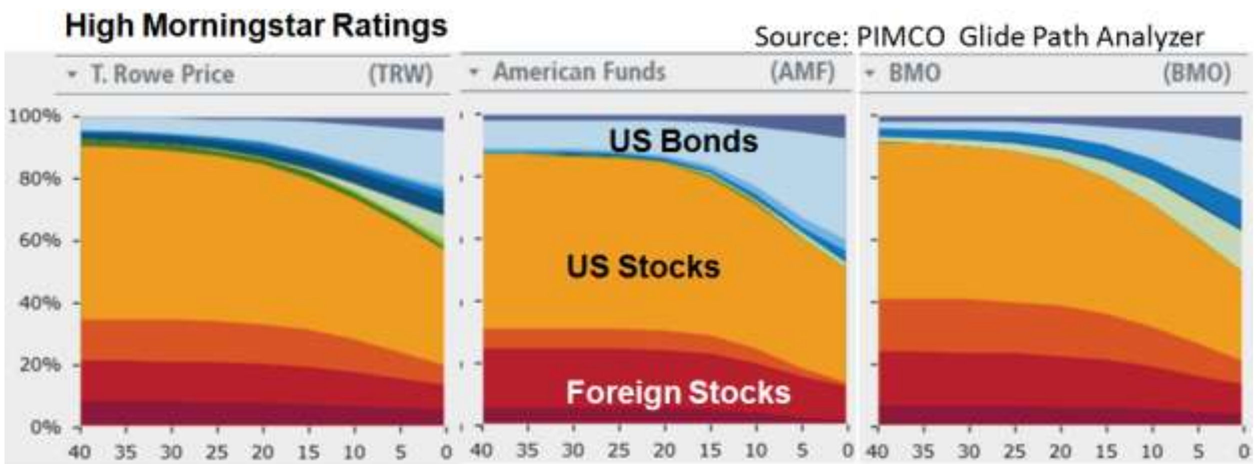
The Big 3

Source: PIMCO Glide Path Analyzer



Fidelity is the most diversified of this group, as indicated by the color spectrum at long dates (40 years). All three end at the target date with more than 50% in risky assets, which is not safe. As shown in the risk graph above, the Big 3 are low on the list of safety at the target date.

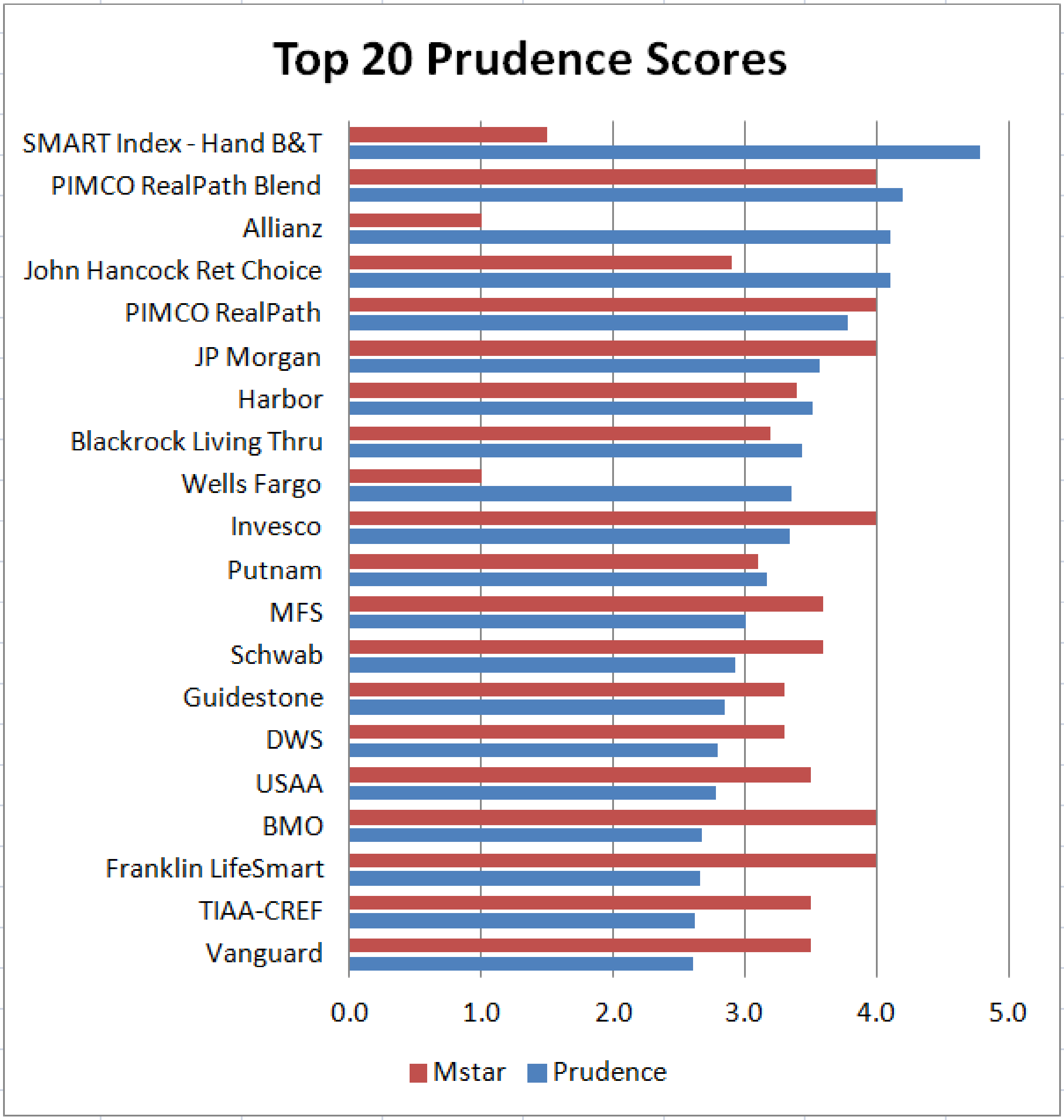
High Morningstar ratings go to funds with a high concentration in US stocks because US stocks have performed very well in the past 5 years. High Performance is not the same as Prudence. In fact, it's currently an indication of imprudent risk concentrated in US stocks.



Putting it all together: Prudence scores

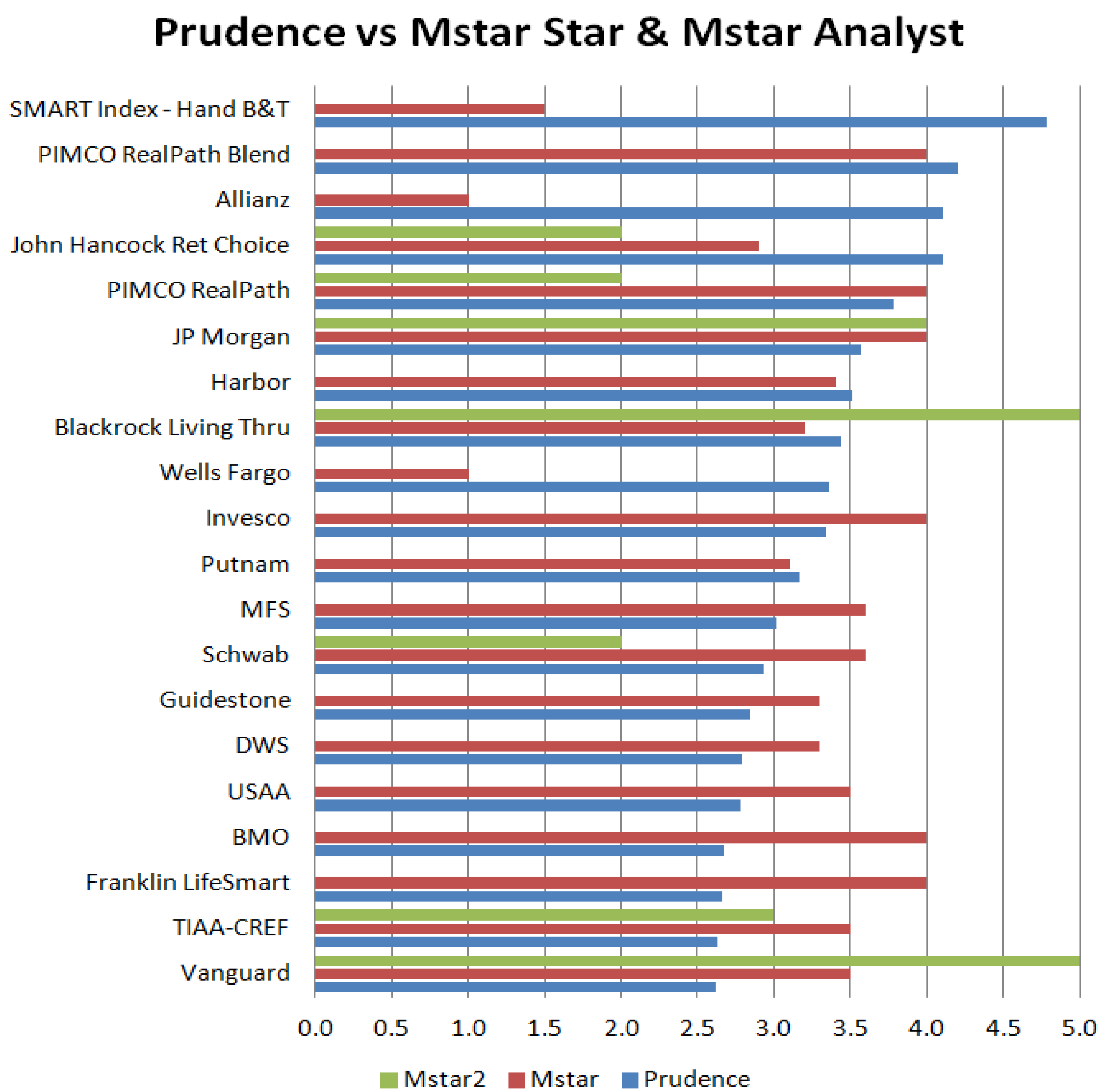
To summarize, some TDFs provide good safety, while others provide broad diversification, and still others provide low fees. To integrate these three benefits we've created a composite Prudence Score, detailed in the Appendix. The graph on the right shows the Top 20 Prudence Scores and compares them to Morningstar Ratings.

