A Grown-up Christmas List for Target Date Funds

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A common experience for many of us in finance or investments is receiving requests for investment advice from family and friends. Most of us avoid offering specific short-term trade ideas, but we are usually happy to dispense time-honored, common sense long-term investment advice: "Save!", "Don't try to time the market!", "Don't chase performance!", "Fees matter!"

During the holiday break last year, a friend asked me to help her pick the right Target Date Fund for her 401(k) investments. As a former plan sponsor who has examined and designed custom Target Date Funds for over 10 years, I happily said, "Sure! Let's do this together."

My friend is a woman in her fifties; she did not always maximize her contribution to her 401(k) plan over the years so she needed her assets to work harder. She had very little pension benefits to supplement the 401(k) plan as her company pension plan was frozen long ago. And, as an older worker, she was worried that if she is laid off in the next recession, she might have a harder time finding another job.

As I compared the fund options inside and outside her 401(k) plan, both active and passive options, the limitations of the current Target Date Fund design became clear. What was striking was that my friend was hardly atypical or an outlier at all! She was exactly the "middle of the band" demographic that Target Date Funds are designed for. I wondered, are Target Date Funds really suitable for older workers near or post retirement? Can they be improved?

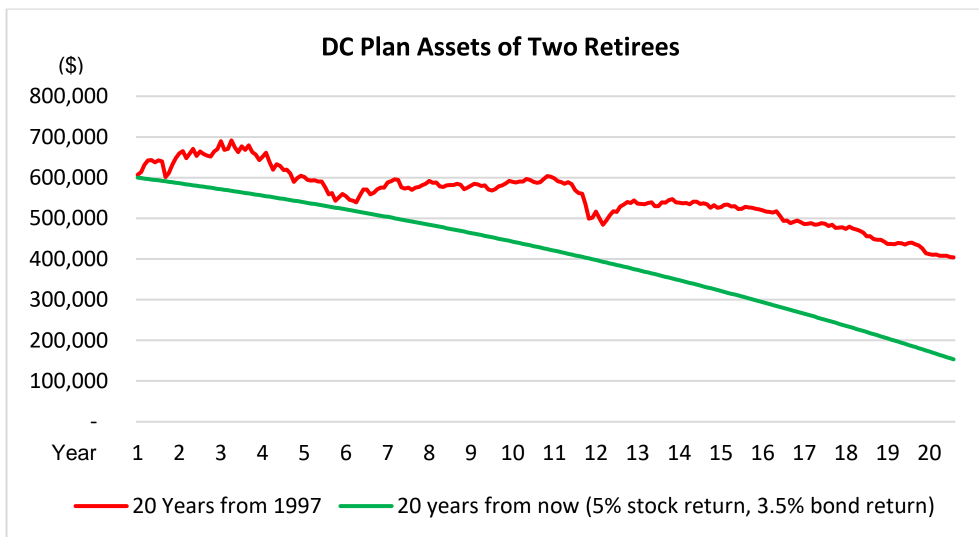
Defined Contribution (DC) plans have morphed over the last decade from the role of supplemental savings plan that enhanced pension benefits to become the main retirement savings option for most workers today. It's hard to overstate the importance of DC plans. So, for Christmas this year, here's my grown up Christmas list for a next generation Target Date Fund that we would all want to have.

#1: Address low expected returns going forward

Much has been said about the long equity bull market, with a big assist from central bankers, over the last decade. Public pension plans have faced mounting pressure to lower their expected returns and discount rates for the next decade. But what about Target Date Funds?

In the chart below, we use Vanguard's popular Target Date Fund as an example. According to Pensions & Investments[1], Vanguard's Target Date Fund series is the largest at over $600 billion, and its glidepath is representative. Most Target Date Funds might have a slightly different "shape" of the curve, or might have additional asset classes, but they are really more similar than different.[2] Using the Vanguard glidepath, we show the net asset value of a retiree, say, Alice, who retired in 1997 with a $600K account balance (in red line). Twenty years later at age 85, assuming typical spending pattern of $40k withdrawal per year, Alice still has a comfortable account balance at $400K. During this period, ACWI's annual return was 5.8% and bonds generated 5.1%[3].

