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# Passive and Active Fulfillment Choices

## Target Date Funds: Combining the Best of Active and Passive

Perhaps one of the most significant investment trends of the past two decades has been the widespread shift away from active management. The low fees charged by passive vehicles, coupled with the perception of poor performance by active managers, have been the primary drivers for this shift. In today's low-return environment, investors continue to be sensitive to the impact of fees on performance. Digging a little deeper into the performance of active managers, though, may change this perception. In the rush to passive vehicles, active managers may have been painted with too broad a brush.

Pension fund managers, who many consider to be among the industry's most sophisticated investors, have been including both active and passive vehicles in their portfolios for years. However, within the defined contribution space, target date funds have historically employed an all-active or all-passive approach. But concerns about fees and performance have not been lost on this audience, and in light of these growing concerns, target date managers are starting to leverage this blended strategy across a range of asset classes. In this way, target date funds seek to exceed the market return while at the same time mitigating risks and managing costs relative to potential benefits.

In this paper, we'll compare the performance characteristics of two distinctly different types of US active equity managers in the large-cap space, fundamental and quantitative ("quant") managers, and examine the advantages of combining a quant approach with indexing. Then we'll consider the implications for investors in target date funds and how these fulfillment choices impact retirement savings and income.

## Not All Approaches Are Alike

A key advantage of passive vehicles is well known – they provide low-cost exposure to an asset class. Generally, passive management fails to offer active tilts to certain risk premia that have been shown to drive outperformance. Active management, on the other hand, affords investors the possibility of outperforming the market in a variety of ways. And in today's environment, in which low returns may be the norm for an extended period, exceeding the market return has become critical.

While there are many ways of looking at styles of active management, one clear line of distinction is the difference in approach between fundamental and quantitative active managers.

Fundamental strategies seek to generate alpha through intensive qualitative company-level research and often hold fewer stocks, making the portfolios more concentrated. Quantitative approaches, in contrast, focus on achieving alpha via a systematic collection and evaluation of data that provides exposure to risk factors that have been shown to account for a sizable portion of equity returns. Quantitative managers typically invest in a larger number of stocks - using the benefits of diversification to achieve targeted factor exposures with minimal unintended risk. Additionally, quantitative managers usually have substantially lower fees than fundamental managers.[1]

## US Large Caps: A Quest for Excess Returns

Since the US large-cap space has generally been considered one of the most efficient asset classes (and thus harder to add alpha), we will concentrate on US large-cap managers to make the case for active management. We do this in spite of the fact that other potentially less efficient asset classes may show larger variations in performance, with a greater chance of outperformance. Given the differences in the two approaches to active equity management – fundamental and quantitative – a closer examination of their performance characteristics is warranted.

Figure 1 shows that in US large-caps, the median gross excess return for active managers as a whole, though not substantial, has been positive. Over the most recent three- and five-year periods, they have outperformed their benchmarks by 0.07% and 0.19%, respectively. But only a little more than half of active managers beat the index during these periods, and this number would be even smaller if fees were deducted.

**Figure 1.**

AS A WHOLE, US LARGE-CAP MANAGERS HAVE GENERATED MINIMAL EXCESS RETURNS IN RECENT PERIODS

| Style | % Median Excess Return | | | % Outperforming Index | | |
|---|---|---|---|---|---|---|
| | 1 Yr. | 3 Yrs. | 5 Yrs. | 1 Yr. | 3 Yrs. | 5 Yrs. |
| Core | -0.29 | 0.07 | 0.19 | 45 | 52 | 52 |

**Figure 2.**

US LARGE-CAP QUANT FUND OUTPERFORMANCE HAS BEEN SIGNIFICANT IN RECENT PERIODS[2]

| Approach | % Median Excess Return | | | % Outperforming Index | | |
|---|---|---|---|---|---|---|
| | 1 Yr. | 3 Yrs. | 5 Yrs. | 1 Yr. | 3 Yrs. | 5 Yrs. |
| Fundamental | -0.41 | -0.43 | -0.66 | 44 | 43 | 37 |
| Quantitative | -0.04 | 0.97 | 1.07 | 48 | 71 | 84 |

Source for Figures 1 and 2: QMA, eVestment. Data as of 12/31/2015. For periods greater than one year, annualized performance was used for calculations.

Shown for illustrative purposes only. Data was generated using managers in the US Large Cap Core Universe in eVestment that classify their investment approach as either quantitative or fundamental. All other classifications were excluded for this analysis. For % Outperforming Index, the benchmark was derived by taking all of the managers that outperformed their manager-specified index over the period listed divided by all managers who reported performance figures for the specified time periods. Median Excess returns were generated by taking the median from the sample size used to generate the % outperforming the index.

[1] The average of the highest stated fee for fundamental strategies was 26 basis points more than quantitative strategies, as of 6/30/2016 for strategies within the eVestment US Large Cap Core universe - 82 basis points and 56 basis points, respectively.