The tendency is for the 8 highest prudence scores to get low Morningstar ratings. Four of the Top 8 have Morningstar ratings below 3. Prudence scores below the top 8 tend to get Morningstar ratings above 3.5 stars. The difference of course is performance, especially recent performance that has benefitted from high US equity exposures. This "Group of 8" deserves your attention.



Expanded Comparisons

Shortly after this article was first published, a representative from Morningstar contacted me to express concern about using the Morningstar Star ratings. She suggested that the alternative Analyst ratings would be more in keeping with Prudence. So the following chart adds Analyst ratings, shown as "Mstar2". Only 7 of the top 20 funds on Prudence have Analyst ratings, and indeed 2 of those do receive high Analyst ratings of "Gold" (shown as 5 in the chart), namely Blackrock and Vanguard. But 3 of the 7 have "Neutral" Analyst ratings (shown as a 2 in the chart); Neutral is just one cut above "Negative." In other words, the 3 different rating systems are in fact quite different.



Conclusion

Fiduciaries now have a choice between TDF rating systems that are quite different. You can choose between Prudence and Performance. The cost of Prudence in rising markets is sacrificed Performance, but this sacrifice pays off in declining markets and can easily compensate for sacrifices.

We hope you find this glide path report and Prudence Score helpful. We also hope that plan fiduciaries will vet their TDF selection. The fact that more than 70% of TDF assets are with the Big 3 bundled service providers suggests that fiduciaries are not considering alternative TDFs, so participants might not be getting the best; they're simply getting the biggest.

Appendix: Constructing Prudence Scores

The Prudence Score is not very quantitative, & much simpler than Morningstar ratings. It uses only 3 pieces of information:

1. Fees: obtained from Morningstar
2. # of diversifying risky assets at long dates: I counted these, & excluded allocations that are less than 1%. Some funds have meaningless allocations to commodities for example.
3. Safety at target date: % allocation to cash & other safe assets, like short term bonds & TIPS.

Here's the table I filled out by hand:

Company	Fee (bps)	# Risky	% Safe
SMART Index - Hand B&T	34	6	90
PIMCO RealPath Blend	28	6	30
Allianz	90	6	40
John Hancock Ret Choice	69	5	40
PIMCO RealPath	65	6	30
JP Morgan	82	6	30
Harbor	71	4	35
Blackrock Living Thru	98	5	35
Wells Fargo	53	5	25
Invesco	111	4	40
Putnam	105	3	40
MFS	102	6	25
Schwab	73	3	30
Guidestone	121	5	30
DWS	100	5	25
USAA	80	4	25
BMO	68	3	25
Franklin LifeSmart	110	5	25

TIAA-CREF	21	3	15
Vanguard	17	4	10
Hartford	117	5	25
Voya	113	6	20
Nationwide	89	6	15
American Century	96	4	20
Principal	86	6	10
Russell	92	5	15
Alliance Bernstein	101	4	20
Mass Mutual	97	5	15
T Rowe Price	79	4	15
Fidelity Index	16	3	5
Great West L1	99	4	15
Blackrock	98	5	10
John Hancock Ret Living	91	5	5
Great West L2	102	4	10
Manning & Napier	105	4	10
Fidelity	63	3	5
Mainstay	92	3	10
American Funds	93	3	10
Legg Mason	139	5	10
Franklin Templeton	110	4	8
Great West L3	95	4	5
State Farm	119	4	5

The next step is a little quantitative. I made up some rules for the importance of each factor:

- Safety got the highest importance. I adjusted the "% safe" allocations so the safest got a score of 25
- Fees are 2nd in importance. I weighted them at 15.
- Diversification gets a max score of 10

Then I add the 3 scores for each & divide this sum by 10, so the highest composite score is 5: (25 + 15 +10)/10

The 1st table is totally verifiable. We can discuss the weighting scheme in the following 2nd table:

	Prudence Scores				
Company	Fee (15)	Divers(10)	Protect(25)	Prudence	Mstar
SMART Index - Hand B&T	12.8	10	25.0	4.8	1.5
PIMCO RealPath Blend	13.5	10	25.0	4.2	4
Allianz	6.0	10	25.0	4.1	1
John Hancock Ret Choice	8.5	7.5	25.0	4.1	2.9
PIMCO RealPath	9.0	10	18.8	3.8	4
JP Morgan	7.0	10	18.8	3.6	4
Harbor	8.3	5	21.9	3.5	3.4
Blackrock Living Thru	5.0	7.5	21.9	3.4	3.2
Wells Fargo	10.5	7.5	15.6	3.4	1
Invesco	3.4	5	25.0	3.3	4
Putnam	4.1	2.5	25.0	3.2	3.1
MFS	4.5	10	15.6	3.0	3.6
Schwab	8.1	2.5	18.8	2.9	3.6
Guidestone	2.2	7.5	18.8	2.8	3.3
DWS	4.8	7.5	15.6	2.8	3.3
USAA	7.2	5	15.6	2.8	3.5
BMO	8.7	2.5	15.6	2.7	4
Franklin LifeSmart	3.5	7.5	15.6	2.7	4
TIAA-CREF	14.4	2.5	9.4	2.6	3.5
Vanguard	14.9	5	6.3	2.6	3.5
Hartford	2.7	7.5	15.6	2.6	3.8
Voya	3.2	10	12.5	2.6	2.8
Nationwide	6.1	10	9.4	2.5	3.5
American Century	5.2	5	12.5	2.3	2.8
Principal	6.5	10	6.3	2.3	3.3
Russell	5.7	7.5	9.4	2.3	3.3
Alliance Bernstein	4.6	5	12.5	2.2	3.6
Mass Mutual	5.1	7.5	9.4	2.2	3.7
T Rowe Price	7.3	5	9.4	2.2	3.7
Fidelity Index	15.0	2.5	3.1	2.1	3.1
Great West L1	4.9	5	9.4	1.9	3.3

Blackrock	5.0	7.5	6.3	1.9	3.3
John Hancock Ret Living	5.9	7.5	3.1	1.6	3.2
Great West L2	4.5	5	6.3	1.6	3.4
Manning & Napier	4.1	5	6.25	1.5	4.2
Fidelity	9.3	2.5	3.1	1.5	3.3
Mainstay	5.7	2.5	6.3	1.4	3.6
American Funds	5.6	2.5	6.3	1.4	4.1
Legg Mason	0.0	7.5	6.3	1.4	3.3
Franklin Templeton	3.5	5	5.0	1.4	4
Great West L3	5.4	5	3.1	1.3	3.5
State Farm	2.4	5	3.1	1.1	3.2

Chapter 7

A U-shaped Glide Path Solves the Excessive Risk Flaw Described in Chapter 2

As described in Chapter 2, TDFs are currently way too risky at the target date, exposing beneficiaries to potential significant reductions in retirement lifestyle. The solution to this problem is quite simple: risk should be significantly reduced, and that's what will happen in the pupa stage. To reduce risk at the target date, glide paths need to adjust before and after that date. Let's start with the post-retirement glide path.