Suppose Betty is planning to retire today. Given the 9-year long bull market we've had, let's assume that stock market will return 5.0% per annum over the next 20 years, and bonds will return 3.5% per annum given today's low and rising rate environment. Unlike Alice who has a comfortable cushion at age 85, Betty can expect $150,000, on average, at 85 (in green line), and about a 20% probability of having nothing left in her retirement account[4] by then.



Source: Bloomberg, SECOR Simulation

[1] Source: Pensions&Investments, "Largest providers of target-date funds", March 19, 2018, http://www.pionline.com/gallery/20180319/SLIDESHOW2/319009998/10
[2] Source: GMO, "Target Date Decisions Decisions… Getting the Biggest Bang for the Buck", February 2017
[3] Source: Bloomberg, NDUECWF for ACWI and LBUSTRUU for Barclays Aggregate
[4] Source: SECOR Monte Carlo simulation, 1000 scenarios with volatility assumptions 3.5% bonds, 15.6% stocks

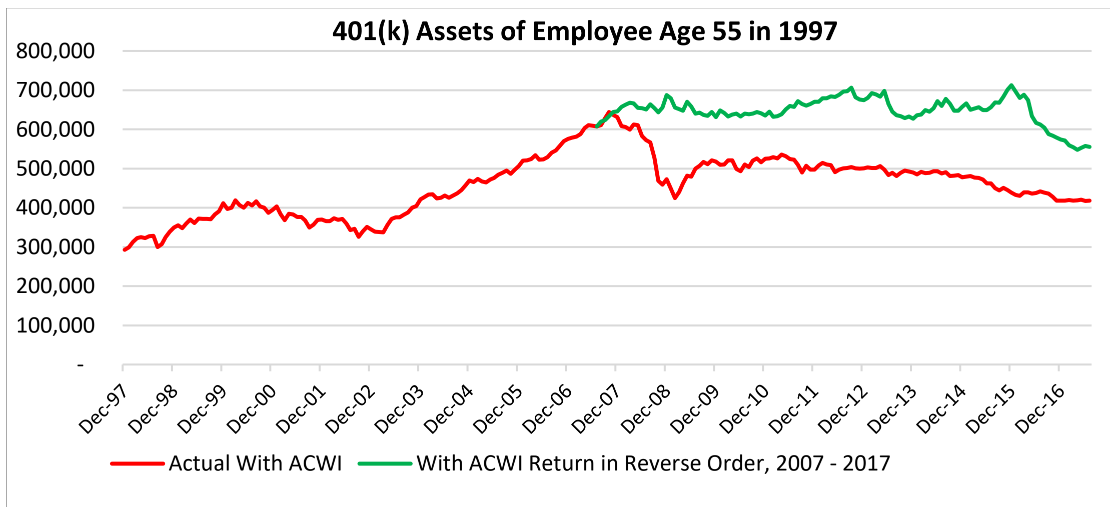
To address this problem, we need to either increase the investment return target post retirement (but be mindful of the downside risk), or need to accumulate a much larger account balance before we can comfortably retire. Either way, the next generation Target Date Fund would likely need to tweak the model to lower the probability of the DC plan assets being fully depleted during retirement.

#2: Address the danger of a downturn right after retirement

Not all market downturns are created equal, nor do they affect investors in the same way. By far, the biggest danger in any retirement savings plan is to have someone retire right before a major downturn. In the last Global Financial Crisis, when the global equity market lost around 55%, the market needed to rebound 120% to make up for the losses, *assuming no cash outflows*. Of course, for a retiree living off the account balance, it's not possible to have zero expenses and leave the retirement account untouched. So a downturn early in retirement could cause someone to spend a higher percentage of their assets than planned; not because they are living extravagantly, but because the net asset value decreased and they couldn't cut expenses fast enough to match the decrease in asset value.

