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Defined Contribution Retirement Plan Investments & Target Maturity Fund Design

An Interview with Dimensional’s Eduardo Repetto

We recently spoke with Eduardo Repetto, Chief Investment Officer at Dimensional Fund Advisors, about defined contribution retirement plan investments and target maturity fund design. Eduardo provides insight on Dimensional’s views and key issues to consider in the design and selection of appropriate retirement plan investment options.

EDUARDO, ARE YOU FINDING THAT DEFINED CONTRIBUTION PLAN SPONSORS ARE INTERESTED IN DIMENSIONAL’S STRATEGIES?

Yes, we are. Our investment strategies make sense for long-term investors looking for a sound investment approach that maximizes the possibility of achieving their investment goals. Defined contribution plan participants fit this description. Plan sponsors find that our low-cost, broadly diversified portfolios have reliably delivered targeted asset class returns, and have added value without unnecessary risky bets, making them very appropriate for defined contribution plans. This is particularly true within a strategic asset allocation framework. And the Pension Protection Act has been good for our business.

HOW SO?

The Pension Protection Act of 2006 was the first piece of legislation that clearly signaled that Washington, D.C., and the regulatory agencies now view defined contribution plans as primary, rather than supplemental, retirement plans for American workers. The result has been increased scrutiny by plan sponsors and their consultants of (among other things) plan design, investment structure, and the underlying investments offered in their plans.

Plan sponsors and consultants are now more focused on utilizing investment portfolios that have added value reliably and consistently at a low cost. That is what we do at Dimensional. The Pension Protection Act has put wind in our sails.

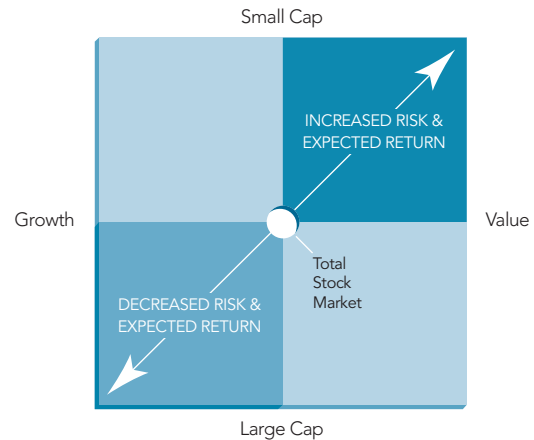
THE PENSION PROTECTION ACT AND THE DEPARTMENT OF LABOR'S FINAL REGULATIONS ON QUALIFIED DEFAULT INVESTMENT ALTERNATIVES HAVE CERTAINLY CHANGED THE LANDSCAPE FOR DEFAULT INVESTMENTS, WHICH HAS BEEN A BOON FOR TARGET RETIREMENT DATE FUNDS AND OTHER BALANCED OPTIONS. DO YOU THINK THESE TYPES OF SOLUTIONS MAKE SENSE FOR DEFINED CONTRIBUTION PLANS?

Overall, we think such solutions make sense for retirement plans. It is a big step forward. For years we have offered a series of target risk funds for clients that prefer a pre-set globally diversified allocation based on risk tolerance, because two different investors of the same age can have completely different tolerance for risk. We expect investors to change the allocation among these target risk funds in order to define their own lifetime investment solution based on their individual circumstances, goals, and constraints.

We also think life cycle or target maturity funds, while not perfect due to their "one size fits all" approach, can be an effective solution if designed properly. We certainly think that custom solutions have the potential to be more effective than "off the shelf" products.

WHAT SHOULD BE CONSIDERED IN A TARGET MATURITY FUND DESIGN?

We can spend our entire careers answering this question. Finding a lifetime investment and consumption solution implies considering all the aspects of investing, hedging, labor, and consumption, as well as the accepted risks at different points of our lives. When designing a target maturity fund, or a retirement solution, you have a



particular investor in mind, the "default" investor, with characteristics as close to your target audience as possible.