A better glidepath for retirees

The best glide path for people in retirement has been identified by Dr Wade Pfau and Michael Kitces' Reducing Retirement Risk with a Rising Equity Glide Path, In the conclusion to this very thoughtful and rigorous study, the author's state: ***the results reveal that rising glidepaths are even more effective, especially when they start off conservatively. The most favorable (i.e., least adverse) shortfall actually occurs with a glidepath that starts at only 10% in equities and rises to "only" 50% in equities.***

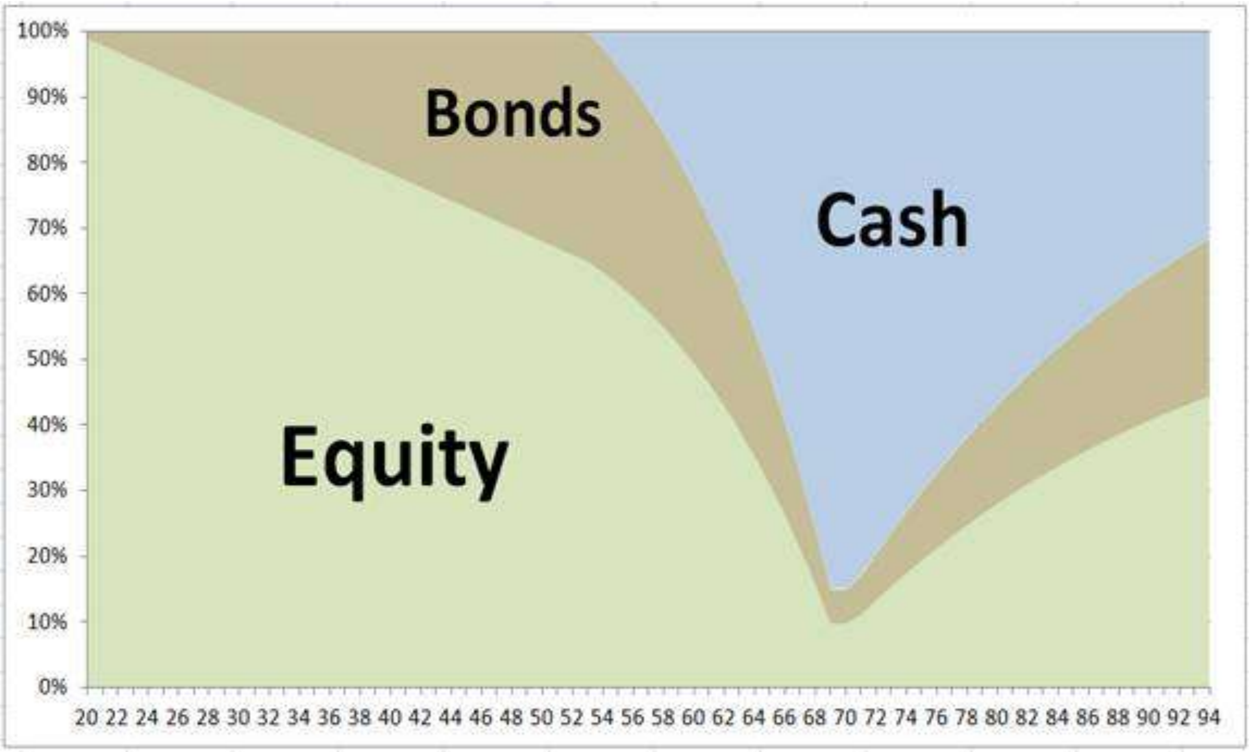
The better glide path for retirees is increasing in equity exposure rather than flat, and it starts at a very low 10% in equities. This low equity allocation is designed to protect against Sequence of Return Risk: losses in early years of retirement can be devastating because account balances are at their highest.

A better glidepath for working people

Working backwards from retirement, the glide path for working people should end at 10% in equities. This makes perfect sense because, as explained in Chapter I, there is a Risk Zone spanning the 5 years before and after retirement during which lifestyles are at stake. So the shape for working people is the same as it has been from the beginning but the end point is much lower. The typical TDF currently ends at about 55% in equities. This needs to be reduced significantly.

The complete U-shaped glidepath

The better glidepath looks like this:

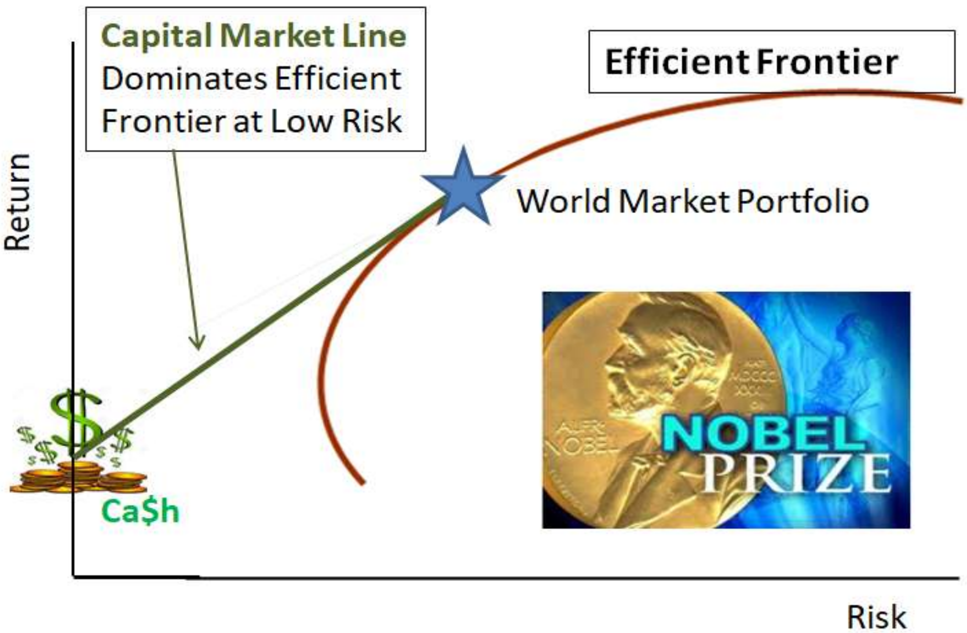


This glidepath defends against sequence of return risk by being very safe in the Risk Zone. It's also important that all asset classes are well diversified. Equities are global stocks plus real estate. Bonds are global bonds, and Cash is Treasury bills and short-intermediate TIPS (Treasury Inflation Protected Securities).

All asset classes are well diversified. Equities are global stocks plus real estate. Bonds are global bonds, and Cash is Treasury bills and short-intermediate TIPS (Treasury Inflation Protected Securities).

A Word on Cash

Some advisors have reacted negatively to the 90% allocation to cash at the target date of the Safe Landing Glide Path, saying things like "*There's no way that I'll put my clients 90% in cash*." and "*My clients won't pay me to have 90% in cash*." These comments miss the fact that cash is an excellent risk control, and controlling risk in the Risk Zone is what it's all about. Dr. William F. Sharpe won the Nobel Prize in 1990 for the Capital Market Line shown in the following graph.



Dr. Sharpe showed that blending a broadly diversified world portfolio with cash dominates the efficient frontier at low levels of risk. You get higher returns with cash and the world than with portfolios weighted heavily in bonds.

With interest rates currently near zero, the theory is on even more solid ground because the risk in long term bonds is high and the rewards are low.

Conclusion

Anchoring at the target date, TDFs should become much safer than they are currently to protect beneficiaries' lifestyles. Moving away from the target date to younger employees with smaller account balances and longer investment horizons, risk can and should be higher. So the risk leading up to the target date is decreasing, as is the current case, except risk at the target date needs to be much lower. Beyond the target date re-risking should occur to improve the odds of savings lasting a lifetime. Equity exposure increases beyond the target date; this is another significant change to current practices in the lava stage.

In the larva stage, new enlightened TDF glide paths will be U-shaped.

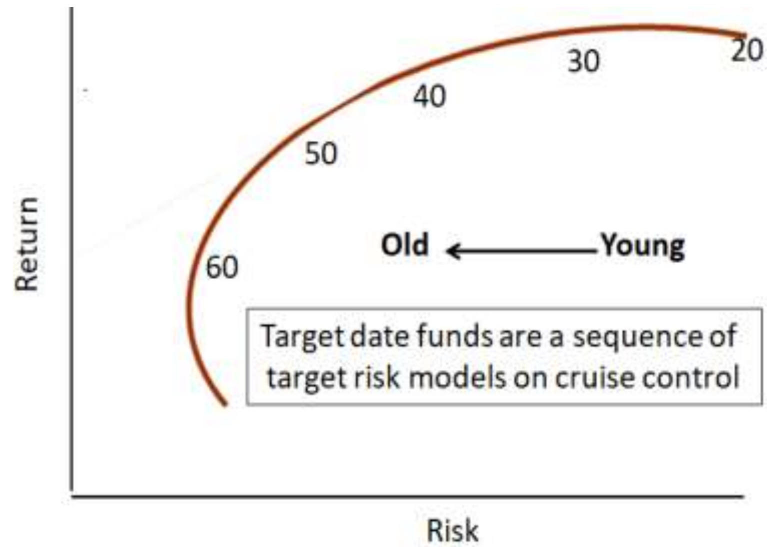
Chapter 8

Personalized Target Date Accounts:

A Solution to the One-Size-Fits-All Problem

There is general acknowledgement that one-size-fits-all is a failed model, so the industry has been trying to integrate TDFs with Managed Accounts, another QDIA, creating so-called "Hybrid TDFs." This chapter describe an innovation that marries TDFs with Managed Accounts, calling them target date model accounts (TDMAs).

TDFs can be viewed as a sequence of target risk models on cruise control, as shown in the graph on the right.



The typical TDF is a mutual fund or collective investment trust (CIT) where the fund provider has specified the collection of target risk model accounts and the glide path that will be followed as participants age, moving from high risk to low.

TDMAs take on the responsibilities of specifying both the collection of risk accounts and the glide path, thereby replacing target date funds – target date model accounts replace target date funds. This replacement requires a competent and sophisticated recordkeeper that we call The Model Account Record Keeping Service, where the recordkeeper treats each TDMA exactly as if the participant had made the selection of the allocations in the model. It also requires a knowledgeable and experienced model builder and glide path designer that we call a fiduciary. We discuss each fiduciary responsibility in the following.