In the chart below, we show two scenarios for the 1997 to 2017 period: one with the actual ACWI return from 2007 to 2017 (in red), one with same ACWI monthly returns for 2007-17 but in reverse order (green). Both portfolios have **identical** returns in the last ten years (at 4.0%/year), but asset values are more than 30% different after 10 years!

The term we use in the industry is ***return sequence*** risk. In the example we discussed in #1, if Betty's portfolio generates below the long-term average return in the first 5 years in retirement, (say a recession happens in 2019 or 2020), that account will almost certainly run out of money within 20 years. None of us can predict when the next downturn will occur, so it's not possible to ask a potential retiree to pick a better time to retire as to avoid this sequence risk.



Source: Bloomberg, SECOR Simulation

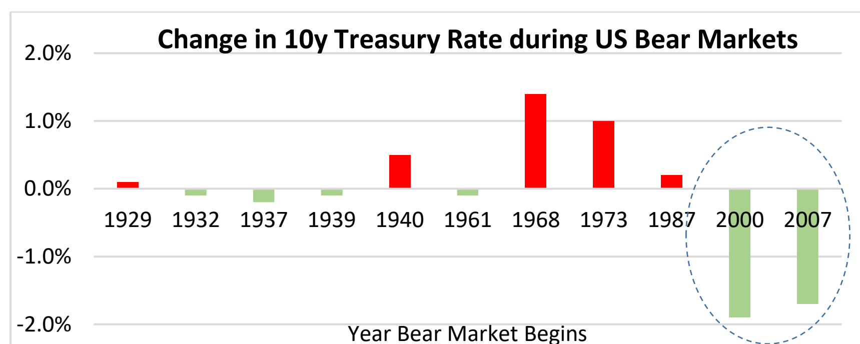
I wish that the next generation Target Date Funds can protect workers near retirement more effectively, not spending early retirement years worrying about whether a market crash is coming. The last downturn, the Global Financial Crisis, began more than 10 years ago. Many of us still remember the significant impact the GFC had on pensions and retirees. The inconvenient truth is that the next downturn could have even more negative impact than the last one. Ten years ago, many retirees still had pensions as their main source of income post retirement, and Target Date Fund's role was largely as a supplemental savings plan. Today, defined contribution and Target Date Funds serve as the main tool for retirement accounts. It is important that we solve this problem for future generations of Target Date Fund users.

#3: Address interest rate risk, or at least reduce the reliance on interest rate

Most Target Date Funds rely heavily on bonds to provide income as well as protection against equity market downturns. Target Date Funds control risk by increasing the allocation to bonds over time as one gets older, so typically 50% or more of the portfolio is in bonds when the employee is near or past retirement.

The ultra-low interest rate environment post GFC appears to be near its end. If interest rates go up from here, the returns to bond investors will suffer, as we've seen with US bonds for most of 2018, as the Fed continued to increase interest rates. It is not possible that the next generation of retirees can enjoy a similar long bull market in bonds as when the interest rate on core US bonds went from nearly 7% in 1997 to 2.5% in 2017[5].