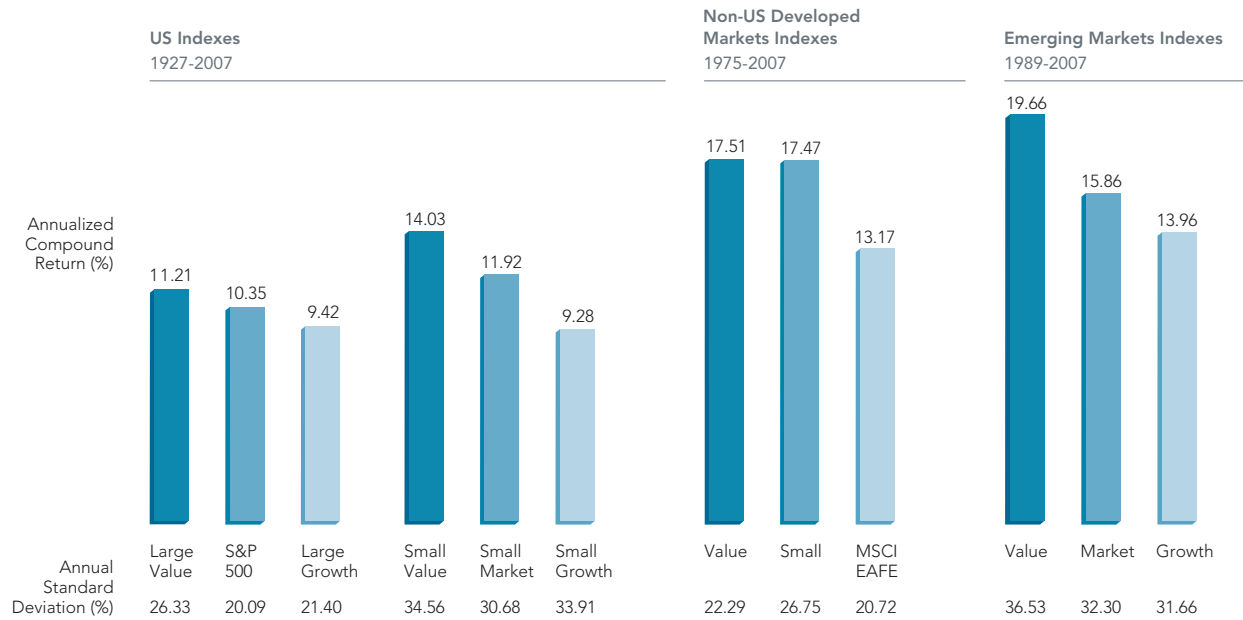
One very important consideration that seems to be overwhelmed by all of the "glide path" discussions is the importance of the underlying funds used to construct the portfolios. More and more simulations with different assumptions show the benefit of the glide paths over time, but the underlying funds need to carry the theory to real life. Plan sponsors should closely examine the underlying funds to determine whether they have the appropriate characteristics for long-term investments of this type. The underlying funds are the foundation of any of these solutions.

WHAT ARE YOUR THOUGHTS ABOUT THE UNDERLYING FUND STRUCTURE?

The underlying funds should reflect the long-term nature of the investments. They should be diversified investment solutions able to efficiently capture the asset class premiums.

Target maturity funds are long-term investments. It makes sense, then, to incorporate diversified investment strategies that have been shown to provide strong returns over the long run. This is particularly important in target maturity funds since they include many asset classes and, in general, they typically include tilts to asset classes with higher expected returns. Including tilts or increased allocations toward small caps and value stocks in domestic, international developed, and emerging markets makes a lot of sense, but the underlying funds should be able to capture those premiums.

For example, empirical research has shown that small cap stocks have historically delivered higher returns than large cap stocks, and value stocks have outperformed growth stocks. The best way to reliably capture those premiums is to have broadly diversified portfolios with a low expense structure and low turnover, since turnover is a proxy for trading costs.



Size and Value Matter

Small cap and value effects are strong around the world. Smaller and lower-priced value stocks have higher risk and greater expected returns than larger and higher-priced growth stocks.

