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Equal Weight Indexing

A look at the S&P 500® versus the S&P 500 Equal Weight Index

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INTRODUCTION

The S&P 500 Equal Weight Index (S&P 500 EWI) was launched 10 years ago on Jan. 8, 2003. Prior to its release, most indices were weighted by market cap. The launch of the S&P 500 EWI ushered a new exciting era of alternative-weighting in indexing.

The S&P 500 EWI is unique in that its methodology is defined not by factors like other alternatively weighted indices. In an equal weighted index, the weight of each stock is one divided by the total number of components in the index—making the index factor indifferent. It randomizes factor mispricing, making the index an attractive option for proponents of the theory that the market is inefficient and at times misprices factors.

In addition to being factor neutral, equal weighting captures another important stock price behavior, the mean-reversion, in a simple way. As an equal weight portfolio is often rebalanced periodically, it is in effect buying low and selling high, which benefits automatically from the short-term mean-reversion.

Besides, equal weighting represents a choice of portfolio construction in which the constituent weightings are not correlated with their expected returns. This makes the index a sensible performance benchmark in the alternative space.

By the end of February 2013, ETF assets linked to the index and related equal weighted sector indices reached USD 4.46 billion.

The S&P 500 EWI is composed of the same stocks as the market cap weighted S&P 500.

PROPERTIES OF THE S&P 500 EQUAL WEIGHT INDEX

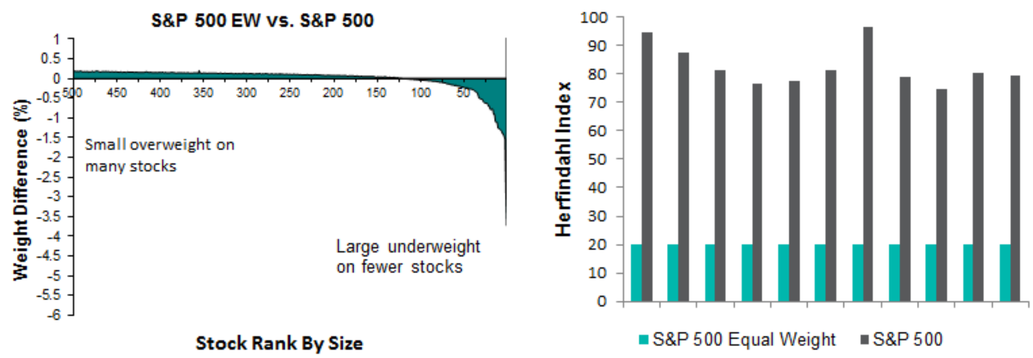
Due to the nature of equal weighting, the S&P 500 EWI differs from the market cap weighted S&P 500 in several ways.

- ***Small-cap biased***: The S&P 500 EWI tends to overweight small-cap stocks, so it has a lower stock concentration than the S&P 500 (Exhibit 1).
- ***Different sector exposure:*** As the sector weights in the S&P 500 EWI are only determined by the number of stocks in each sector, at any time, the S&P 500 EWI will have different sector exposure than the S&P 500. For example, the S&P 500 EWI has been consistently overweight materials, consumer discretionary and utilities, and underweight energy, health care and telecommunication services relative to the S&P 500 (Exhibit 2).
- ***Higher index turnover:*** An equal weight index tends to have a higher turnover due to the quarterly rebalancing of weights back to equal weights. In the past 10 years ended in 2012, the average annual turnover for the S&P 500 EWI was 24.7%, much higher than the S&P 500's turnover of 6.3%. This is, however, still within a reasonable range for alternatively weighted indices and certainly much lower than the turnover for most actively managed portfolios, which tend to be in the 50%-100% range.

▪ ***Higher capacity & liquidity constraints:*** Since all the constituents in an equal weighted index are held at equal weights regardless of their market cap, an investment product tied to the index will have relatively large holdings in the smallest stocks in the index, which could produce capacity and liquidity pressures. While true in abstract theory, neither is a serious hurdle in practice for the S&P 500 EWI. Assume for each stock in the S&P 500 EWI, maximum 10% of its outstanding shares could be held in products linked to the index without resulting in capacity issues. As of year-end 2012, the smallest stock had a market cap of USD 1.65 billion, which means the capacity for the products linked to the index can reach USD 82.4 billion. However, there were less than USD 10 billion in assets linked to the S&P 500 EWI as of year-end 2012. Similarly, assume trading at the level of three-month average daily value traded each day will not negatively affect stock liquidity. The maximum daily turnover supported by the S&P 500 EWI then could reach USD 6.1 billion based on the data as of December 21, 2012.