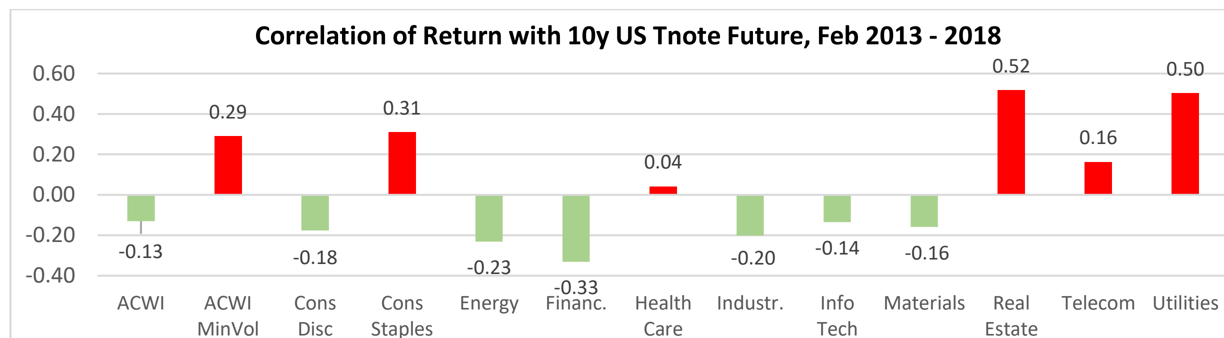
Currently, there is widespread acceptance of the idea that fixed income assets will produce offsetting gains during any future equity bear market. However, as the chart below shows, this notion is supported only by recent memory: the last two bear markets (with 20%+ loss on S&P 500) are the only ones in the last century in which 10y rates fell significantly. When bear markets were accompanied by inflation fears (1968, 1973), bonds sold off along with equities. Furthermore, today's already low yields limit the downside protection potential of bonds.



Source: Robert Shiller website: http://www.econ.yale.edu/~shiller/data.htm

[5] Source: Bloomberg, Yield to worst for Barclays Aggregate, LBUSTRUU

In recent years, low volatility equity strategies have been gaining in popularity, and many have wondered if it makes sense to include a larger allocation of low volatility strategy to control the equity downturn. However, low vol strategies have imbedded correlation and sensitivity to interest rates. In the chart below, we can see that sectors that are typically overweight in low vol strategies such as Real Estate, Utilities and Consumer Staples, all have high and positive correlation to interest rates. This may give us pause about how much interest rate sensitivity is desirable given the amount of bonds already allocated to a retiree's portfolio.



Source: Bloomberg. As of Nov 30 ,2018.

#4: Provide more personal and custom-fit investment solutions

When I tried to explain the differences among various off-the-shelf Target Date Fund products to my friend last Christmas, I was struck by three observations:

1. All the Target Date Fund families, including custom Target Date Funds, look extremely similar over the entire cycle. As a result, it was very difficult to argue that one Target Date Fund family was definitely better (or more suitable) than another;
2. For my friend, her personal financial situation changed considerably over the last 5 years due to life changes. What was appropriate for her 5 years ago no longer applies. Even if we can pick the best Target Date Fund family for her, how do we adjust the expectation as life changes? A Target Date Fund is age-based; is she expected to stay with her age cohort, or change? If she is expected to choose a different fund other than her age group, how?
3. Most of the language that differentiates Target Date Funds (diversification, alternative investments, glide-to vs. glide-through) are not familiar concepts to a typical plan participant like my friend. In fact, she doesn't care. She only wants to know: what's a realistic target for my retirement goals? And am I on track to meet my goals? If not, what should I do?

It seems a bit of a disconnect that in the era of hyper-customization that we experience as consumers, that we find it difficult to answer basic retirement need questions due to lack of personalization. In my experience as a former plan sponsor, the first step of a custom Target Date Fund is to understand the demographics of the employee base. It's interesting to note that as we "map" our employees by age group, the divergence expands like a sideways funnel as people age. Employees in the age group of 20-

25 all look quite similar with comparable account balance, salary range, salary increase, life expectancy, etc. By the time we get to age 45 and above, the ranges start to expand exponentially. It becomes harder and harder to justify that this hypothetical "median" employee should be the expected experience for all. The "one size to fit the average worker" approach might end up fitting no one.

For my Christmas list, I wish that we can use improved technology to help all of us to make better retirement investment decisions. This technology exists. In a world where Google, Facebook and Amazon know what I want to buy before I even know it myself, surely, we can use some of that capability to pull in data to help the average participants understand and better prepare for their retirement needs in a timely, cost effective, automated and proactive way.