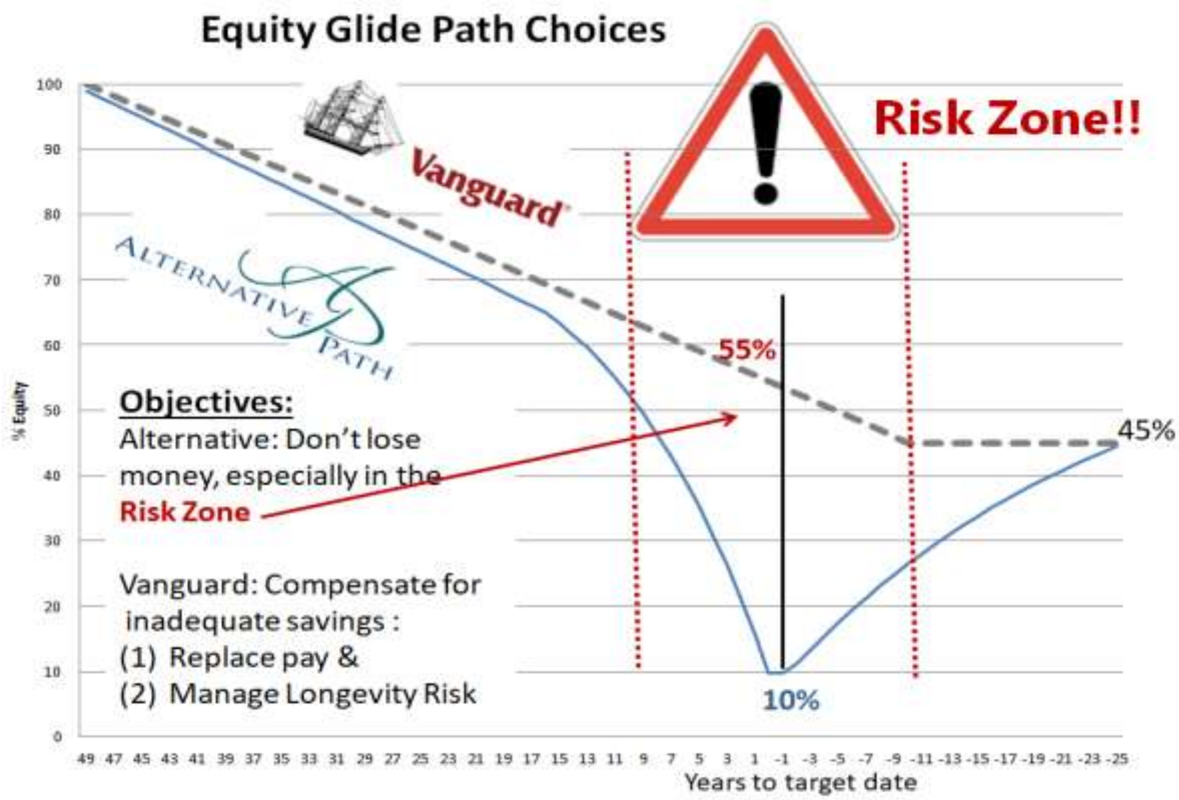
Model Building

Most importantly, the models must be built exclusively from funds that are already on the 401(k) platform. There is no way to avoid fiduciary duties with respect to the core investment options of an existing plan. TDMAs leverage this prudence. Just as importantly, the resulting transparency means that there should be no surprises, as there was in 2008.

The model builder is a fiduciary who determines the allocations to core investment options for a given level of risk, i.e. age. While it obviously matters that the core options are good performers, asset allocation matters more, which makes the glide path critical.

Glide Path

Rightly or wrongly, the Vanguard glide path is the industry standard because Vanguard is the largest TDF manager, with 35% of all TDF assets. But there are of course other glide paths, like the one contrasted to Vanguard in the following graph.



As you can see, the Alternative glide path (the [SMART TDF Index]) is like the industry standard glide path until it reaches the [Risk Zone] that spans the 10 years before and after retirement. Losses in the Risk Zone undermine standard of living in retirement or reduce the length of time that savings last, or both. This is because savings are at their highest level in the Risk Zone and [Sequence of Return Risk] takes hold when spending begins.

These differences in glide paths are caused by completely different and opposing objectives. The Alternative aims to not lose beneficiary savings, especially in the Risk Zone, so the emphasis is on preservation. By contrast, the industry attempts to compensate for inadequate savings throughout its glide path, so its objective in the Risk Zone is to simultaneously grow assets and protect them, although it can't realistically achieve both. The industry sacrifices safety in order to potentially earn higher returns. It's important to recognize that the industry collects higher fees for higher risk, which brings us to our next topic.

Fees

Everyone in a traditional TDF is pooled into a mutual fund or a collective investment trust so reporting, accounting and audits are all standardized. This unitization comes at a cost that simply goes away with TDMAs. The average TDF fee is 70 basis points, and lawsuits have been brought for fees as low 53 basis points. If the plan sponsor uses low cost funds as their core investment options, we estimate that all-in costs for a TDMA could be reduced below 20 basis points, placing it among the lowest cost offerings in the industry.

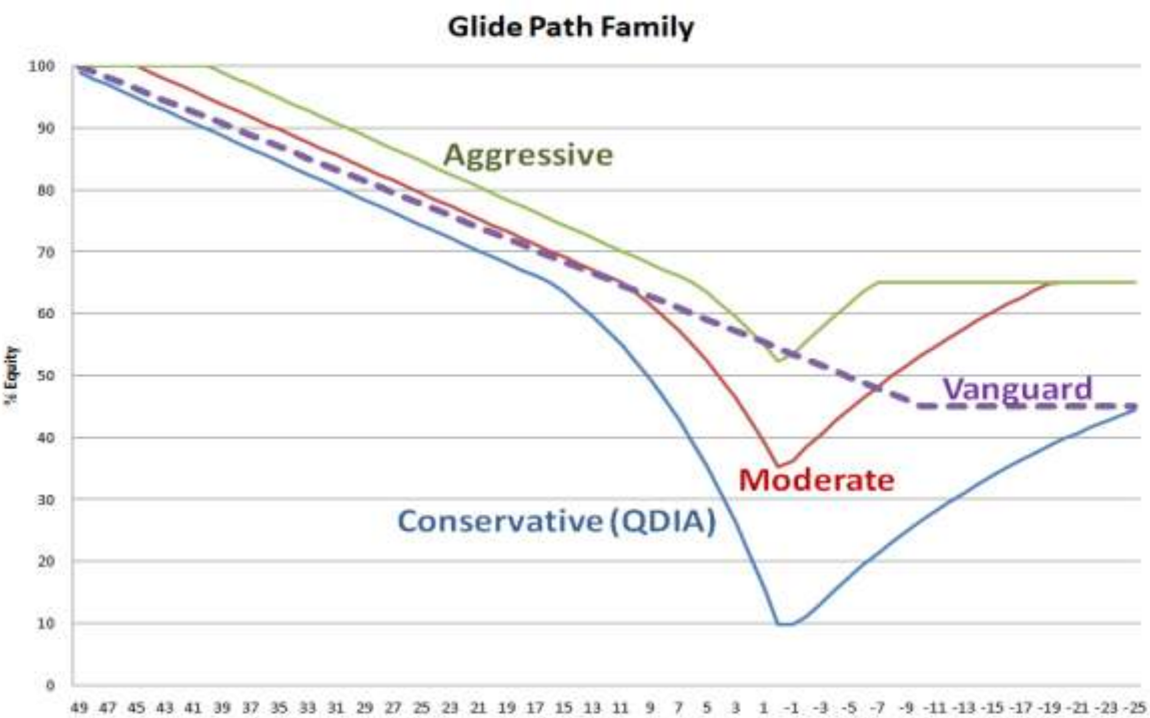
Some may say that this removal of standardization is a problem, but it is a natural consequence of individualized accounts.

TDMAs are <u>Not</u> CTDFs -- Custom Target Date Funds

The difference is quite simple. Custom TDFs are unitized, usually as collective investment trusts. Consequently they are generally higher cost than TDMAs. Also, there is usually just one custom offering whereas the TDMA model builder can create alternative TDMAs that do not serve as Qualified Default Investment Alternatives (QDIAs).

Beyond the QDIA

Up to this point we have been discussing the default TDMA, but there could be other TDMAs for participants who want to make an election and are not fond of the default models**.** Some participants may like the TDMA concept for its diversification, risk control and low cost, but prefer more risk. For this reason, alternative non-QDIA TDMAs can be offered like those in the following graph.



Benefits

- Transparency. The beneficiary knows the composition of the TDMA at all times.

- Education. Since all the holdings in the TDMA are in the core program, details are available.

