



MSCI Select Value Momentum Blend Indexes



VALUE



SIZE



MOMENTUM



QUALITY



YIELD



VOLATILITY



GROWTH



LIQUIDITY

Why MSCI Factor Indexes?

A factor is any characteristic that helps explain the long term risk-and-return of an asset. MSCI Factor Indexes are designed to capture the return of factors that have historically demonstrated excess market returns over the long run. They are rulesbased, transparent indexes derived from rigorous academic research and empirical results. MSCI Factor Indexes are designed for simple implementation and replicability.¹

Factor strategies, including value and momentum, have historically outperformed the market over the long term. It is important to note performance has historically been cyclical for factor strategies, meaning these strategies may have

underperformed in the short term due to macroeconomic and market drivers. Some investors approach this challenge by combining factors. Historically, diversification across factors has shortened periods of underperformance.

Value and momentum have exhibited historically low, and often negative, correlation. The MSCI Select Value Momentum Blend Indexes were created for investors who may want to diversify away from a single factor without diluting their exposure to targeted factors.

How six factors have performed relative to each other

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1.5%	-4.5%	-9.6%	56.7%	28.6%	28.4%	31.0%	19.9%	-29.2%	42.0%	18.2%	8.0%	16.7%	32.7%	12.1%	5.8%	10.3%	32.6%	-1.4%	36.7%
1.2%	-8.0%	-9.8%	50.4%	24.1%	17.2%	28.9%	16.8%	-33.5%	41.9%	9.1%	4.8%	16.5%	30.7%	9.0%	4.5%	9.4%	26.6%	-2.4%	28.4%
0.3%	-10.0%	-13.6%	40.1%	21.3%	15.2%	22.1%	11.4%	-37.8%	33.8%	7.2%	4.8%	15.0%	30.3%	7.0%	4.2%	8.9%	26.6%	-5.1%	28.3%
-2.1%	-11.5%	-14.4%	33.8%	20.8%	12.5%	21.8%	10.3%	-39.9%	33.5%	11.4%	4.4%	14.8%	27.7%	5.5%	1.2%	8.9%	23.9%	-6.7%	27.4%
-10.2%	-12.1%	-15.1%	30.5%	20.0%	10.0%	21.2%	9.6%	-40.3%	31.9%	9.3%	-5.0%	14.7%	27.4%	4.6%	-0.3%	8.2%	23.1%	-8.2%	24.5%
-12.5%	-16.5%	-16.5%	26.0%	19.3%	8.5%	20.7%	7.3%	-41.9%	30.8%	12.3%	-5.4%	13.7%	26.5%	4.6%	-1.0%	8.2%	22.9%	-8.5%	24.3%
-12.9%	-19.4%	-19.4%	25.9%	15.2%	8.3%	19.1%	6.4%	-42.4%	17.2%	12.8%	-9.3%	13.3%	22.9%	3.4%	-2.4%	5.1%	19.2%	-11.8%	24.0%
-18.9%	-20.5%	-19.5%	22.0%	12.7%	6.0%	16.8%	6.1%	-42.6%	14.8%	16.5%	-11.0%	8.9%	19.4%	3.3%	-2.7%	4.7%	18.0%	-13.4%	19.8%

- World
- World Enhanced Value
- World Quality
- World Equal Weighed
- World Minimum Volatility (USD)
- World Momentum
- World Growth Target
- World High Dividend Yield

This document contains analysis of historical data, which may include hypothetical, backtested or simulated performance results and is limited to the period indicated. There are frequently material differences between backtested or simulated performance results and actual results subsequently achieved by any investment strategy. Past performance — whether actual, back tested or simulated — is no indication or guarantee of future performance.

Defining value and momentum

Value

Value investing focuses on identifying assets that appear undervalued, meaning the current stock price is less than expected under conservative projections of future earnings.

To determine value, MSCI uses forward earnings and wholefirm valuation measures aimed at reducing concentration in highly leveraged companies and avoiding value traps. Value traps are stocks that appear to be cheap but do not improve in price, and valuation traps, stocks that have done well recently but whose valuations are not supported by fundamentals.