In US dollars. Developed markets value and growth index data provided by Fama/French. The S&P data are provided by Standard & Poor's Index Services Group. US Small Cap Index provided by the Center for Research in Security Prices (CRSP), University of Chicago. International Small Cap index data: January 1970 – June 1981, 50% UK small cap stocks provided by the London Business School and 50% Japan small cap stocks provided by Nomura Securities; July 1981 – present: simulated by Dimensional from StyleResearch securities data; includes securities of MSCI EAFE Index countries, market-capitalization weighted, each country capped at 50%. MSCI data copyright MSCI 2007, all rights reserved. Emerging markets index data simulated by Fama/French from countries in the IFC Investable Universe. Simulations are free-float weighted both within each country and across all countries.

Indexes are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. Compound returns have an assumed rate of return, are hypothetical, and are not representative of any specific type of investment. Standard deviation is one method of measuring risk and performance and is presented as an approximation. Past performance is not a guarantee of future results.

YOU SAID THAT FUNDS SHOULD CAPTURE ASSET CLASS PREMIUMS EFFICIENTLY. HOW?

When I refer to efficiency, I am thinking not only of low expense ratios, but more about construction techniques that minimize less visible expenses that are a drag on performance.

For instance, we believe in the use of marketwide portfolios that incorporate tilts to provide intended risk exposure. Dimensional's Core Portfolios provide those tilts in a very efficient vehicle. Our Core Equity Portfolios invest across entire equity markets, as defined by US, international developed, or emerging markets. They hold the largest stocks as well as the smallest stocks, and most of the ones in between — both value and growth, but with tilts toward value and small cap stocks.

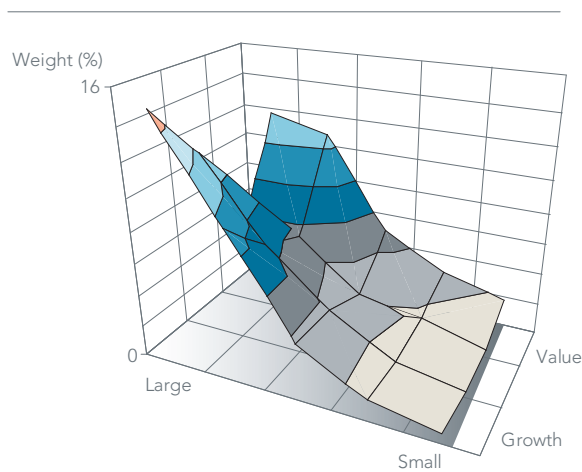
This type of a core approach is just more efficient. The Core Portfolio approach is considered by Dimensional to be the foundation of any retirement plan. Additional funds and asset classes can be added on top of the Core funds, but the Core Portfolios should be the starting point. They provide

a more cost-effective way to capture the desired exposure to the equity market than hiring and monitoring different managers for each "style box." With our Core Portfolios, turnover is minimized; lower turnover equals lower trading costs. Since they are marketwide portfolios, we are not forced to sell a stock when it crosses an artificial boundary. We analyze the overall characteristics of the portfolio when deciding what to trade in order to capture the asset class premiums. This holistic view of the portfolio avoids unnecessary rebalancing and trading expenses.

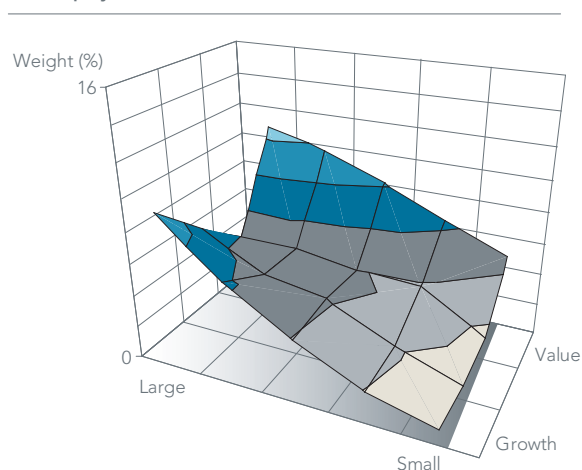
Over a lifetime of savings (thirty to forty years), additional expenses cost investors too much, and avoiding these costs should be one of their goals.

The same strategy is applied in our Core Portfolios for international developed and emerging market equities. We think our Core Portfolios can be the foundation for very effective target maturity solutions.

