Evoke Insights: Reference Point

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A mathematically inclined 8-year-old was asked if he'd rather receive $2 or $1. He predictably responded with $2, which is clearly preferable when compared to $1. The deal was then changed – if he picked $2, then his younger sister would receive $4. However, if he opted for $1 she would get nothing. He quickly changed his answer to $1 because he just wanted to do better than his sister, fully appreciating that he'd end up financially worse off.

While most adults would pick $2 in both instances, this obvious example is actually not that far off from the innate tendency of most people to judge success or failure by comparing their results to a particular reference point (that may run counter to their true objectives). In this edition of *Evoke Insights*, we apply this bias to the world of investments and evaluate its implications.

Two commonly used reference points in investing are:

1. The stock market; and
2. A specific rate of return

The stock market is a moving target and can therefore be viewed as a *relative* benchmark, in line with the brother comparing his performance to his sister's. If the market is the reference point, you may be disappointed if you earned only 10% when the market gained 20%. Likewise, you would have outperformed if you lost "only" 10% when stocks plunged 20%. Outperformance is *relative* to how the stock market happened to perform over the measurement period.

In contrast, a specific target annual return such as 7% is an *absolute* return benchmark. It really doesn't matter whether the stock market is up or down 20%; your objective is to get your 7%. With this reference point, you may be dissatisfied with a 0% return during an equity downturn even if that means you beat the market and your peers.

Identifying the Right Reference Point

In our experience working with investors for multiple decades, we have learned that most ultimately desire to earn a specific rate of return. After all, we can't spend relative returns (especially when they result in negative absolute returns). The problem is that most investors are inclined to use the stock market as a reference point, with an even greater tendency to do so when stocks are performing well.

Thus, we tend to stress the importance of thinking through the long-term objective of the portfolio and identifying the appropriate reference point up front. This is an important step in the investment process because a very different portfolio is suitable for each reference point. A mismatch between your portfolio and your goals is likely to lead to unnecessary portfolio changes that may not add value (and may potentially detract from long-term returns, as will be demonstrated shortly).

The reason for this *Insights* is that the seemingly obvious task of selecting the appropriate reference point can be deceptively difficult to implement in practice. Some investors tend to not be fully explicit about their real objectives at the outset and may be unwilling to acknowledge their psychological biases. The challenge is that

investors who invest based on one set of loosely established expectations are often later disappointed when they evaluate performance based on another set.

We offer a short self-evaluation to help investors honestly assess their inherent bias towards using the stock market as their reference point:

1. Do you check how the stock market performed on a regular basis?
2. Do you expect your portfolio to perform in line with "the market" over a 1- or 3-year period?
3. Have you been concerned about underperforming during bull markets in the past?

If you answered yes to any of these questions, then you are more likely to use the stock market as a reference point in practice (more yeses probably suggest a stronger equity bias). This is not a good or bad thing and in fact is more common than not. It is just something investors should be aware of because it will probably influence their investment decisions.

A Different Portfolio Based on Reference Point

The stock market is highly volatile and can enjoy long bull markets and suffer devastating downturns. If the goal is to track or beat the stock market and the expectation is to keep up when markets are doing well, then the portfolio should include a significant allocation to stocks (if not a 100% allocation). A portfolio with less exposure to equities, even if it results in higher returns over the long run, will certainly travel a different path and will very likely underperform on a relative basis for extended periods.

It's well understood that the most reliable way to get stock market returns is through passive index funds that will deliver the market return, whatever it may be. You can certainly attempt to outperform the stock market with market timing, but the odds are stacked against this approach. You may also try to beat the market by picking active managers who have demonstrated a track record of outperforming their benchmarks. With this approach it is important to appreciate the cyclical nature of manager returns, wherein outperformers over the recent past often underperform during the next market cycle given the rarity of consistent outperformance. You can also try to outpace the market by picking stocks yourself or by implementing regional and/or sector bets. Of course, you have to make the right calls, which is always more challenging in practice than in theory, as public markets reflect publicly available information in current prices with relative efficiency, making it challenging to consistently profit from unique insight. The difficulty of outperforming a passive index fund net of fees, taxes and behavioral biases was covered in our September 2020 *Insights* titled Net Returns – A High Bar for Active to Beat Passive.