On average, stocks with more attractive valuation profiles outperformed less attractive valuation profile stocks over the two decade period from 1998 to 2020.

Value strategies fall into the "pro-cyclical" category, meaning they have historically outperformed the market when it is rising. In the short term, factor performance has been cyclical and has generated periods of underperformance.

However value, like other factor strategies, has exhibited long term outperformance relative to the market.

Momentum

Momentum attempts to find winning stocks that appear likely to continue performing well in the near term. When measuring momentum, MSCI looks at risk-adjusted excess return – that which exceeds a benchmark – for 6- and 12-month periods.

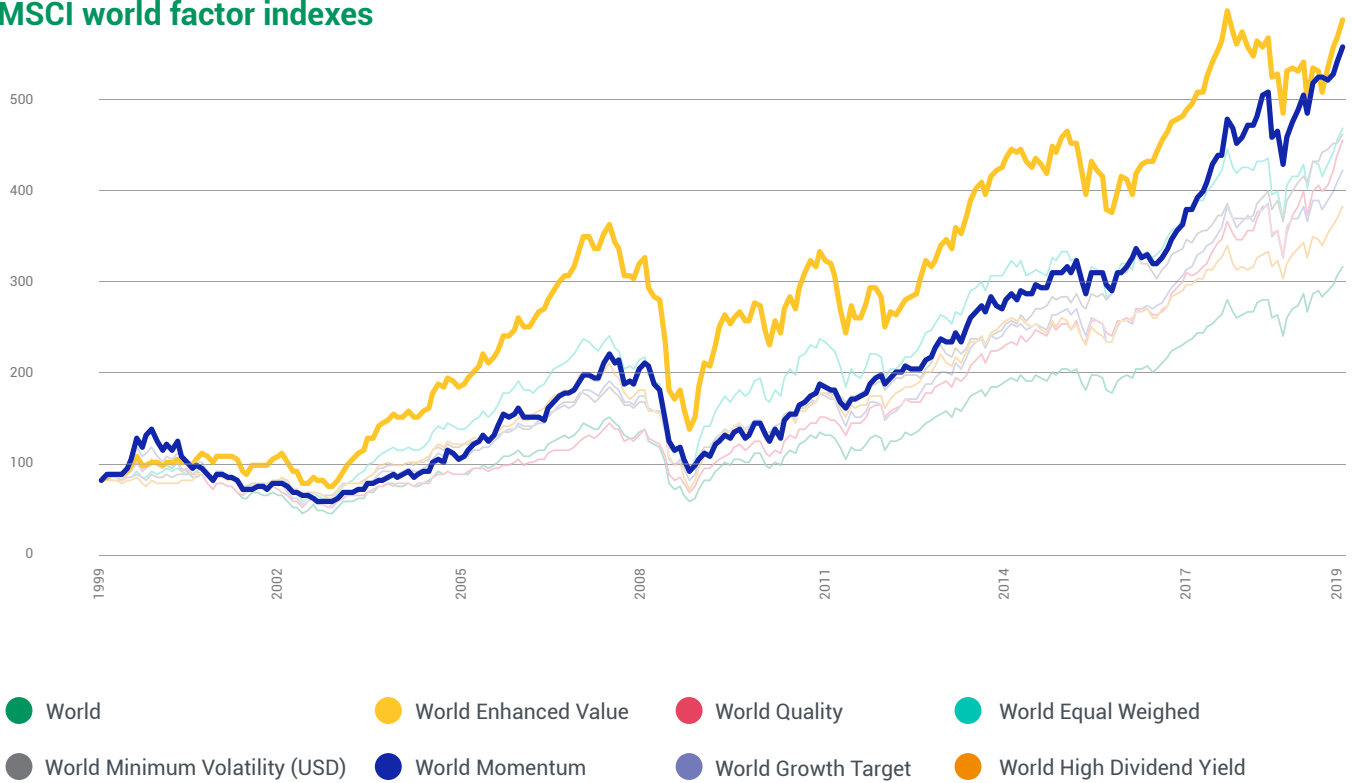
Momentum is a "persistence" factor in that it has historically been driven by sustained market trends. MSCI research shows that Momentum historically has been one of the strongest generators of excess return, outperforming historically during long macro-economic cycles despite sometimes seeing shorter term instability. Over the period 2001-2020, despite a number of momentum crashes, the momentum index recovered swiftly.