Total Stock Market



Core Equity Portfolio

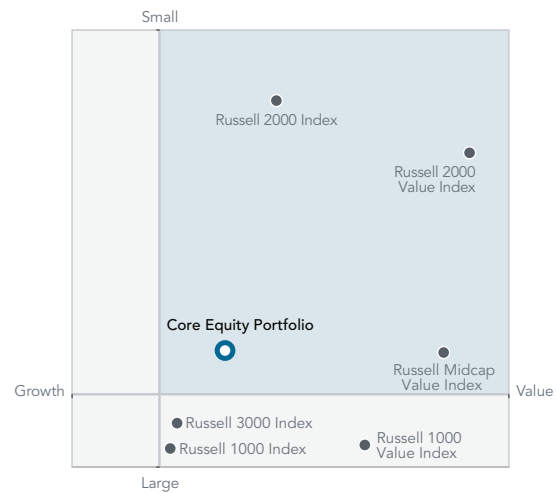


Integration across the Market

Surface maps of the equity weights in the total stock market and Dimensional's Core strategy give a sense of the tilts. Each Core strategy covers most stocks in the market, with increased weighting in small cap and value regions.

YOU MENTIONED GLIDE PATHS. HAS DIMENSIONAL DONE WORK IN THIS AREA?

Dimensional has performed significant research regarding the proper asset allocations, and the drivers behind the asset allocation decision, for individuals during their working and retirement years, commonly referred to as the glide path. We have some unique views on the topic. One example is our concept of a participant's level of wealth at any point in time and the integration between taxable and tax-deferred saving solutions.



The fact is, for the purpose of long-term retirement planning, the definition of total wealth is driven as much by an individual's expected future earnings stream — and the flexibility and riskiness of future earnings — as by existing financial assets. For most workers, human capital is a depleting asset with bond-like characteristics. That concept directly influences Dimensional's thinking about proper glide path design.

HOW DOES YOUR GLIDE PATH DIFFER FROM OTHER TARGET MATURITY FUND GLIDE PATHS?

I think you will find that we recommend aggressive exposure to equities and high-return asset classes in the early years of the glide path. Exposure to emerging markets, international small, and international value is also important in the early years. During the middle years, we recommend a level of exposure to high-return asset classes that may be greater than other target maturity fund glide path models which take a different view of wealth. Again, this is based on our view of total wealth and the flexibility of individuals to extend their years of earning income.

We also have a view on the appropriate long-term, low-risk asset for these types of investments. Long-term inflation is one of the primary risks investors face. Long term inflation is uncorrelated with equity or nominal bond returns, so equities are not a good hedge. Luckily in the US we have Treasury Inflation Protected Securities, or TIPS. Not every country has inflation-protected bonds. TIPS are the natural hedge against inflation risk and should be used as the low-risk asset.

GLIDE PATHS THAT EXTEND THIRTY OR FORTY YEARS OR MORE CERTAINLY REQUIRE LOOKING FAR INTO THE FUTURE. HOW DO YOU APPROACH SOMETHING WITH SUCH A LONG TIME HORIZON?

It is a fact that we are basing long-term investment decisions on past behavior of the markets, but we also have a very long history of market behavior to study. This is one of Dimensional's strengths. Our recommendations are based on rigorous research and our deep understanding of the real sources of risk and return in the financial markets.

We run Monte Carlo simulations as part of our research to help us identify proper glide paths, evaluating likely outcomes and the instances of success versus failure based on various return, contribution, and withdrawal scenarios. We believe our approach to the glide path makes a lot of sense. However, we would caution plan sponsors not to base too much of their decision on the results of Monte Carlo or other simulations.

WHY?

Monte Carlo simulators are able to change allocations over time to provide some insights, but the big risks lie on the tails of the outcomes, the low probability events. No simulation is able to provide this insight, since the "real" distribution of outcomes is not known and the simulators are just an approximation of reality. For example, some simulators assume that returns are "normally" distributed, when we know that they are "fat-tailed," with a higher probability of experiencing extreme events. Diversification is the best tool against this uncertainty. Insurance products, at the right price, may also be a solution for these tail events, such as the old tontine program.