If the focus instead is on how you're doing relative to the return you require to meet your financial objectives (or some other desired fixed percentage return), then the goal should be to try to achieve this return over time with as little risk as possible to increase the odds of success. In this case, you should develop a well-diversified portfolio consisting of individual high-returning strategies that go up and down at different times. *Only a subset of those return streams should be in the stock market* since the objective is to be diversified across lowly correlated investments, and most stocks tend to rise and fall together. Due to the reduced exposure to equities, this portfolio should be expected to perform very differently from an equity-dominated allocation even if it earns comparable returns over the long run.

Even a "Better" Portfolio Will Underperform Stocks for Long Stretches

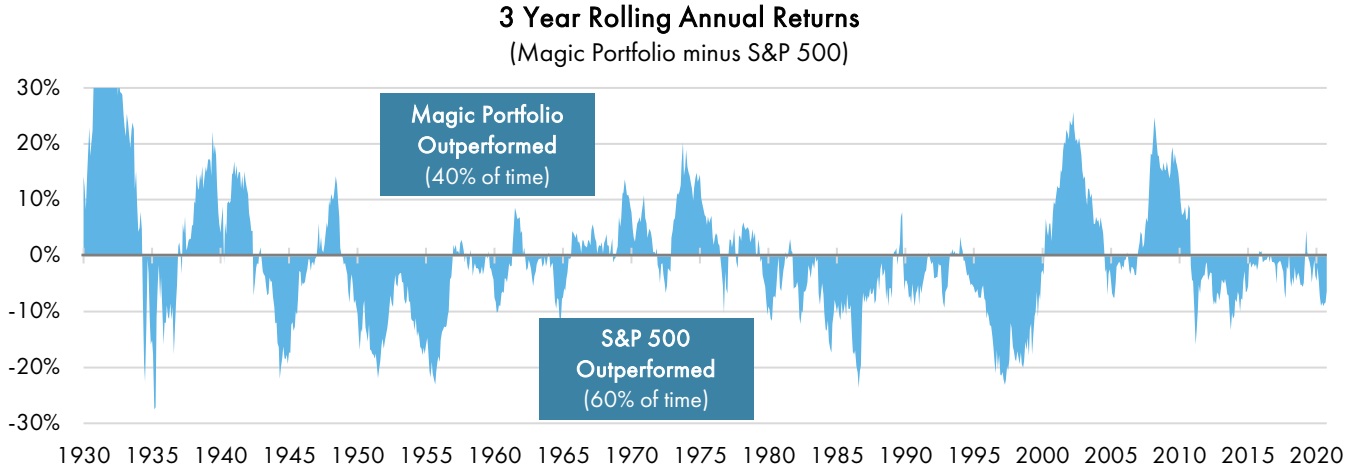
We can consider portfolios along a spectrum. At one extreme is a 100% equity portfolio that is highly volatile but offers an attractive long-term return expectation. At the other end is a portfolio with a similar return expectation that consists of a diverse mix of return streams, each of which may be comparable to equities over the long run. This portfolio can potentially earn similar returns as a 100% equity mix with far less risk. Risk parity strategies are one example of an asset allocation strategy that is expected to earn comparable returns to equities over the long run using a diversified mix of public markets with a relatively low equity allocation. The more diversified portfolio is clearly better on paper because it can get investors to the same place without the wild rollercoaster ride. However, the less volatile portfolio can look underwhelming for long stretches if the reference point is the stock market.

We can illustrate this point with an extreme example by comparing the stock market's return history to a hypothetical "magic portfolio" that earns the exact same return over the full period but with zero volatility. The purpose of this exercise is to compare the day-to-day experience of owning this magic portfolio when it is constantly compared to the stock market.

The S&P 500 Index has averaged 9.6% per year since 1928.[1] Taking the actual returns of this index, we can construct two portfolios: one that is 100% invested in the S&P 500 and one that is a magic portfolio which earns the same 9.6% return but in a straight line, earning a little less than 0.8% per month. Given the choice between these two portfolios, a rational investor should choose the magic portfolio because it offers the same return as the stock market with zero risk.