The MSCI MSCI Select Value Momentum Blend Indexes were created for investors who may want to diversify away from a single factor without diluting their exposure to targeted factors.

Performance & implementation

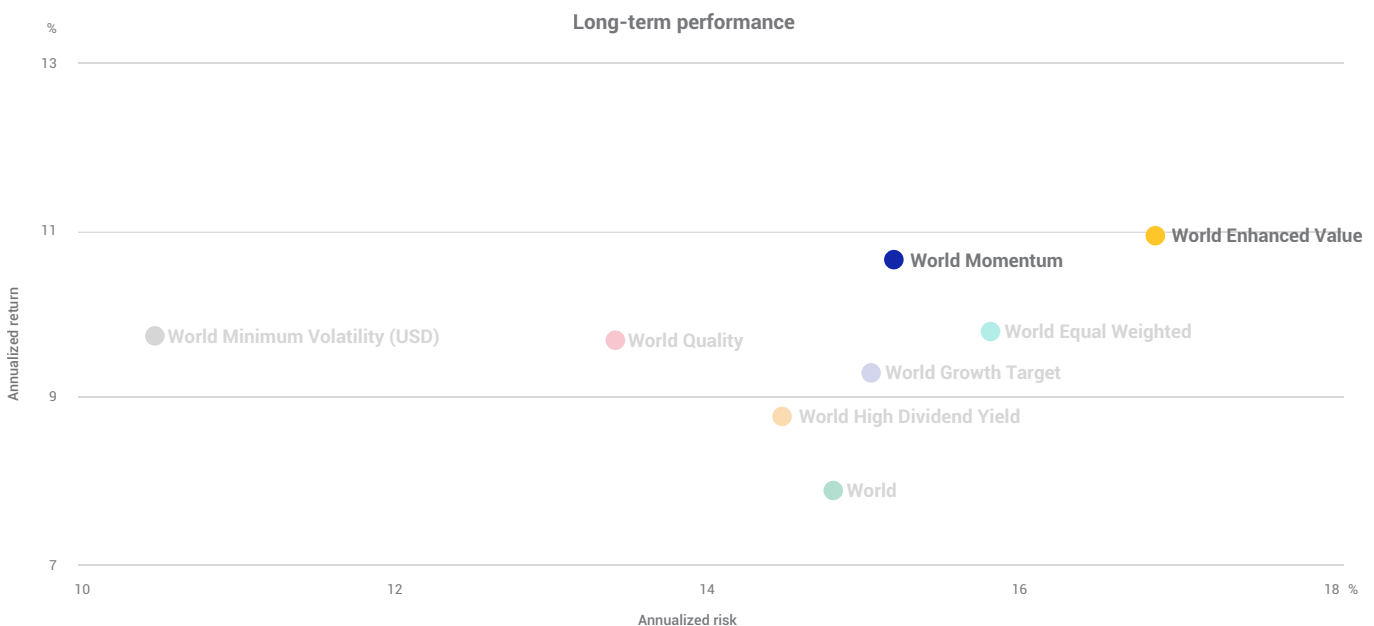
Over time, individual factors have delivered outperformance relative to the market (see chart below).

MSCI world factor indexes



The MSCI World Enhanced Value Index has historically generated excess returns over the long run with a 3.1% annual return over the MSCI World Index since 1999 as represented above.

Long term performance: January 1976 to December 2019



Although factor strategies have exhibited long term outperformance, in the short term factor performance has been cyclical and has generated periods of underperformance.

MSCI Select Value Momentum Blend Index and weighting methodology

A common method of constructing indexes with multiple factors is a 'top-down' approach. This simple approach blends individual factor indexes at the desired allocation weights.