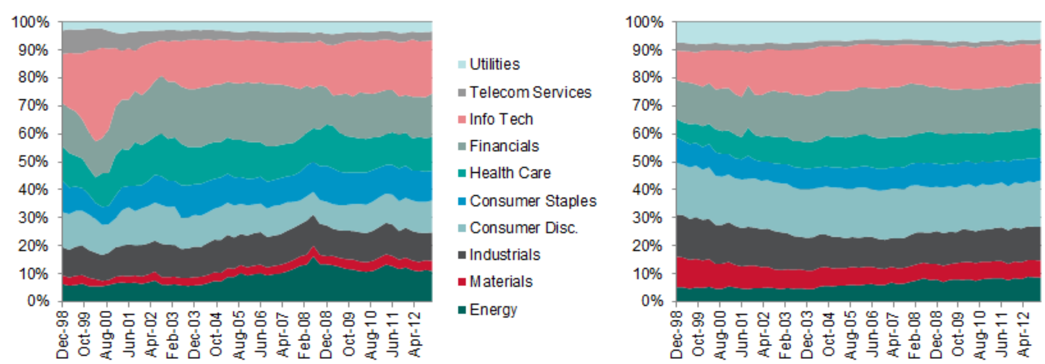
The S&P 500 Equal Weight Index exhibits unique properties compared to the S&P 500.

Exhibit 1: Difference in Constituent Weights between the S&P 500 EWI and S&P 500



Source: S&P Dow Jones Indices. Data as of December 31, 2012. Charts are provided for illustrative purposes.

Exhibit 2: Sector Breakdown of S&P 500 EWI vs. S&P 500

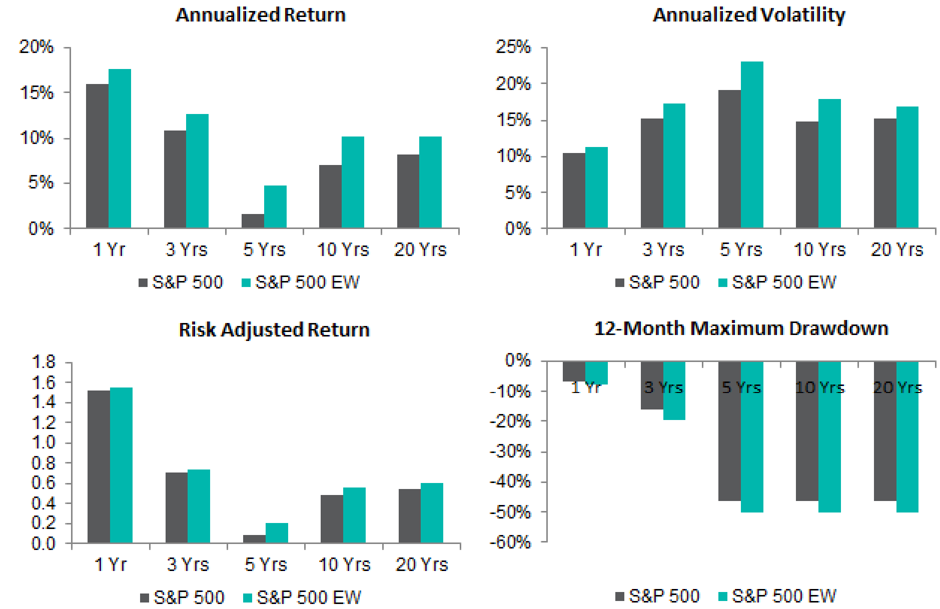


Source: S&P Dow Jones Indices. Data as of December 31, 2012. Charts are provided for illustrative purposes

PERFORMANCE OF THE S&P 500 EQUAL WEIGHT INDEX

In the past 20 years ended 2012, the S&P 500 EWI had outperformed the S&P 500 by a compounded average of 2.0% annually. However, the level of out- or underperformance had varied considerably over time in line with different market cycles. For instance, the S&P 500 EWI outperformed the S&P 500 in the early 1990s but lagged behind for six straight years from 1994 through 1999, with significant underperformance during the technology bubble of the late 1990s. During the market correction from 2000 through 2002, the S&P 500 EWI significantly outperformed the S&P 500 and continued to beat it in the following four years through 2006.

Exhibit 3: Risk & Return Profile of the S&P 500 EWI

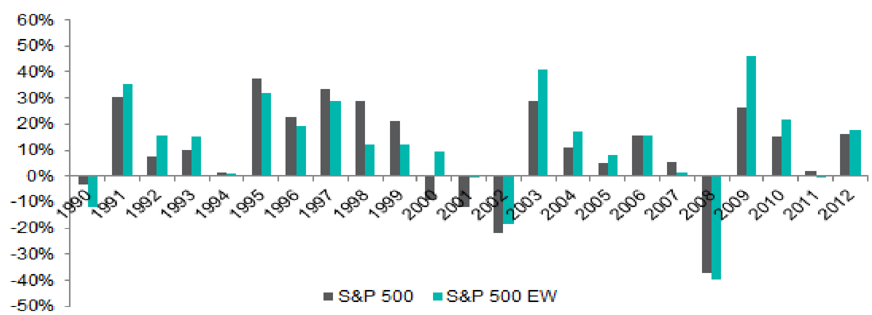


The S&P 500 EWI had better absolute and relative returns over longer investment horizon but with higher volatility.

Source: S&P Dow Jones Indices. Data as of December 31, 2012. Charts and graphs are provided for illustrative purposes only. This graph may reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no indication of future results.

The underweight of the S&P 500 EWI in the IT sector partly explains the under-performance and out-performance of the index during the bubble formation period in late 1990s and the following market correction respectively.

Exhibit 4: Annual Returns of S&P 500 EWI

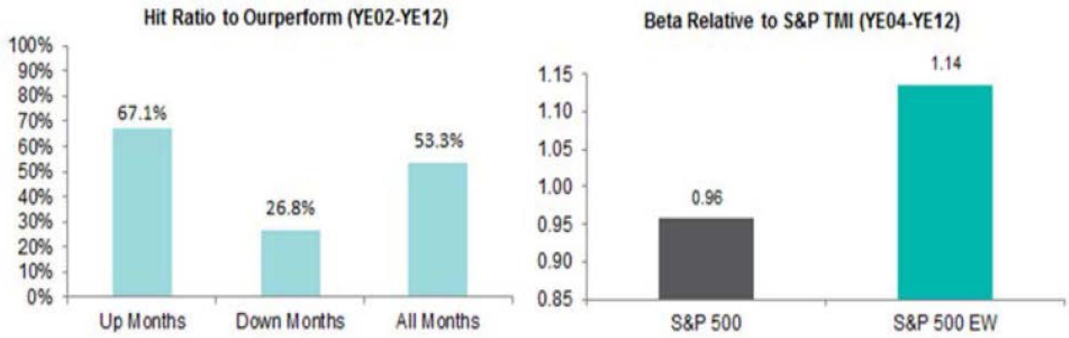


Source: S&P Dow Jones Indices. Data from December 1989 to December 2012. Charts and graphs are provided for illustrative purposes only. This graph may reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no indication of future results.

The excess return of the S&P 500 EWI relative to the S&P 500 has been generated more from up-markets than down-markets. This asymmetric pay-off pattern of outperforming in up-markets and underperforming in down-markets appears to stem from its small-cap bias and high beta feature.

The S&P 500 EWI is small-cap biased with higher market beta compared to the S&P 500.

Exhibit 5: Beta and Percentage of Months that the S&P 500 EWI Beat the S&P 500

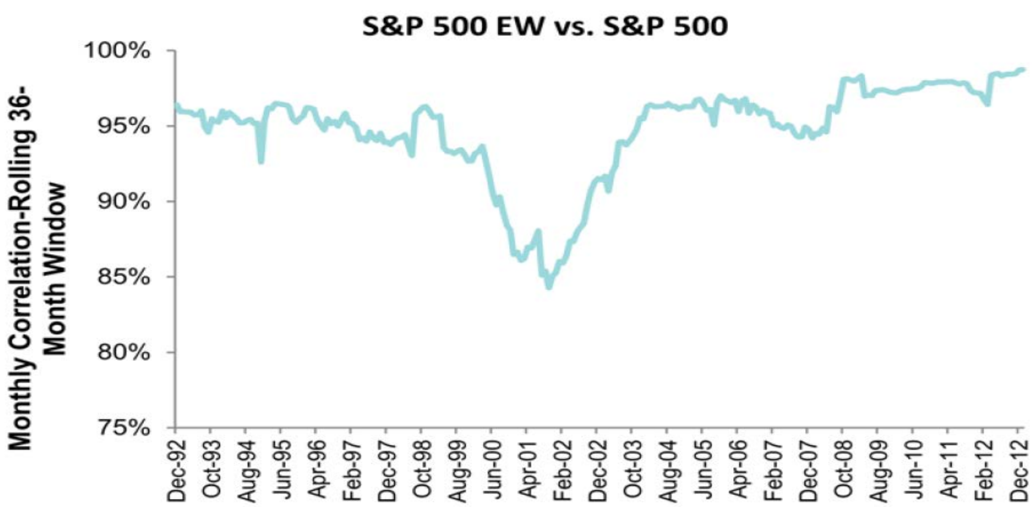


Source: S&P Dow Jones Indices. Hit ratio is calculated as the percentage of months over the period tested in which the S&P 500 EWI outperformed the S&P 500. Index Data related to hit ratio are from December 31, 2002 to December 31, 2012. Data related to beta are from December 31, 2004, to December 31, 2012. The S&P TMI stands for the S&P Total Market Index. Charts and graphs are provided for illustrative purposes only. Past performance is no indication of future results.

With small-cap bias, it is not surprising that the S&P 500 EWI had higher volatility than the S&P 500 historically.

The correlation between the S&P 500 EWI and the S&P 500, as measured by rolling 36 monthly returns in Exhibit 6, has, for the most part, consistently stayed between 95%-99%. The major exception to this was the technology bubble of the late 1990s and the following correction, in which the correlation was much lower.

Exhibit 6: Correlation between the S&P 500 EWI and S&P 500

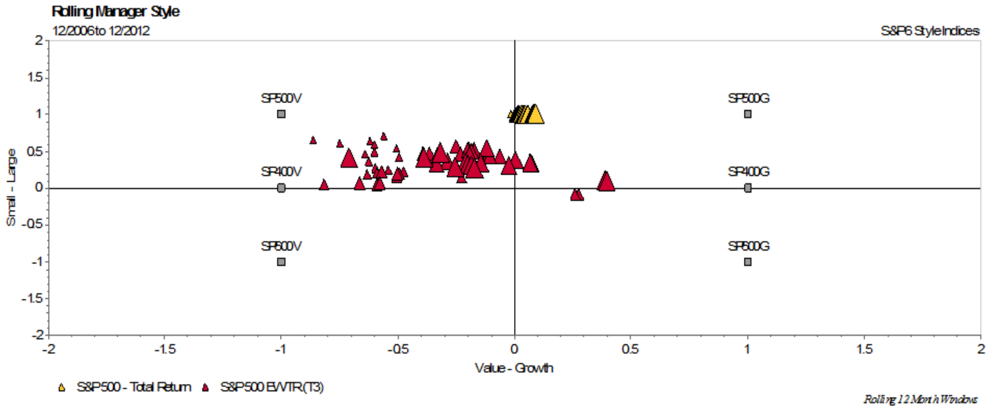


Source: S&P Dow Jones Indices. Data are from December 31, 1992 through December 31, 2012. Charts and graphs are provided for illustrative purposes only. This graph may reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Past performance is no indication of future results.

STYLE AND FACTOR EXPOSURE OF THE S&P 500 EWI INDEX

In most of the periods over the past six years, the S&P 500 EWI had been both small-cap and value-biased relative to the S&P 500 (Exhibit 7).

Exhibit 7: Style Map of S&P 500 EWI



Source: Source: Source: S&P Dow Jones Indices, Factset. Data calculated from December 31, 2006, through December 31, 2012, on Factset SP2 platform. Larger triangles show more recent time periods. Charts and graphs are provided for illustrative purposes only. Past performance is no indication of future results.

A complex and dynamic combination of size and style risk factors has contributed to the risk and return of the S&P 500 EWI.

CONCLUSION

Often the most powerful investment ideas are simple. Ten years ago, the S&P 500 EWI pioneered equal weighted indexing. This simple investment concept has now expanded in the U.S. into the S&P 100, a mega-cap index, S&P MidCap 400® and S&P SmallCap 600®, as well as international equities and other asset classes such as fixed income indices and commodity indices. It has become one of the most popular alternatively-weighted investment ideas.

Performance Disclosure

The S&P 500 Equal Weight Index and S&P 500 were launched on January 8 2003 and in 1957 respectively. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect on the launch date. Complete index methodology details are available at www.spdji.com.

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