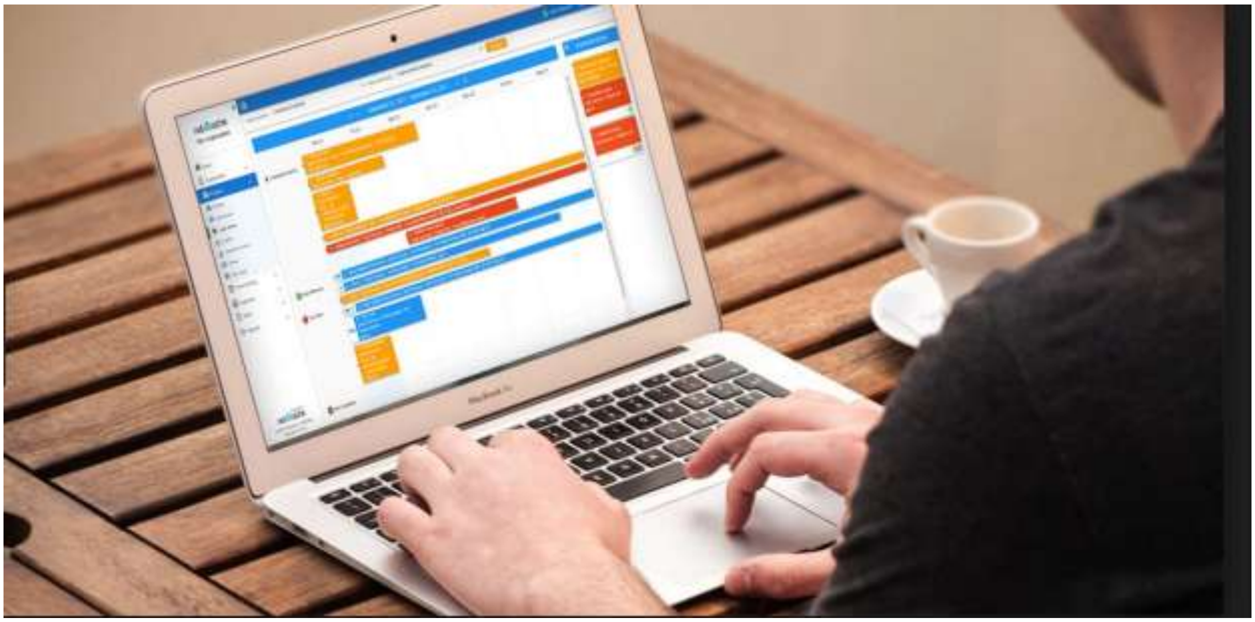
- Tailored to the individual participant's needs and wants. Non-defaulting participants can choose from a family of TDMAs, including but not limited to the default. We think this is a better approach than custom TDFs. See the discussion on "Prudence" below.

- Lower ongoing expenses: TDMAs can be significantly less expensive to operate because they do not pay trustee, audit and legal costs associated with TDF unitization.

- Reduced start-up costs: Because the recordkeeper accepts responsibility for periodically rebalancing the TDMA as part of its contract, TDMAs do not incur significant upfront investments otherwise required for unitization.

- Branding advantages: TDMAs should not be subject to the significant branding constraints imposed upon TDFs so it may be possible to include names of sponsors in TDMAs. (e.g. Smart Company Target Date Model Accounts)

- Prudence: Anything that is better for participants is better for plan sponsors, from both a legal and ethical perspective. Also, TDMAs follow the DoL's recommendations to incorporate demographics and to consider customization. The only demographic that all defaulted participants have in common is financial naiveté, which argues for safety, especially in the Risk Zone. As for customization, non-defaulting participants could choose from a family of TDMAs, potentially avoiding common investment mistakes like risking everything on yesterday's winners.



Chapter 9

Benchmarks

There is not yet a standard benchmark for evaluating TDF performance. Nevertheless, fiduciaries must monitor and evaluate their TDF selection.

This chapter describes current benchmark choices and offers some guidance on selecting the appropriate benchmark. Fiduciaries should align the objectives of their TDF with those of the benchmark, and confirm that the benchmark glide path and underlying allocations are in line with the TDF that is being evaluated.

The most important aspect of TDF benchmarks is their "glide path" that maps the sequence of asset allocations through time, moving from high risk to low. Asset allocation is the primary determinant of investment performance.

We begin with descriptions of the primary indexes that are available. The predecessor to the SMART Indexes was launched in 2007, followed by the S&P Indexes in 2008, and then Morningstar in 2009.

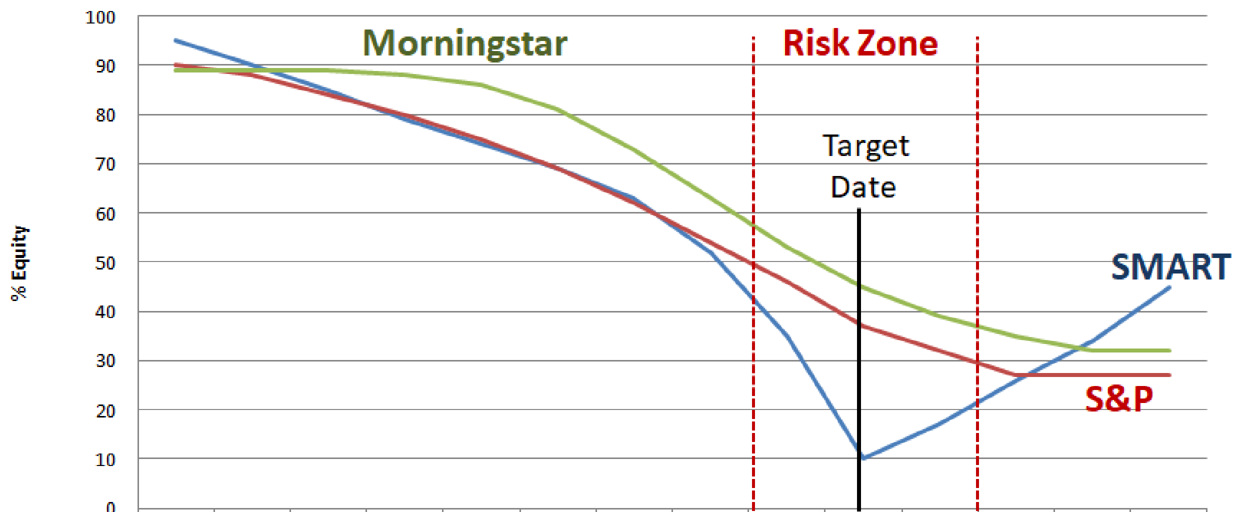
CORE TDF INDEXES

Fiduciaries can select from these three indexes as their TDF benchmark:

- **Morningstar Lifetime Allocation Indexes** are normative, modeled to maintain constant combined risk of human and financial capital
- **S&P Target Indexes** are consensus indexes, calculated by aggregating most TDF mutual funds on Morningstar
- **SMART Target Date Fund Indexes** are also normative, modeled to preserve savings through to the target date.

Their glide paths are as follows:

Exhibit 1: TDF Standard Index Glide Paths

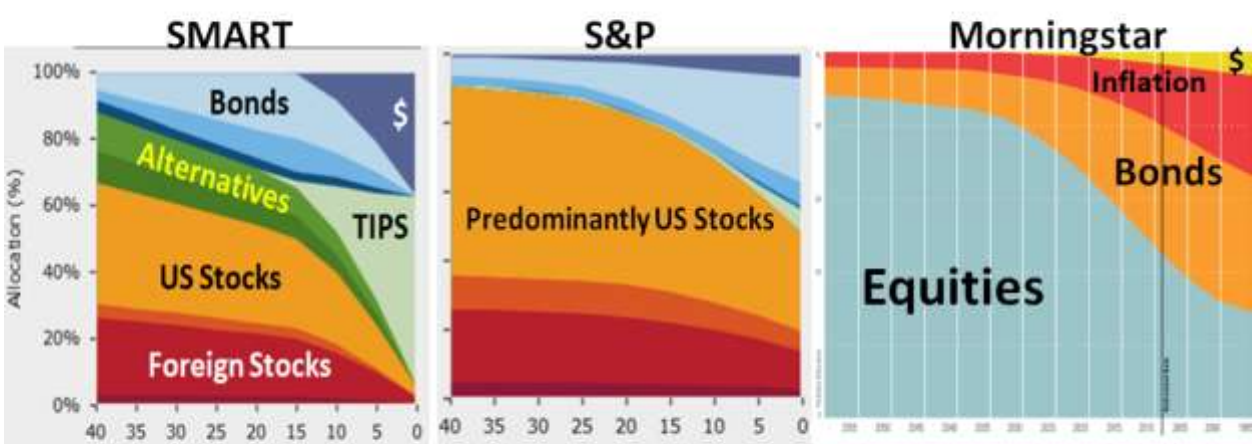


	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20
SMART	95	90	85	79	74	69	63	52	35	10	17	26	34	45
S&P	90	88	84	80	75	69	62	54	46	37	32	27	27	27
Mstar	89	89	89	88	86	81	73	63	53	45	39	35	32	32

The Morningstar Indexes are about 10% more in equities than the S&P indexes. The SMART Indexes are similar to the S&P until they reach the "Risk Zone" that spans the 5-10 years before and after retirement, at which time SMART becomes more defensive. Losses in the Risk Zone can be devastating because account balances are at their highest and our working lives are ending. "Equities" encompass US and foreign stocks, real estate, commodities and other alternatives.

Drilling deeper, underlying compositions are as follows:

Exhibit 2: Glide Path Compositions



Source: PIMCO Glide Path Analyzer

Source: Morningstar

The main distinction among these compositions is the predominance of US stocks in the S&P indexes, reflecting the industry practice of emphasizing exposure to US stocks.