Advantages include transparency and flexibility in adjusting factor exposures. However, when the top-down approach is applied with indexes that contain value and momentum, one drawback is the canceling out of factor exposures.

Value stocks can be categorized as "cheap" because they have fallen amid uncertainty about future earnings. These stocks exhibit positive value exposure, but negative momentum exposure due to falling stock prices. Conversely, stocks that have gone up recently could be expensive relative to their valuations. These stocks have positive momentum exposure, but negative value exposure. A key challenge in constructing an index with high exposure to both value and momentum is avoiding value traps, stocks that appear to be cheap but do not improve in price, and valuation traps, stocks that have done well recently but whose valuations are not supported by fundamentals.

The MSCI Select Value Momentum Blend Index aims to address these challenges through two primary methods: the inclusion and weighting of favorable stocks to momentum and value exposures.

The MSCI Select Value Momentum Blend Index methodology uses a composite value-momentum score, based on stocks with the highest sector-relative value scores and stocks with the highest 6- and 12-month risk adjusted performance, to select assets.¹ The top 25% of securities in the parent universe (e.g., MSCI USA Index) are included based on the composite value-momentum score. Stocks that score well on one measure only, for example a relatively cheap stock that is falling in price, are less likely to be included in the index.

The securities that are included are assigned weights in the inverse proportion to security level standard deviation. It is important to note that inverse volatility weighting is designed to underweight the largest and most volatile stocks in the parent universe.

The momentum investing style is typically a high-turnover strategy, and is often rebalanced at a monthly or quarterly frequency. As a final step in the construction of the

MSCI Select Value Momentum Blend Index, averaging and buffering rules are implemented to balance index turnover and exposure to targeted factors. Index averaging allows more frequent constituent selection and re-weighting, while aiming to preserve the lower turnover associated with semi-annual rebalancing. In addition, a buffering rule limits adding or removing stocks whose composite value-momentum score has changed minimally since the previous rebalance.²

The following exhibits highlight the past performance of the stock selection and stock weighting methodology in the index. Exhibits 1 and 2 show simulated performance of the standalone value and momentum factor indexes, in addition to the combinations. Compared to the simple factor combination, the MSCI Select Value Momentum Blend Index had a higher active return than the broad-based MSCI USA Index, but a higher tracking error. The simulation covers the period from May 1999 to June 2020, which includes a number of momentum "crashes" and the recent extended period of flat performance value investors endured.

Key metrics: May 31, 1999 to Jun 30, 2020

	MSCI USA Index	MSCI USA Momentum Index	MSCI USA Enhanced Value Index	Simple Combination	MSCI USA Select Value Momentum Blend Index
Total return* (%)	6.1	9.4	7.4	8.5	8.0
Total risk (%)	15.1	15.7	17.2	15.6	15.4
Return / risk	0.40	0.60	0.43	0.55	0.52
Sharpe ratio	0.29	0.49	0.33	0.44	0.41
Active return (%)	0.0	3.2	1.3	2.4	1.9
Tracking error (%)	0.0	7.8	6.1	4.4	5.9
Information Ratio		0.41	0.21	0.55	0.32
Historical beta	1.00	0.90	1.07	0.99	0.94
Number of constituents***	553	123	148	245	174
Turnover** (%)	2.8	90.0	28.4	56.7	36.3
Price to book***	2.8	3.8	1.6	2.3	1.8
Price to earnings***	19.8	23.0	14.6	17.9	16.4
Dividend yield*** (%)	1.9	1.4	2.3	1.8	1.8

Period: May 31, 1999 to Jun 30, 2020. * Gross returns annualized in USD ** Annualized one-way index turnover over index reviews *** Monthly averages