The debate on active vs. passive is deafening in conference circles, and has been for years. Yet one would get the impression that the train has left the station if we look at the statistics on how fast the DC plans have moved to passive strategies. Curiously, most plan sponsors and consultant/advisors I know (current and former) are well aware of the potential drawbacks with a strictly passive approach as well as the danger of 60/40 should the stock/bond correlation change from the recent past. Many are willing to pay for active managers if they are worth the fees! The good news for asset managers, consultants or advisors is that we might not need to preach to the choir nearly as much as we think…

What we need, I believe, is to jump *out* of the "active/passive" box, and clearly articulate a solution that directly solves some of problems highlighted here, to plan sponsors and participants alike. We need to earn our fees by showing that the solutions we provide are worth paying for. I don't have all the answers, but here are some ideas:

- To address the lower expected return going forward, we need to increase the savings target, and provide investment options that provide true diversification from equity risk. The world of "alternative investments" is large, and not all are suitable in a DC investment. It's also more difficult to find good quality managers rather than mediocre ones and they tend to charge higher fees. So there is risk involved in doing more and being different than the current version of Target Date Funds, but it is not an unsolvable problem. Many pension plans have begun to tackle this problem, and some have had success. We can learn valuable lessons there and evaluate what is appropriate and practicable in a DC environment.

- To address the return sequencing risk, we need to have more sophisticated risk management embedded in Target Date Funds for participants near, at, or immediately post retirement. Current Target Date Funds manage risk by gradually reducing investment risk as one ages. This is reasonable. However, it assumes that the market risk level is constant and correlations stay the same for over 30 years. This is not true – we all know that economies go through boom/bust cycles, and such boom/bust cycles are magnified in market prices and risks. For the most vulnerable population, it would be sensible to have a risk management mechanism that is

adaptive and more sensitive to market conditions and include some hedging and downside protection techniques when markets appear risky.

In large pension and endowment/foundation funds, this risk management effort often falls on the Chief Investment Officer and a team of professionals overseeing risk exposures at the total fund level. These professionals will deploy risk mitigation strategies that allow the benefit of equity participation (enjoying the equity risk premium), but have a more systematically controlled drawdown to prevent outsized harm from a severe and prolonged equity downturn. The investment industry jargon is improving Sharpe Ratio or Sortino Ratio of the public equity exposure, not the "information ratio" as is current practice today. Since the Target Date funds do not enjoy of the benefit of CIO and staff, it would be helpful to include these protective techniques in the equity allocation of a typical Target Date Fund.

- To address the interest rate risk problem, we need to reflect on why we own the risk to begin with: typically, we own bonds for income and safety. But if we find neither in today's market for bonds, then we might need to look elsewhere for either income or safety and reduce interest rate risk in the portfolio. This can be achieved by incorporating risk mitigation strategies in the equities part of the portfolio (safety) and adding diversifying asset classes as discussed earlier.

- We need to quantify risk better for communication and education purposes. In our industry, we use many fancy terms, but not everyone is a CFA! For most people, the risk that matters is impairment in lifetime spending power; blips within a long horizon don't matter if there is a full recovery before withdrawal (but very damaging during decumulation period). Additionally, it might be helpful to explain how much of the projection is based on income/salary expectations and how much is based on investment risk during the wealth accumulation phase. For some workers in highly cyclical jobs or industries, their income risk and market risk could be highly correlated, doubling the pain in a severe equity drawdown.

These investment challenges are not unique to Target Date Funds; what makes Target Date Funds particularly challenging is the operating, governance and litigation environment that makes "change" particularly difficult.

But can we, and should we let "difficult" stop us?

I sure hope not. As I reflect on the lessons learned from going through the Target Date Fund exercise with my friend, it becomes clear that we would all benefit from an updated and improved Target Date Fund; I want one too! So, it's my wish that we can all rise up to the challenge. Perhaps by this time next year, we would be able to find a new and improved next generation of Target Date Funds to choose from. That would be a very nice Christmas present indeed.

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