We think it is important for the plan sponsor to evaluate the overall asset allocation strategy embedded in the glide path and how the underlying assets are managed, and to take steps to improve the likelihood that desired returns are generated over the long run. The fact is, we don't know what the best glide path is — nobody does, although we can certainly identify bad ones. But we do know there are specific investment strategies and asset classes that make sense for these types of long-term investments.

BESIDES THE UNDERLYING FUNDS, WHAT ELSE DO YOU THINK A PLAN SPONSOR SHOULD CONSIDER WHEN LOOKING AT A TARGET MATURITY SOLUTION?

Inflation is the predominant risk a retiring person faces, and we make significant use of TIPS in our target maturity glide path designs. But there are still open questions in need of solutions. One of the big questions is what kind of inflation is being faced by the participants. Is that inflation fully hedged by TIPS? For example, medical expenses may go up at a different rate than CPI-U, the "All Urban Consumers" inflation index hedged by TIPS. So if a retired person consumes more in health services than the CPI-U basket, they will not be fully hedged.

There are many things a plan sponsor should consider in a target maturity solution:

What are the investment costs? Low fees are extremely important, particularly over the long term. Low management fees and low expense ratios are important, but trading costs are just as critical. Trading costs are not reflected in a fund's expense ratio, but they reduce net returns to the investor just the same. A high turnover strategy can generate excessive trading costs.

Does the design take home bias into account in its asset allocation strategy? The overall allocations should factor in the tax-deferred nature of defined contribution plans and make appropriate adjustments in the allocations between US and non-US investments.

What is the experience and past performance of the manager in managing asset class portfolios? Long-term success depends on the reliable delivery of asset class returns over time. Style consistency and reliability are very important in an asset allocation framework, given the specific allocations incorporated in a glide path design and the long-term nature of retirement investing.

Another item to consider is the potential for unintended overlap and increased portfolio turnover that can result from the use of different managers for different asset classes or investment styles.

WOULD THAT BE CONCENTRATION RISK?

Yes, something like that. Two different managers managing separate portfolios with different objectives may take positions in the same security, leading to unintended single-security risk for the overall portfolio. This is fairly common in a multi-manager approach, and can even be a problem in “off-the-shelf” target maturity funds managed by a single fund advisor or fund family. Our Core Portfolios avoid this risk. Please remember that diversification is the ally of every investor saving for retirement. Anything that works against or reduces diversification is a big risk and should be avoided.

DO YOU HAVE ANY CLOSING COMMENTS ON THIS SUBJECT?

In the end, the most important aspect of any long-term retirement investment is whether the portfolio, in its entirety, properly captures the right level of returns for each asset class. Is the manager concerned about trading costs? Is the manager trying to add value in each aspect of portfolio management? We believe Dimensional’s broadly diversified, low-cost, style-consistent, and efficiently managed funds are ideally suited for defined contribution retirement plan investments. We are a value-added manager that seeks to avoid unnecessary security-specific risks and aims to deliver fully diversified portfolios specifically designed for long-term investors.

THANK YOU.

Date of first use: January 27, 2009

A target date investment is designed to serve an investor’s changing needs over time. It allows the investor to link their investment portfolio to a particular time horizon, typically their expected retirement date. The stock and bond allocation is supposed to change gradually to safer asset classes as the investor approaches retirement. A distinction is made between those that disburse all returns on the target date and those which expect to continue managing the investment though retirement. The principal value of the funds invested are not guaranteed at any time, including at the target date.

Diversification neither assures a profit nor guarantees against loss in a declining market.

Dimensional Fund Advisors is an investment advisor registered with the Securities and Exchange Commission. Consider the investment objectives, risks, and charges and expenses of the Dimensional funds carefully before investing. For this and other information about the Dimensional funds, please read the prospectus carefully before investing. Prospectuses are available by calling Dimensional Fund Advisors collect at (310) 395-8005; on the internet at www.dimensional.com; or, by mail, DFA Securities LLC., c/o Dimensional Fund Advisors, 1299 Ocean Avenue, Santa Monica, CA 90401. Dimensional funds are distributed by DFA Securities LLC.