* Gross returns annualized in USD

** Annualized one-way index turnover over index reviews

*** Monthly averages

Exhibit 2 - Active return to MSCI USA: 1999 - 2020

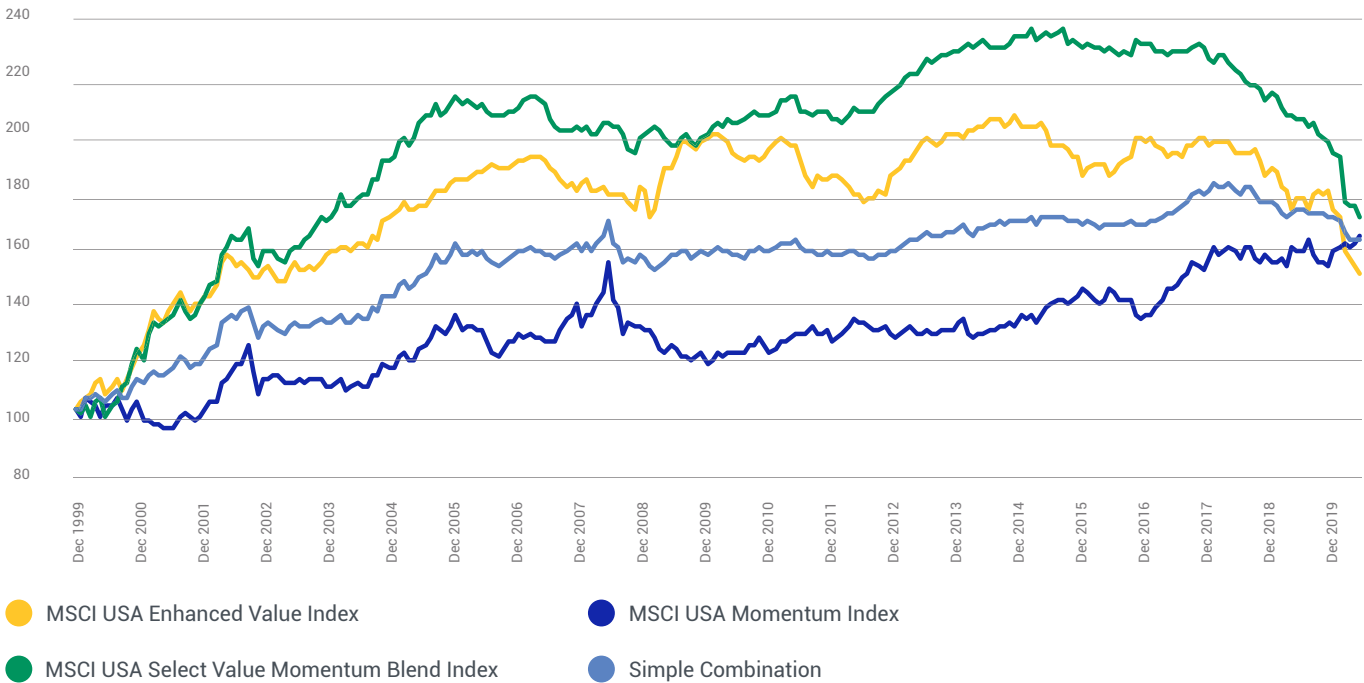


Exhibit 3 highlights the stock selection and weighting on the exposure to value and momentum. Compared to a simple combination, the Select Value Momentum Blend Index had exposure similar to the momentum factor, but a considerably higher exposure to the value factor.³ Note that the exposures for the standalone factor indexes showed the expected positive exposure to the targeted factor, yet negative exposure to the other.

