RESEARCH SPOTLIGHT

MSCI FACTOR INDEXES IN PERSPECTIVE: INSIGHTS FROM 40 YEARS OF DATA

EXPANDING FACTOR INDEX HISTORY TO 40 YEARS

Until recently, MSCI had calculated 25 years of simulated history for its factor indexes. A deeper history, however, can provide a richer data set, covering more market regimes, political events, and market shocks. In this study, we extend the simulated history to 40 years, providing new insights into the behavior of factor indexes over various time periods. We also use IndexMetrics, one of MSCI's analytical framework tools, to investigate key characteristics of factor indexes, such as risk, return, liquidity, investability and turnover cost. This deep history of factor indexes, combined with IndexMetric's analytical capabilities, can provide investors with sharper tools for creating and analyzing portfolios.

KEY FINDINGS

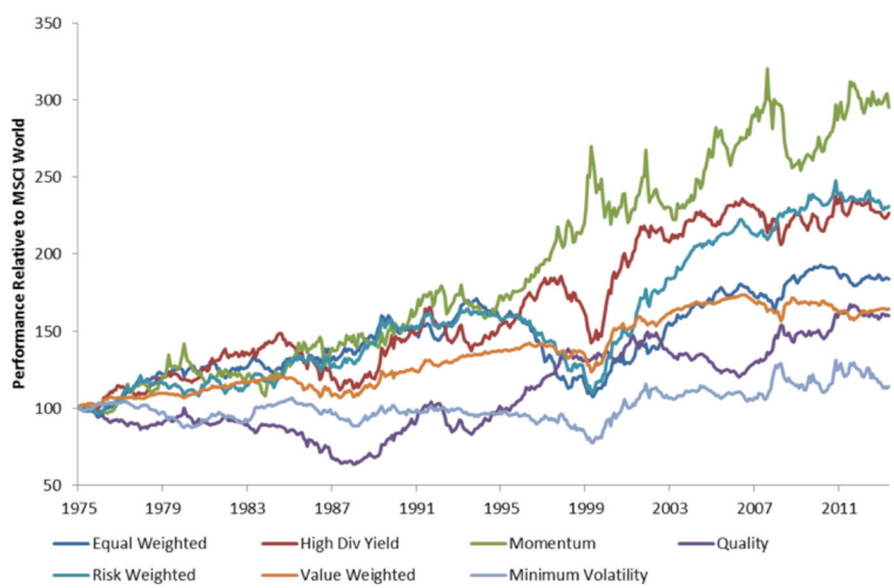
- Factor Index performance has been persistent during the 40 year history, with increasing outperformance in the past decade
- Sub-periods of factor underperformance can be analyzed in light of unique history
- Combining factor indexes can reduce transaction costs by 'natural crossing' of constituents from one index to another
- The 40-year history, combined with the new IndexMetrics framework, allows investors to customize factor investing strategies

MSCI FACTOR INDEXES CAPTURE RISK PREMIA

MSCI has identified six risk premia factors with proven results: Value, Low Size, Low Volatility, High Dividend Yield, Quality and Momentum. Based on academic findings, these factors have historically provided risk premia. From 2006 to 2013, MSCI created seven factor indexes based on these six factors (with two indexes for Low Volatility: the Minimum Volatility index and the Risk Weighted index).

With the introduction of each factor index, MSCI provided simulated history back to 1988—about 25 years of constituent data. We now integrate Barra's risk-factor model into MSCI's granular security data, providing an additional 15 years of history. Forty years of data captures the performance of these factors in 'untested' periods; for example, the crash of 1987 and the high inflation of the 1970s. Compared to other data sets in the marketplace, 40 years of history for factor indexes is unique.

EXHIBIT 1: MSCI FACTOR INDEXES PERFORMANCE RELATIVE TO THE MSCI WORLD INDEX.



In previous papers, MSCI factor indexes exhibited higher absolute returns compared to their parent index (findings based on 25 years of data). Do we see similar risk-adjusted performance when looking across 40 years? Exhibit 1 shows persistent performance from November 1975 to March 2014, with all factor indexes outperforming their parent index (the MSCI World index) during the new 40-year horizon.