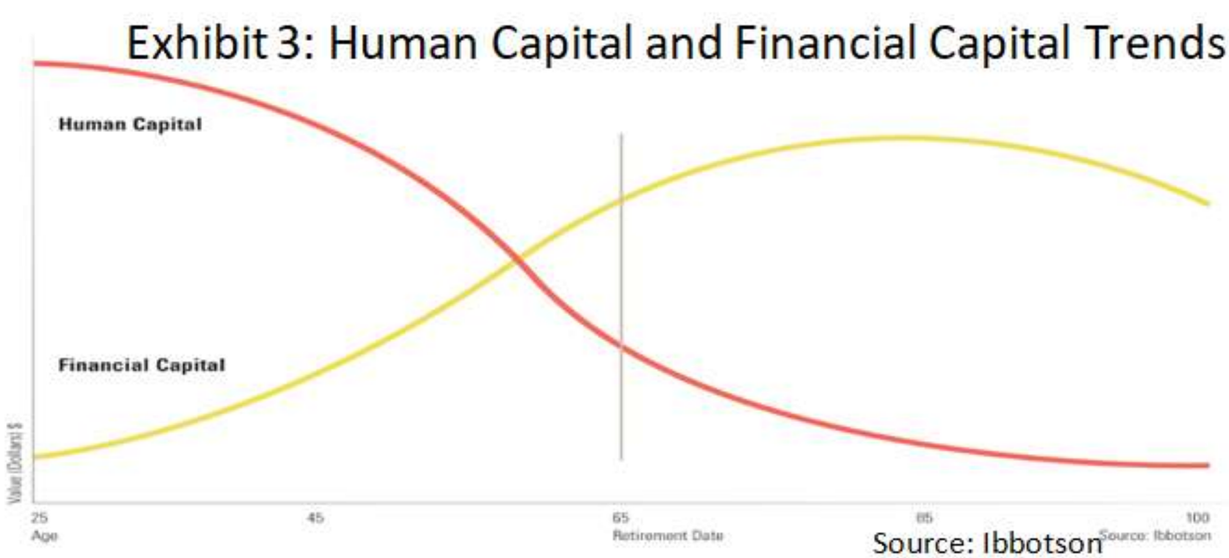
In order to select one of these indexes it's helpful to know why they are what they are. We need to know how they are constructed.

S&P Target Indexes Construction

The S&P Indexes aggregate most TDF mutual funds, so they are consensus indexes representing procedural prudence, i.e. common practices. S&P describes their construction as follows: *"peer group average based on survey of fund families with AUM of $100 million or more. If an asset class is included in 25% of target maturity funds it is included in the average. Summed survey results lead to the equity glide path. A final curve fitting procedure smoothes the results."*

Morningstar Lifetime Allocation Indexes Construction

The Morningstar Indexes are normative and intended to capture best practices, or substantive prudence. The construction rules were developed by Ibbotson Associates that Morningstar acquired. The indexes maintain a constant risk exposure through time, combining the risks of human and financial capital as shown in the following graph:



The construction process works as follows:

1. Pick a risk level for your total assets (human plus financial), and keep this constant throughout life. A good choice is "market risk", roughly 45% stocks/55%bonds.

2. At each point in time, estimate the value and effective stock-bond mix of your human capital, and structure your investment portfolio to maintain this constant 45/55 risk overall (human + financial assets). Ibbotson estimates average investor human capital as 70% stocks and 30% bonds. Since human capital decreases through time (future earning power diminishes), the allocation of the investment portfolio gradually moves toward total market assets at 45/55.

3. "Optimize" your financial assets for highest return per unit of risk over the remaining horizon to target.

SMART Target Date Fund Indexes Construction

The SMART indexes are also normative, representing substantive prudence. These indexes have morphed through time. Launched in 2007, they were originally called the Plan Sponsor On-Target Indexes, and in 2010 they became the Brightscope Target Date Fund Indexes, and then in 2014 they were integrated into a collective investment fund (CIF) to become the investable SMART Indexes. SMART stands for Strategically Managed Allocated Retirement Trust, a name trademarked by Hand Benefits & Trust, a BPAS Company.

SMART follows the patented Safe Landing Glide Path (SLGP) which has the objective of not losing participant savings. The two key decisions in the SLGP are (1) when to start applying the brakes, and (2) how forcefully.

1. **Apply the Brakes**. The glide path begins to protect when the horizon is short enough to experience a risk of loss. It is highly unlikely that an investor in a well diversified portfolio of risky assets will experience a loss over a 15 year period. Accordingly, this risk-of-loss rule argues that the brakes are first applied at 15 years to target date.

2. **How forcefully**. The magnitude of transfer from risky to protective asset is determined using the principles of liability-driven investing (LDI). Sufficient

assets are set aside in a protective asset such that, even if the worst case, risky return is realized over the horizon the total account balance is insulated from loss. This structure leads to a non-linear glide path because transfers increase exponentially. Here's an example. Let's say we're 15 years from target date and our estimate of the worst case unannualized return on risky assets is -5%. And let's also say that TIPs are priced to earn a 2.5% return per year so over 15 years this would compound to more than a 45% return. To protect against loss we want $-5(1-X) + 45X = 0$, where "X" is the amount invested in the protective asset. In this case you can verify that X is 10%, so we move 10% of assets out of risky and into protective. As the time to target date shortens the worst case risky asset loss increases and the cumulative return on the protective asset decreases, so the amount in the protective asset increases at an increasing rate, ultimately reaching 100% at target date.

In retirement, past the target date, the SMART Index re-risks in accordance with the research conducted by Dr. Wade Pfau and Michael Kitces in their groundbreaking article entitled ***Reducing Retirement Risk with a Rising Equity Glide Path.***

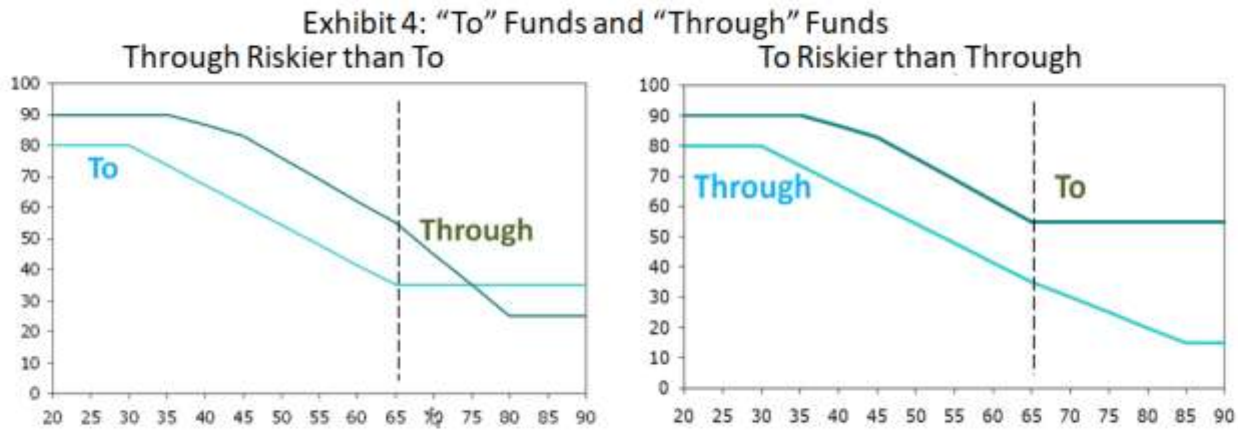
"TO" OR "THROUGH"

In its 2013 TDF tips the DOL states: *It is important to know whether a target date fund's glide path uses a "to retirement" or a "through retirement" approach. A "to" approach reduces the TDF's equity exposure over time to its most conservative point at the target date*, so the glide path ends at the target date, whereas a "through" approach ends at death.

The S&P and Morningstar indexes are "through" indexes while the SMART indexes are both "to" and "through" because they reach their lowest equity allocation at the target date and they serve investors through the rest of their lives.