Exhibit 3 - Active Exposure: 1999 - 2020

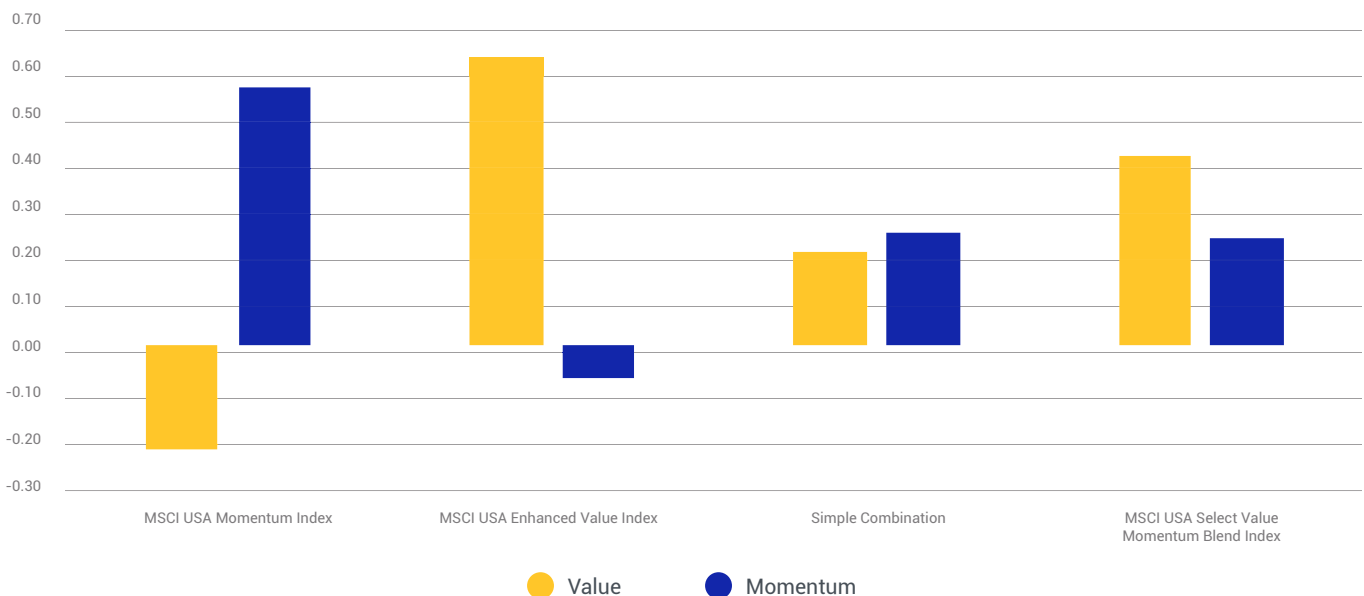


Exhibit 4 provides further insight into the index construction by segregating the assets in the parent universe, the MSCI USA Index, simple combination, and the MSCI Select Value Momentum Blend Index into four quadrants:

Quadrant 1

High momentum and high value:

Contains stocks that have risen in price and that are relatively cheap to other stocks. The MSCI USA Select Value Momentum Blend Index methodology favors this quadrant as seen in the chart.

Quadrant 2

High momentum and low value:

Contains stocks that are potential valuation traps – they have risen in price but are relatively expensive.

Quadrant 3

Low momentum and low value:

Contains stocks that have fallen in price but are expensive. This is the least-favored quadrant.