We can run these two portfolios side-by-side since 1928 to get a sense of how they compare over the long run. Exhibit 1 displays the excess returns of the magic portfolio versus the S&P 500 over rolling 3-year periods. Positive 3-year returns (shaded above the horizontal 0% axis) represent times when the magic portfolio outperformed the stock market and negative returns (shaded below the axis) represent times the strategy underperformed.

Exhibit 1: Magic Portfolio Relative Performance vs. S&P 500 (1928-2021)[1]



Note: Hypothetical for illustrative purposes only.

[1] Source: The S&P 500 Index - SPX (inception: 12/31/1927) returns are sourced from Bloomberg from inception through 9/30/2021.

The S&P 500 outperformed the magic portfolio in 60% of the 3-year periods. It also outpaced the zero-volatility option by an annualized 20% on multiple occasions. This means that an investor who uses the market as their reference point would have been unhappy with the magic portfolio for as long as 3 years *the majority of the time!* The results don't meaningfully change if we shift our measurement period over 1- or 5-year rolling periods as the S&P 500 similarly outperforms the magic portfolio the majority of the time. In other words, even a portfolio that is clearly better over the long run will face obstacles when viewed through a different lens. In fact, if the benchmark is highly volatile (as is the stock market), investors will only be able to match or beat it consistently if their portfolio is equally volatile, with the same upswings and downturns.

Changing Portfolios Can Be Unproductive

Selecting the appropriate reference point is important not only because it better aligns the portfolio to the benchmark, but also because it can prevent potentially detrimental investment decisions along the way. As investors, we should recognize that it is natural to want to change course when we feel that we are on the wrong track. The emotional influence to take action during a stretch of underperformance is real and can be quite powerful. The challenge with making investment changes, however, is the propensity to replace underperformers with recent strong performers. This is a backward-looking assessment that essentially attempts to correct a "mistake" by reversing the wrong move and replacing it with what would have been the better choice with perfect hindsight. The problem is that performance-chasing is generally not productive and can potentially reduce long-term returns. If we decide at the outset that our goal is to earn 7% a year and the portfolio is on pace to achieve that objective, then we shouldn't change course if the stock market happens to be up 17% (just as we shouldn't let a -17% market downturn result in a major portfolio modification).

Imagine opting for the magic portfolio just before one of the stretches during which it trailed the stock market for 3 years. It is understandable why an investor who tends to use the stock market as a reference point would be tempted to abandon the magic portfolio strategy and shift towards a more equity-centric portfolio. The longer the underperformance and the greater the magnitude, the stronger the emotional pull to change course. Since relative returns are clearly cyclical (as can be observed in the chart), shifting strategies is often the exact opposite action that investors should take, as recent outperformance is typically followed by future underperformance (and vice versa).

Application to Money Managers

The same analysis should be applied when comparing individual active managers to the stock market. Equity managers are relatively straightforward to assess because their returns will be highly correlated to stocks, as they generally rise and fall with the market. Hedge funds, which sit on the other end of the spectrum, can be more challenging to evaluate without the appropriate reference point. Hedge funds that significantly hedge against broad market risk (leaving skill-based returns as the primary source of returns) should be expected to be less correlated to the stock market. If their returns are compared to stocks, then, similar to our straight-line example, investors will be disappointed a high percentage of the time. These managers employ strategies and hedges to achieve a return stream that is closer to our straight-line example than the ups and downs of the stock market. This doesn't mean that the manager's performance should not be judged on an ongoing basis. However, it is critical for investors to be clear up front about their expectations and then measure success against those expectations.

Conclusion

All in all, investors need a reference point to enable better investment decision making. This notion seems reasonable, but it is particularly difficult in investing since how the stock market is doing is all over the media and the mania grows when performance is strongest. The more diversified the portfolio or manager, the less correlated it will be to the stock market, and the harder it is to maintain the appropriate reference point. This is exacerbated by the fact that when stocks are doing well, the risk feels low (even though it may be high) and it seems easy to earn high returns. The choice is further complicated by the fact that investors tend to love stocks when they're rising but hate them when they're falling and will keep changing their reference point accordingly. It may also feel like it is obvious to know when to get in and out; the reality is that it is nearly impossible to consistently make the right calls. Investors should deliberately and explicitly set expectations up front and compare their results to the relevant reference point going forward. It is critical to be aware of your reference point, since it affects how you feel, which impacts what you do, which drives investment results over the long term.

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