While long-term outperformance persists during 40 years, we see sub-periods where factor indexes lag their parent indexes. For example, the Quality index experienced long but slow underperformance from 1980 to 1988. Similarly, the Risk Weighted and Equal Weighted (Size) indexes saw shorter but steeper underperformance during the dot-com bubble of the 1990s.

Factor indexes sometimes reacted in opposite directions during certain sub-periods. For example, the Momentum factor index was negatively correlated to other factor indexes, particularly in the run-up to the dot-com bubble's March 2000 peak. By comparison, the Value and Minimum Volatility indexes show the smoothest growth over time compared with other factor indexes.

WITH DEEPER HISTORY COMES NEW INSIGHTS

A longer data set reveals differences in factor index behavior. For example, Quality was the best-performing factor index for the 25-years ending 2014. However, during 1975-2014, the Quality index outperformed only the Minimum Volatility index. This was driven by the Quality index underperforming from 1975 to 1987.

As money flows into factor index-based funds, some premia may shrink and disappear, while other factor index funds may not have a capacity issue. However, when we combine all seven MSCI factor indexes (equally weighted) since 1975, we see that performance has not diminished during 40 years (see Exhibit 2).

ANALYZING FACTOR INDEX BEHAVIOR WITH INDEXMETRICS

PERFORMANCE

Looking at the past 40 years, IndexMetrics finds that all MSCI World Factor indexes outperformed their parent index on both an absolute and risk-adjusted basis.

VALUATIONS

IndexMetrics offers valuation metrics to compare the current environment to historical patterns, which may help in designing investment strategies.

EXPOSURES

IndexMetrics compares current exposure values to the average and historical ranges, providing insight into the behavior of each factor index across time.

INVESTABILITY

In designing the MSCI factor indexes, key parameters included turnover, capacity and liquidity. While these indexes may be replicated by high capacity index-tracking funds, they are not a replacement for market cap indexes.

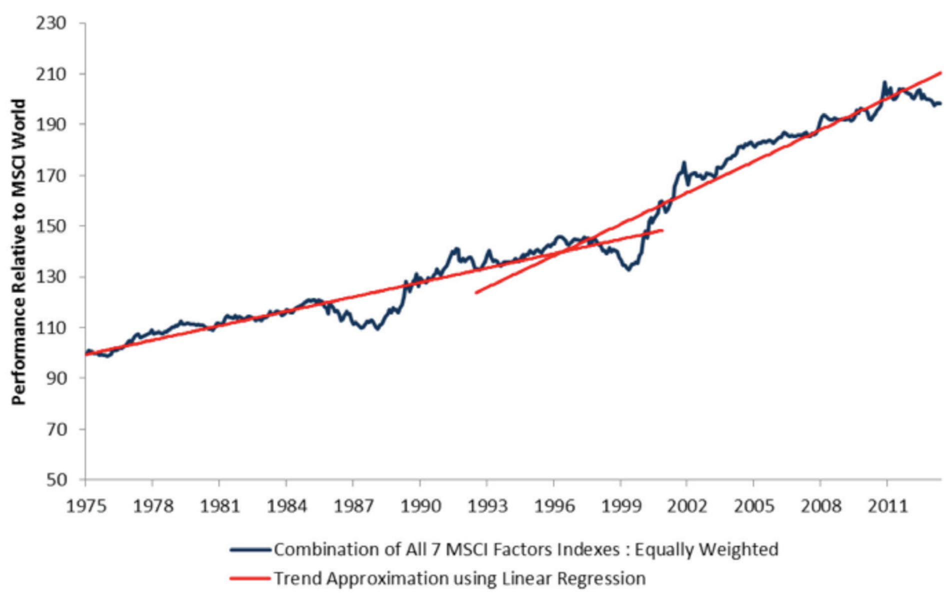
LIQUIDITY METRICS AND COST OF REPLICATION

IndexMetrics uses the Annual Traded Value Ratio (ATVR) as a key measure of liquidity. We find turnover cost provides a proxy for the cost of replication. From 1975 to 2014, IndexMetrics sees the market cap weighted parent index having very low turnover, while factor index funds all demonstrate higher turnover.

BENEFITS OF CREATING MULTI-FACTOR INDEXES

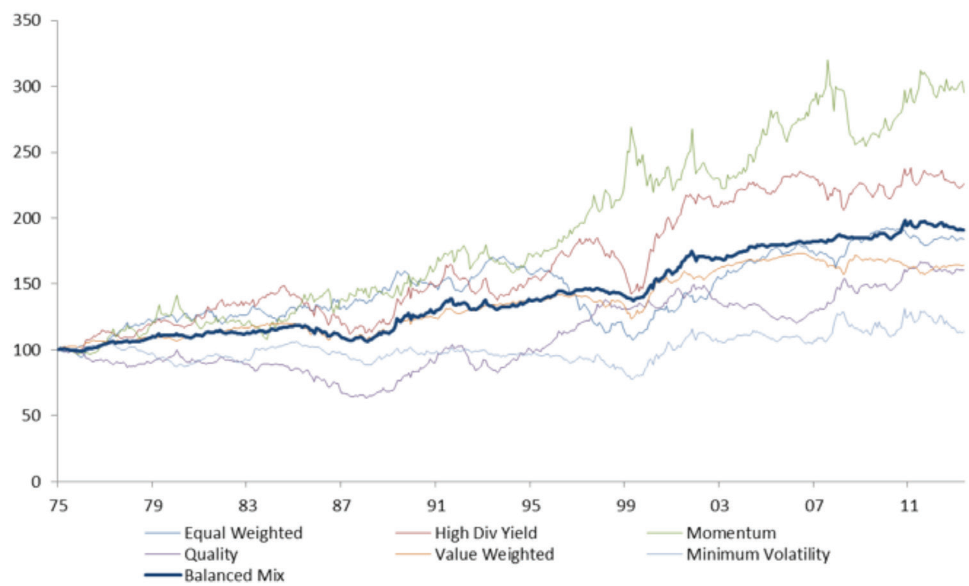
Investors may choose any factor index as a strategic overlay to passive market cap investments, or rotate different factor index funds, based on market timing decisions. However, the cyclical nature of these factors can create a long drag on portfolio performance. Different factors may move in opposite directions in the short-term. Historical variation in performance may suggest combining factors to create a smoother ride.

EXHIBIT 2: SUSTAINABILITY OF RISK PREMIA SINCE 1975.



While investment beliefs guide the mix of factors, IndexMetrics can fine tune the combinations. This process can be replicated for any MSCI index — global, regional, country, ESG, or even custom indexes.

EXHIBIT 3: HISTORICAL PERFORMANCE OF BALANCED MIX AND ITS UNDERLYING FACTOR INDEXES RELATIVE TO MSCI WORLD



"While investment beliefs guide the mix of factors, IndexMetrics can fine tune the combinations."

Multi-factor indexes can be customized in two ways:

1. Create a multi-factor index using available factor indexes and applying custom weightings (see the Balanced Mix in Exhibit 3); or

2. Apply any factor methodology to an index that does not have standard factor indexes (e.g., MSCI Europe ex UK ex France + Canada) or any available MSCI index (e.g., MSCI World ESG).

CONCLUSION

By offering 40 years of simulated historical data, MSCI provides investors greater insight into the behavior of its factor indexes. We find that risk-adjusted performance has not only been consistent during this long history, but has actually increased during the past ten years. Using the IndexMetrics tool, we can see beyond simple risk and return parameters and gather more detail on performance, valuations, exposures and investability. This deeper data set, combined with the analytical power of IndexMetrics, offers sharper tools to construct new portfolios and apply tilts to existing ones.

If you'd like to read more about any of these subjects, please visit msci.com/resources/research_papers for the full version of this research paper.

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