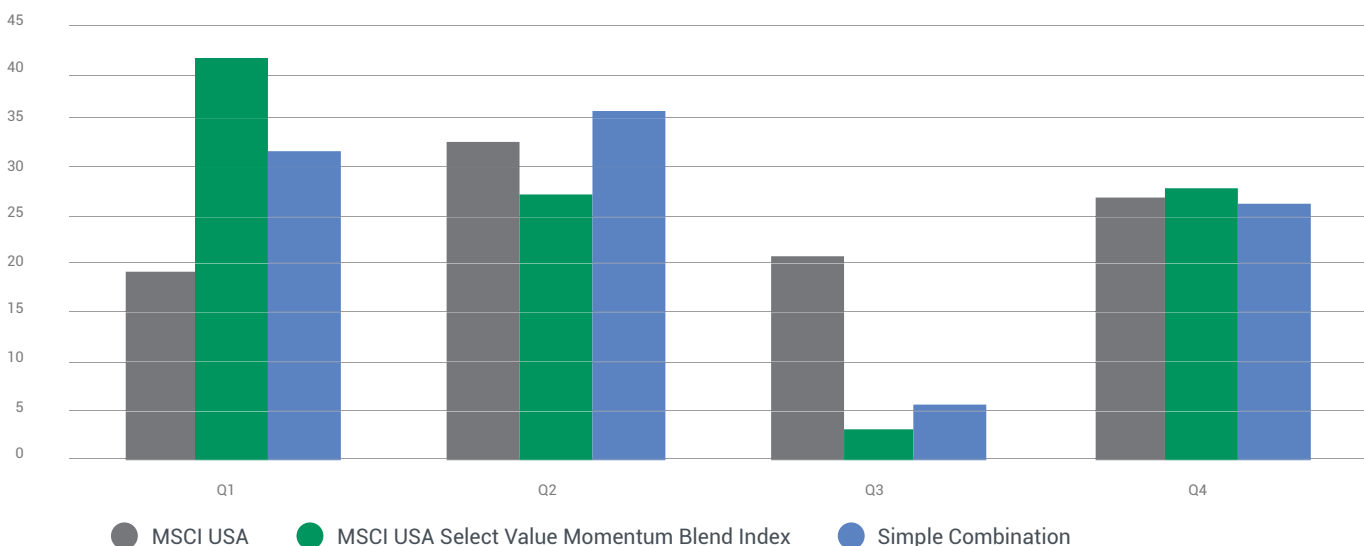
Quadrant 4

Low momentum and high value:

Contains stocks that are potential value traps - they have fallen in price but are relatively cheap.

There are several observations from Exhibit 4. First, the broad MSCI USA Index universe is approximately evenly distributed amongst the four quadrants. Second, both combination indexes overweight Quadrant 1 and underweight Quadrant 3, as designed. Secondly, the MSCI Select Value Momentum Blend Index had a lower weight in Quadrant 2. Lastly, both combination approaches had weights similar to the benchmark in Quadrant 4.

Exhibit 4 - Weights to Value/Momentum quadrants: 1999 - 2020



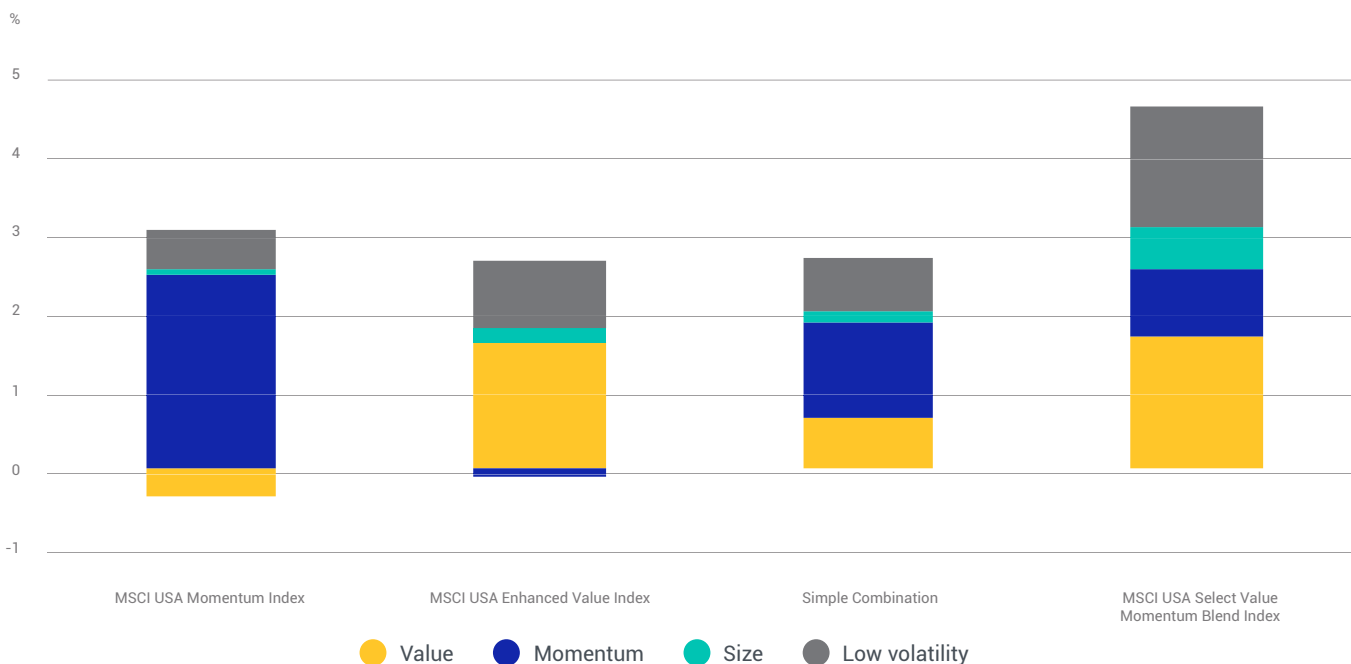
We use performance attribution to quantify the effects of stock inclusion and weighting on performance. Note that the stock inclusion criteria tilts the index toward the value and momentum factors, and the inverse volatility weighting tilts the index toward the size factor and away from the volatility factor.