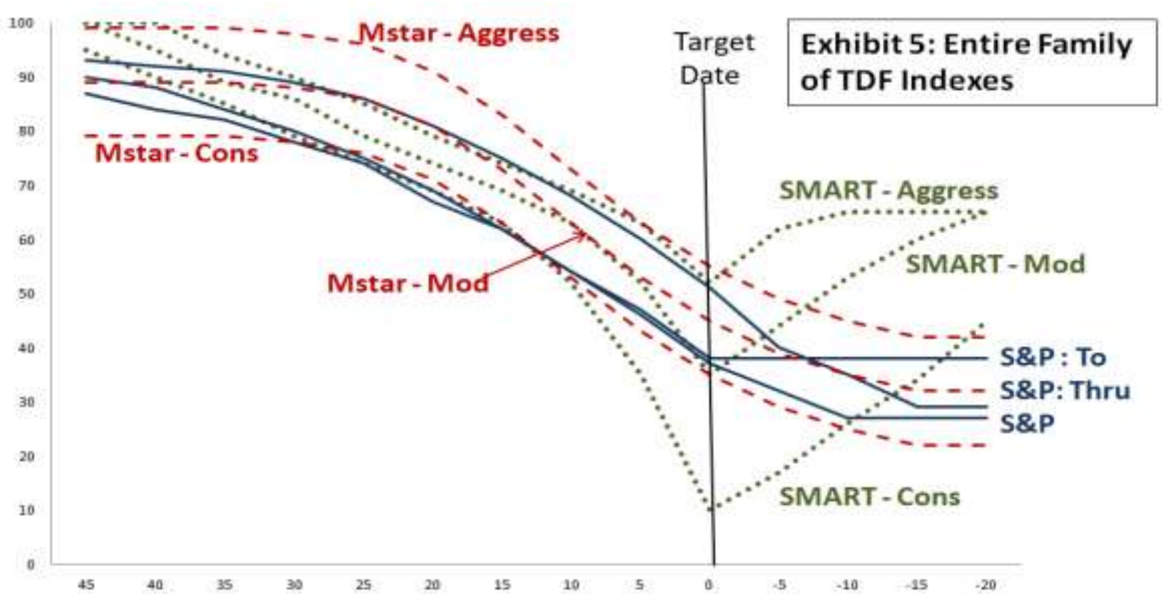
The words "To" and "Through" were coined at the June, 2009 joint SEC & DOL hearings on target date funds, which examined the devastating losses of 2010 funds in 2008. The testifying fund companies explained that they take substantial risk at the target date because their glide paths serve "Through" the target date to death. This is in contrast to funds called "To" funds that end at the target date. The clear implication is that "To" funds are far less risky at the target date than "Through" funds, but this is not necessarily true.

The common belief is that "To" funds hold less equity at the target date because they end there, as shown in the graph on the left. But the fact is that some "To" funds are riskier than many "Through" funds as shown in the graph on the right.



SUPPLEMENTAL TDF INDEXES

Each of the "Core" indexes described in the previous section is accompanied by supplemental indexes that are not used much, but they are available. The S&P total index is broken into 2 segments – "to" funds and "through" funds – where Morningstar determines which is which. The Morningstar "Moderate" index is the core for this offering. Morningstar also provides a less risky "Conservative" index and a more risky "Aggressive" index. The SMART indexes are similar except the core/recommended index is the Conservative SMART index. More risky indexes are also available, identified as "Moderate" and "Aggressive." The entire family of index glide paths is shown in the following graph:



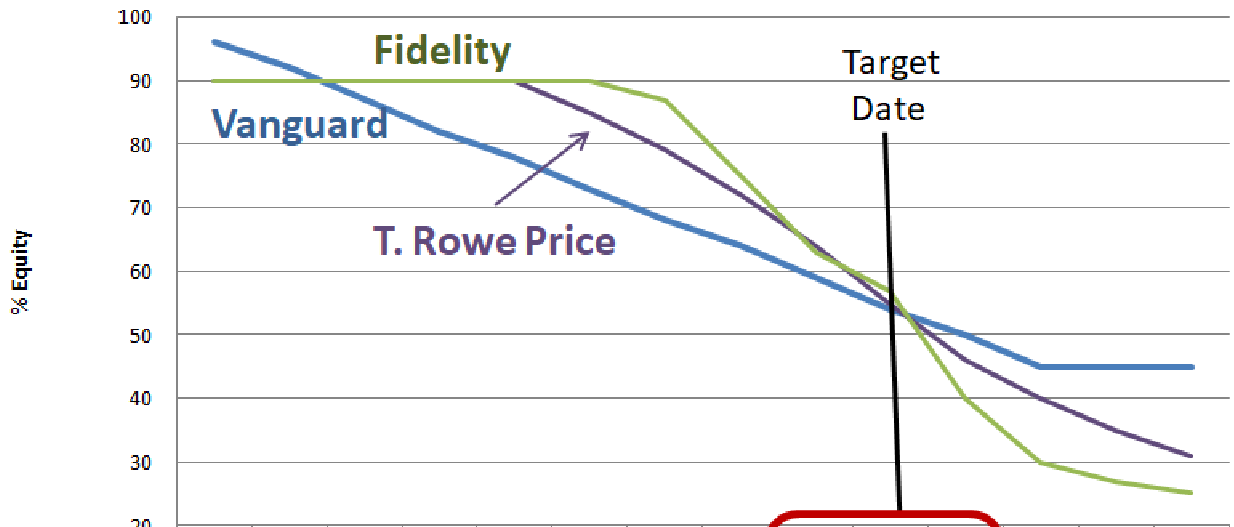
THE BIG 3 ARE INDUSTRY STANDARDS

The TDF market is dominated by just 3 providers, making it an oligopoly. An **oligopoly** is a market structure in which a small number of firms has the large majority of market share. An oligopoly is similar to a monopoly, except that rather than one firm, two or more firms dominate the market. A **monopoly** is a market structure dominated by one firm.

As discussed in Chapter IV, the target date fund market as a whole is an **oligopoly**, while the passive segment of this market is a **monopoly** owned by Vanguard.

As a consequence, Vanguard's glide path has become an industry standard. For completeness, we show all three Big 3 glide paths in the next graph:

Exhibit 7: Big 3 Glide Paths



	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20
Vanguard	96	92	87	82	78	73	68	64	59	54	50	45	45	45
T Rowe	90	90	90	90	90	85	79	72	64	55	46	40	35	31
Fidelity	90	90	90	90	90	90	87	75	63	57	40	30	27	25

Risk Zone

As you can see, Vanguard has the lowest equity allocation prior to the target date, and the highest equity allocation in retirement. By contrast, Fidelity has the highest equity allocation prior to the target date and the lowest in retirement. All 3 "standards" are about the same in the "Risk Zone" at around 55% in equities. The big question is "Is this the right level of risk?" Who says that the Big 3 have it right? To answer this question we need to determine the appropriate objectives for a TDF.

TDF OBJECTIVES

A particular TDF should be chosen because it meets the objectives of the plan's fiduciaries. And the TDF benchmark should be chosen for the same reason. Fiduciaries should set the objectives, but this is not happening. Fiduciaries are basing their TDF choice on limiting their liability. They believe that (1) any qualified default investment alternative (QDIA) will do and (2) you can't go wrong with the Big 3 because everyone else is using them. This is a breach of the Duty of Care. This Duty requires that fiduciaries try to select the best on the basis of criteria that best serve the beneficiaries. That's simply not happening.

So what objectives should fiduciaries choose? TDF providers say they've designed their products to replace pay and manage longevity risk, but these are mere hopes. Objectives without a reasonable chance of achievement are mere hopes. Saving enough is the only way to replace pay and manage longevity risk, and hoping that you can make up for inadequate savings with investment returns is not a prudent choice.

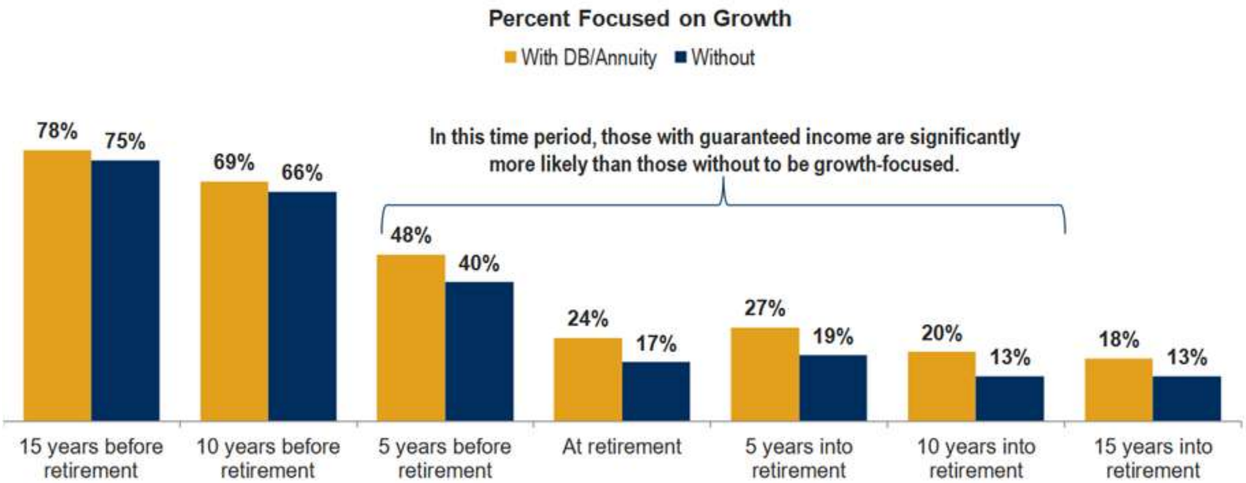
By contrast, a reasonable objective is to get participant savings safely to the target date intact, and to earn a reasonable return on those savings. The Hippocratic Oath of TDFs should be "Don't lose participant savings." Plan demographics support this objective. The only demographic that all TDF participants have in common is lack of financial sophistication. This demographic argues for the protection of the clueless.

WHAT BENEFICIARIES WANT

Chapter 3 describes a recent MassMutual Retirement Savings Risk Study that examines beneficiary risk preferences in 401(k) plans, reported as follows: :

Exhibit 8: Beneficiaries Want to be Protected in the Risk Zone

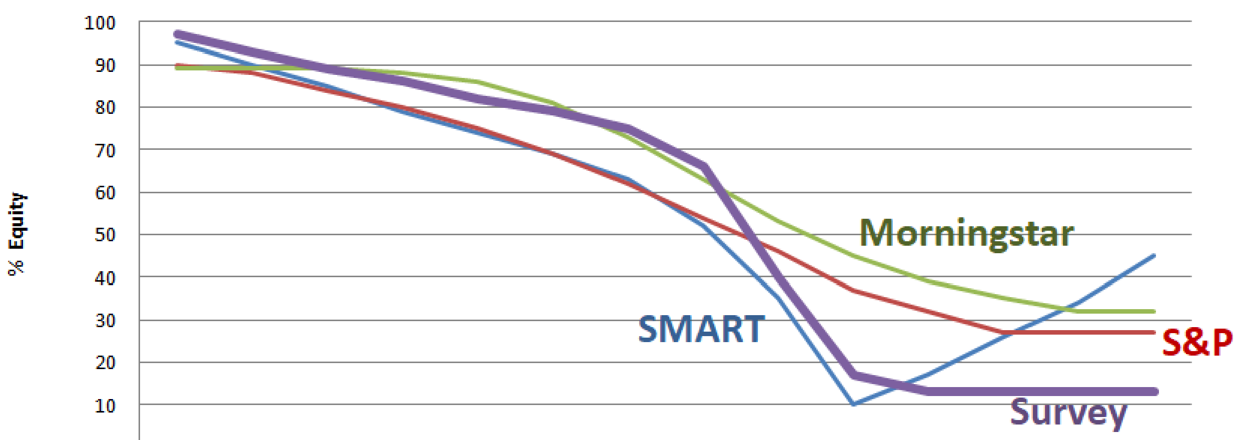
Pre-retirees and retirees with guaranteed income suggest that have or will employ the same investment strategy as those without when retirement is 15 years away and 10 years away, but at 5 years prior to retirement, they become more growth-focused than those without and remain that way until 15 years into retirement.



Source: Mass Mutual

The preferences in the table above can be used as proxies for preferred equity allocations along the glide path. The following graph shows these preferences in contrast to the three core TDF Indexes.

Exhibit 9: Survey Says



	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20
SMART	95	90	85	79	74	69	63	52	35	10	17	26	34	45
S&P	90	88	84	80	75	69	62	54	46	37	32	27	27	27
Mstar	89	89	89	88	86	81	73	63	53	45	39	35	32	32
Survey	97	93	89	86	82	79	75	66	40	17	13	13	13	13

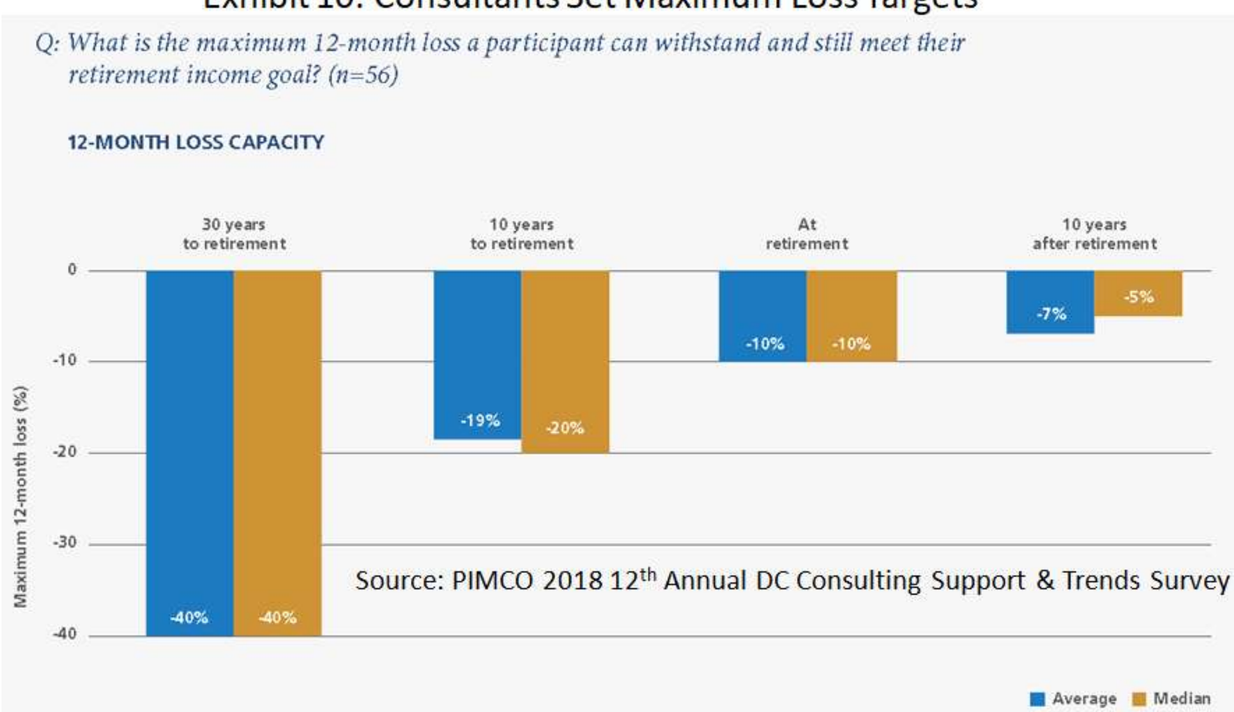
Beneficiary preferences are in line with the Morningstar indexes when participants are young but they move to the SMART indexes near the target date. In retirement, beneficiary preferences are more conservative than all 3 indexes.

WHAT CONSULTANTS WANT

Pacific Investment Management Company (PIMCO) conducted another survey entitled the "2018 12th Annual DC Consulting Support & Trends Survey", which they describe as follows: *Our 2018 survey captures data, trends and opinions from 77 consulting firms across the U.S., the highest number in the 12-year history of the survey. These firms advise over $4.4 trillion in U.S. DC assets, accounting for almost 60% of all U.S. DC assets.*

One of the questions that the survey addresses is loss avoidance at various dates along the TDF glide path. The responses are summarized in the next exhibit.

Exhibit 10: Consultants Set Maximum Loss Targets



Consultants want TDFs to defend against losses of 10% or more at the target date, and to become even more defensive beyond the target date, defending against losses of 5%

or more. These objectives argue for very conservative allocations, assuming that the objective is to have a low probability of the indicated loss. For example, a 10/90 stock/bond mix has a 95% probability of protecting against a 5% loss in a year.

CONCLUSION

Fiduciaries have a wide range of benchmarks from which to choose. This choice should be based on the objectives fiduciaries want to achieve on behalf of their beneficiaries, as should the choice of an individual TDF. Beneficiaries prefer high safety over growth as they near retirement, and probably believe that they are being protected, as they mistakenly believed in 2008.

RESOURCES

The following websites provide details on TDF indexes.

- **Morningstar Lifetime Allocation Indexes:**
    - https://corporate.morningstar.com/us/documents/Indexes/SolvingTargetDateFundBenchmarking.pdf
    - https://corporate.morningstar.com/us/documents/Indexes/AssetAllocationIndexRulebook.pdf
    - https://corporate.morningstar.com/ib/documents/MethodologyDocuments/IBBAssociates/SelectTargetDateBenchmark.pdf

- **S&P Target Indexes:**
    - https://us.spindices.com/documents/methodologies/methodology-sp-target-date.pdf
    - https://www.spindices.com/documents/research/research-target-date-scorecard-august-2016.pdf

- **SMART Target Date Fund Indexes:**
    - https://targetdatesolutions.com/SMART-TDF-Index.html .

Chapter 10: Conclusion
A Spectacular TDF is Born

Sometime in the future a remarkable target date fund will emerge from its cocoon with the following characteristics:

- Beneficiaries will be protected as they pass through the Risk Zone that marks the transition from working life to retirement.

- Fiduciaries will demand and get the best, and they'll know what "best" means. Fiduciaries will honor their Duty of Care. This will realign the interests of all involved, so managers will provide prudent product.

- Glide paths will be U-shaped, de-risking as the target date nears, and re-risking in retirement. De-risking protects in the Risk Zone. Re-risking extends the life of investment savings.

- The Oligopoly will adapt or go away.

- Personalized target date accounts will replace one-size-fits-all target date funds. As a result, recordkeepers will become key to execution.

- Individual investors will lead the way by adopting glidepath concepts and applying them to their unique circumstances. IRAs will be much improved – safer and smarter.

The Remarkable Metamorphosis of Target Date Funds

In this book I take the view that TDFs are currently still in their larva stage, with challenges that include fiduciary misbehaviors and design flaws, such as one-size-fits-all. Chapters 2 through 5 form the Larva Section of this book which describes the formative deficiencies in TDFs. A TDF is a good idea, but current implementations are nowhere near the high quality they will ultimately become. TDFs are morphing and will eventually overcome their current deficiencies. In the Pupa Section of the book – Chapters 6 through 9 – I describe these emerging triumphs. Ultimately, Adult TDFs will emerge in all their glory, as I describe in the Conclusion

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