[2] To read relevant research produced by QMA: Hares with Tortoise Genes can be found at www.qmassociates.com/hareswithtortoisegenses and please contact us at contactus@qmassociates.com for our paper on Picking Winner Funds.

When this performance is broken down further, however, it becomes clear that – in recent years – not all active strategies have performed equally. As Figure 2 illustrates, the performance of the median quant manager in the US large-cap space has been better than fundamental funds over the most recent three- and five-year periods, adding approximately 100 basis points of excess return. In addition, 71% of quants over three years and 84% of quants over five years have beaten their benchmarks. In contrast, the median return of fundamental managers in US large caps has been negative, and the percentage outperforming their benchmarks has been relatively low at 43% for the past three years and 37% over the past five years.

It is important to note, however, that fundamental managers can, and do, beat the index. Figure 3 shows that on a rolling three-year basis, the median fundamental manager outperformed for more than a decade between 2000 and 2011 – often by substantial margins. The past several years, however, have been more challenging, and this reflects fundamental managers underperformance in the most recent one, three, and five years. Over longer periods, however, the ability of fundamental managers to add alpha becomes more evident, as periods in which they lag the index are offset by those in which they outperform.

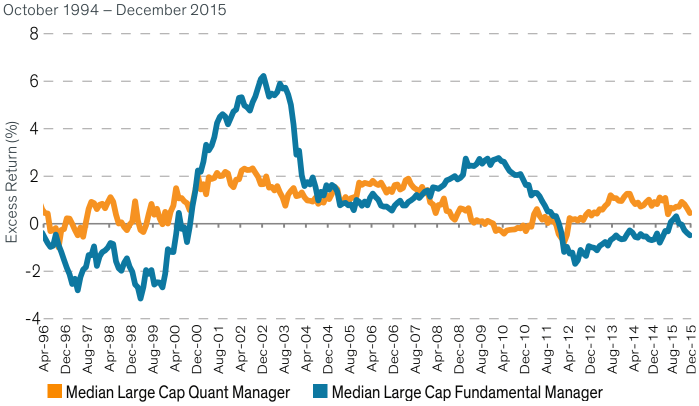
The excess return of quant managers, on the other hand, has historically been more steady, fluctuating in a much narrower range and largely avoiding extended underperformance. This stems from the added diversification of holding a larger number of names in the portfolio and from having exposure to multiple risk factors.

**Figure 3.**

QUANT FUNDS HAVE BEEN LESS VOLATILE THAN FUNDAMENTAL FUNDS

ROLLING THREE-YEAR MEDIAN GROSS EXCESS RETURNS

October 1994 – December 2015




Source: QMA, eVestment.
Data derived from eVestment US Large Cap Core Universe, including inactive products, with S&P 500 as the benchmark. For Median Quant Managers, the primary investment approach of quantitative was selected. For Median Fundamental Managers, the primary investment approach excludes quantitative.

## Indexes and Quants: Targeting the Best of Both Worlds

Now, let's consider a simple scenario, the investment of $100 in a large-cap equity fund. Knowing that fees can reduce long-term returns, an index fund is a viable option. Assuming an annual rate of return of 6.5% for this index fund, in 10 years that $100 grows to $188, and in 20 years it becomes $352. In 70 years, it balloons to $8,212 (Figure 4).

On the other hand, in a low-return environment, outperforming the market becomes increasingly important in reaching long-term financial goals. So, another option would be an actively managed quant fund, despite its potentially higher fee compared to index funds. As we saw earlier, quant managers have historically added about 100 basis points of excess return gross-of-fees. So, let's assume an average annual return of 7.5%. In 40 years, the $100 in a quant fund grows to more than $1,800, and in 70 years it becomes nearly $15,800, which is nearly double the index option.

Alternatively, one could combine index and quant investments. This blend would provide consistent excess returns, to not only earn back the management fees, but also to significantly enhance the chances of achieving long-term savings goals (while the exact blend depends on an investor's needs). With a 50/50 blended strategy, the $100 becomes $197 in 10 years, almost $1,500 in 40 years, and nearly $11,400 in 70 years. This blended approach captures the best aspects of both strategies: lower fees from the index funds and higher returns from the quant funds.

**Figure 4.**

A SIMPLE SCENARIO: GROWTH OF $100

| Years | Index | Quant | 50/50 Blend |
|---|---|---|---|
| 10 | $188 | $206 | $197 |
| 20 | $352 | $425 | $387 |
| 30 | $661 | $875 | $761 |
| 40 | $1,242 | $1,804 | $1,497 |
| 50 | $2,331 | $3,719 | $2,944 |
| 60 | $4,375 | $7,665 | $5,791 |
| 70 | $8,212 | $15,798 | $11,391 |

Source: QMA. Shown for illustrative purposes only. There can be no guarantee this will be achieved.

There is also another potential benefit. Because quant funds are well-diversified and maintain exposure to multiple risk factors, returns have historically been less volatile than they have been for fundamental funds. This produces a "smoother ride" for investors, easing concerns about the ultimate outcome of the strategy. The smoother ride also mitigates risks associated with the sequence of returns, helping to ensure that investors meet their financial goals.

## Target Date Funds and Retirement Income

Of course, the above scenario is an oversimplification. In real life, most people make ongoing contributions, which may increase over time as their incomes improve and as their life situations change. And once they retire, they typically stop making contributions and begin making withdrawals. Also, investors usually spread their holdings over at least two or three asset classes and adjust these allocations over time as their time horizon and risk profiles change.

Now, let's consider a more complex scenario that takes retirement into account. Let's also assume a portfolio of both stocks and bonds, with the allocation to stocks declining and the allocation to bonds growing over time.

In reality, this is a simplified version of what target date funds do for investors. Target date funds typically hold a range of asset classes and vary the allocations over time to achieve growth, provide inflation protection, and minimize volatility.

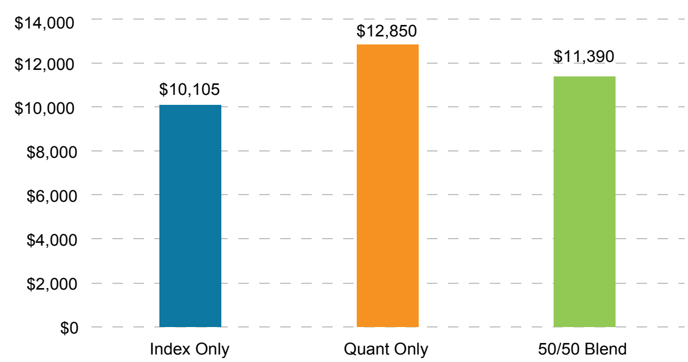
So, in our simplified target date fund, let's assume a steady $100 monthly deposit over a 40-year contribution period from age 25 to 65. In our example, we simplistically assume someone contributes $100 a month, which is never adjusted. We then look at the impact our three equity strategies have on the amount of income the portfolio can generate for a 30-year drawdown period from age 65 to 95. After all, adequate income over the life of retirement is the goal that retirees are most interested in reaching.

In this scenario, our equity and fixed income allocations match the Morningstar Lifetime Allocation Moderate Index glidepath; the allocation starts with 93% invested in equities and 7% invested in fixed income. Over time our allocation gradually shifts until 40 years later, when the contributions stop and withdrawals begin, it holds 54% equities and 46% fixed income. After 60 years, 36% of the fund is in equities and 64% is in fixed income.

What impact would our three equity strategies — index, quant, and 50/50 blend — have on the portfolio's ability to generate income for 30 years beginning at age 65, assuming a growing allocation to fixed-income assets and that the participant stays invested, withdrawing annual income until the account reaches a zero balance at age 95? The portfolio with the index-only approach to equities produces annual income of $10,105. The one with the quant-only approach generates annual income of $12,850 — more than $2,700 higher than the index investment. And the blended approach produces annual income of $11,390, which is more than 10% of additional annual income a year compared to the index-only approach (Figure 5).

**Figure 5.**

THREE EQUITY STRATEGIES – ANNUAL INCOME GENERATED BY HYPOTHETICAL TARGET DATE FUNDS OVER 30 YEARS




Source: QMA. The equity portion is represented by the S&P 500 Index and the fixed income portion is represented by the Barclays U.S. Aggregate Index. The above is not representative of actual performance and there is no guarantee this will be achieved.

## Target Date Funds: Capitalizing on Active Management and Professional Asset Allocation

What can we conclude from this analysis? First, active management can work. Even in the highly efficient US large-cap space, both fundamental and quant managers have historically generated excess return. And in the current low-return environment, it is critical to capture excess returns that are available only through active management. But while both fundamental and quant managers have outperformed, quants have done so while providing a smoother ride, that is, in a manner that is more appropriate for target date funds.

Second, since active management works in other, less efficient asset classes as well and not all strategies in an asset class have identical return patterns, it is important to know which strategies work best in each. Employing a target date manager with the knowledge to capitalize on the return patterns of different asset classes — and the expertise to select the best strategy for each — may reduce risk and enhance performance. In our simplified target date fund example, we assumed just two asset classes. But this lesson applies more broadly to the full range of asset classes employed by target date funds.

Finally, a blended quant and index approach to equity investing may keep fees lower than they would be with a quant-only approach. A blended approach may produce higher and more consistent returns than an index-only approach. This enables investors to earn back the somewhat higher fees they pay for active quant management relative to an index investment. Over the long-term, the advantages that come with active management are compounded, potentially making a significant impact on an investor's nest egg – and on the amount of annual income that can be generated.

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QMA manages the allocation of assets that underlie the glidepath to the Prudential Day One Funds and is a business of Prudential Financial, Inc.

*As of 6/30/2016.

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