We can make some key observations from Exhibit 5. First is that the return from the value factor was considerably higher in the MSCI Select Value Momentum Blend Index than in the simple combination.

Second, the positive contributions from the low size and low volatility factors were similar to the contributions

from the value and momentum factors. It is important to note that the size and volatility factors are themselves cyclical, and can detract from performance. High risk stocks, for example, did relatively well during the risk-on regime in early 2009 that followed the depths of the financial crisis.

Exhibit 5 - Return from targeted factors: 1999 - 2020



The MSCI Select Value Momentum Blend Index methodology uses a composite value-momentum score, based on stocks with the highest sector-relative value scores and stocks with the highest 6- and 12-month risk adjusted performance, to select assets.

Conclusion

Value and momentum factors are frequently combined, because they've historically had a low and often negative correlation which offset the cyclical nature of the factors.

The MSCI Select Value Momentum Blend Index is designed to address some of the challenges of constructing an index with high exposure to value and momentum – diversification and maintaining factor exposure.

MSCI has developed this index with stock selection and weighting techniques that aim to avoid value traps, and maintain targeted exposure to the value and momentum factors.

Footnotes

- 1 The Value-Momentum score is computed as an equal weighted combination of the sector relative Value Z-Score and sector relative Momentum Z-Score
- 2 Two additional rules are applied depending on the parent universe. A liquidity filter is applied to indexes derived from the MSCI Emerging Markets (EM) and MSCI USA Small Cap Indexes to screen out securities with low liquidity, as measured by the twelve month annualized traded value of a stock. For indexes derived from the MSCI World ex-USA and MSCI EM Indexes, regional overweights are capped at 5%
- 3 The MSCI Long-Term Global Equity Model is used for factor exposures. The value factor is a composite of stock-level book to price, earnings yield and mean reversion attributes. The momentum factor is a composite of six-month and twelve-month stock-level returns



Learn more about Factor Investing at
www.msci.com/factor-investing

About MSCI Inc.

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

The information contained herein (the "Information") may not be reproduced or disseminated in whole or in part without prior written permission from MSCI. The Information may not be used to verify or correct other data, to create indexes, risk models, or analytics, or in connection with issuing, offering, sponsoring, managing or marketing any securities, portfolios, financial products or other investment vehicles. Historical data and analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. None of the Information or MSCI index or other product or service constitutes an offer to buy or sell, or a promotion or recommendation of, any security, financial instrument or product or trading strategy. Further, none of the Information or any MSCI index is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. The Information is provided "as is" and the user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF MSCI INC. OR ANY OF ITS SUBSIDIARIES OR ITS OR THEIR DIRECT OR INDIRECT SUPPLIERS OR ANY THIRD PARTY INVOLVED IN THE MAKING OR COMPILING OF THE INFORMATION (EACH, AN "MSCI PARTY") MAKES ANY WARRANTIES OR REPRESENTATIONS AND, TO THE MAXIMUM EXTENT PERMITTED BY LAW, EACH MSCI PARTY HEREBY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WITHOUT LIMITING ANY OF THE FOREGOING AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL ANY OF THE MSCI PARTIES HAVE ANY LIABILITY REGARDING ANY OF THE INFORMATION FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR ANY OTHER DAMAGES EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited.