Presented by







Moderator Ron DeLegge Founder, ETFguide

## **BLACKROCK**<sup>®</sup>

## **Factor-Based Investing**

## **Robert D. Nestor, CFA**

Head of iShares Strategic Product Segments

FA Magazine November 2016

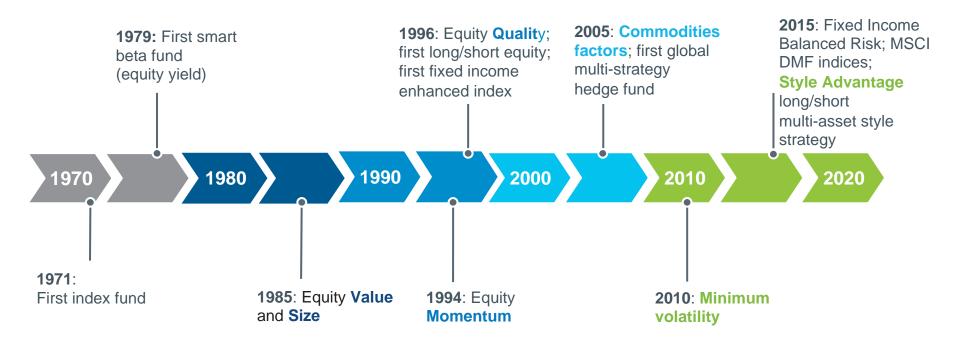
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## Old insights... new technology





## BlackRock's rich heritage of innovation in factor-based investing



Note: Some of the above innovations were developed by predecessor firms

## **Smart Beta – A Different Approach to Investing**



Smart Beta strategies sit at the intersection of active and index investing, incorporating elements of both.

- Generally low cost and transparent like index strategies<sup>\*</sup>
- Can be a source of incremental return or a way to manage risk like traditional active funds
- Can potentially help achieve a desired outcome such as dampening the impact of market volatility or pursuing higher income

\*Smart beta ETFs have an added element of transparency in that holdings are disclosed daily, unlike active mutual funds that typically display holdings only quarterly.

Why factors now?

2

# Investing is harder than ever

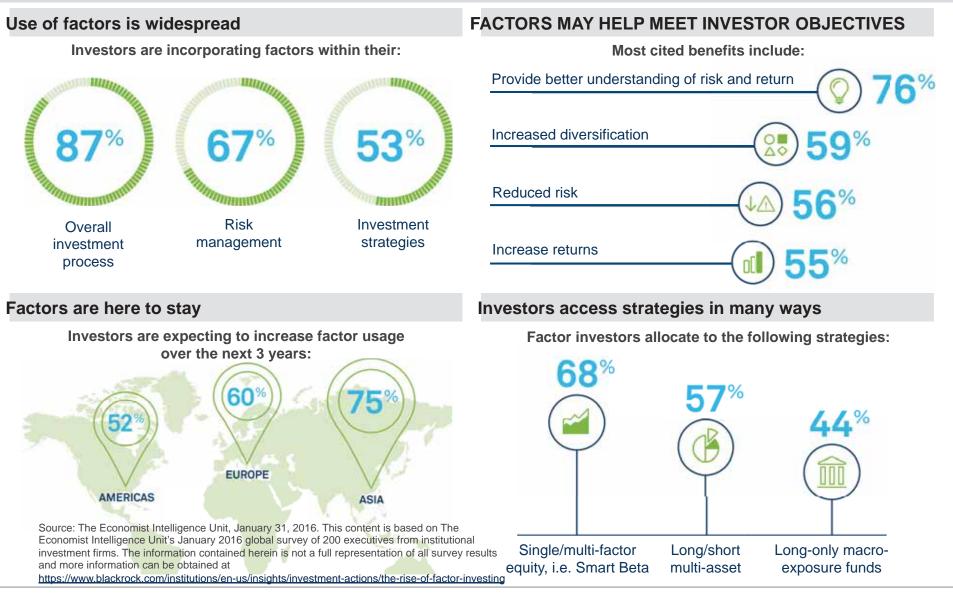


Diversification may fall short

Investment management can be expensive



## EIU research findings revealed factors are an increasingly important tool for institutions



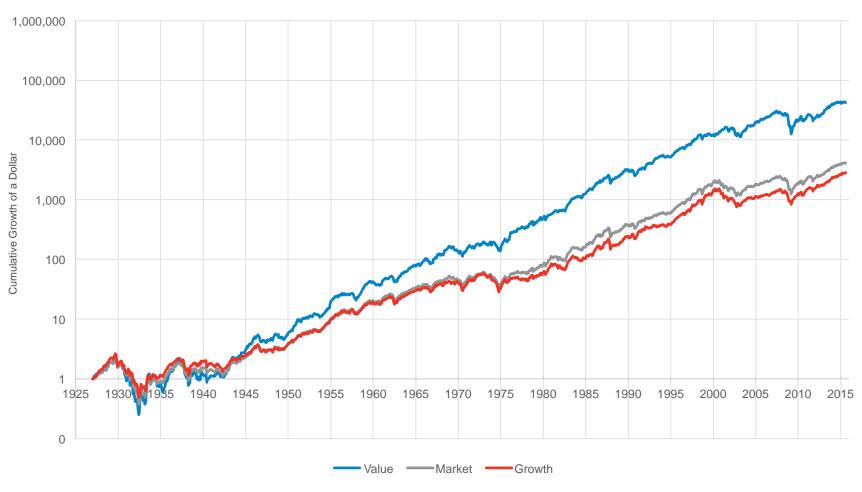
Constit	Constituents of the S&P 500*			<b>&amp;P 500</b> Past 26 ye				
Ś	Apple	3.1%	1400%					
	Microsoft	2.4%	1200%					
EXON	Exxon	1.9%						
JaJ	Johnson & Johnson	1.7%	1000%					
a	Amazon	1.6%	800%			cAGR		
f	Facebook	1.5%	600%		10.0	•		
SB	General Electric	1.5%					V	
Bencome Honovarae	Berkshire Hathaway	1.5%	400%				V	
	AT&T	1.3%	200%					
J.P.Morgan	JP Morgan	1.3%						
Next 490 \$	Stocks	82.2%	0% 1990	1995	2000	2005	2010	2015

\*Source: Bloomberg as of 6/30/2016. Allocations are subject to change.

\*\*Source: S&P Dow Jones Indices. S&P 500 Performance based on total annual return between 1/1/1989 – 12/31/2015. Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.

## **But What if Investors Are Looking for More?**

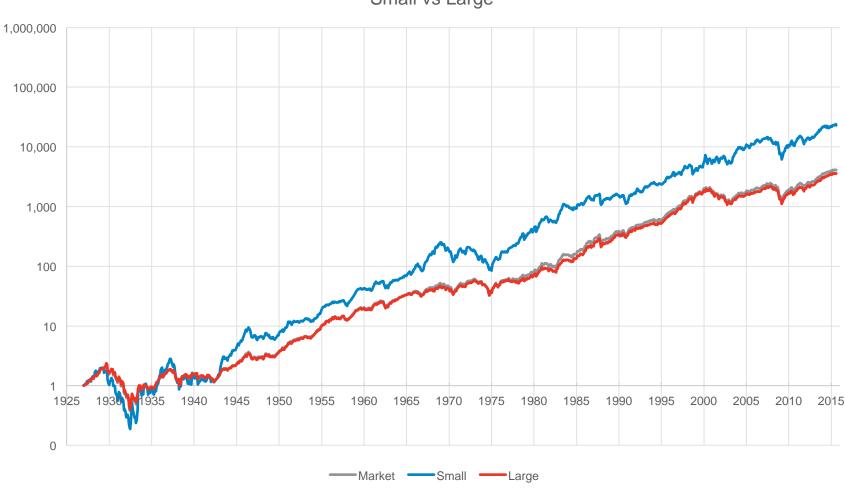




Value vs Growth

Source: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\_library.html

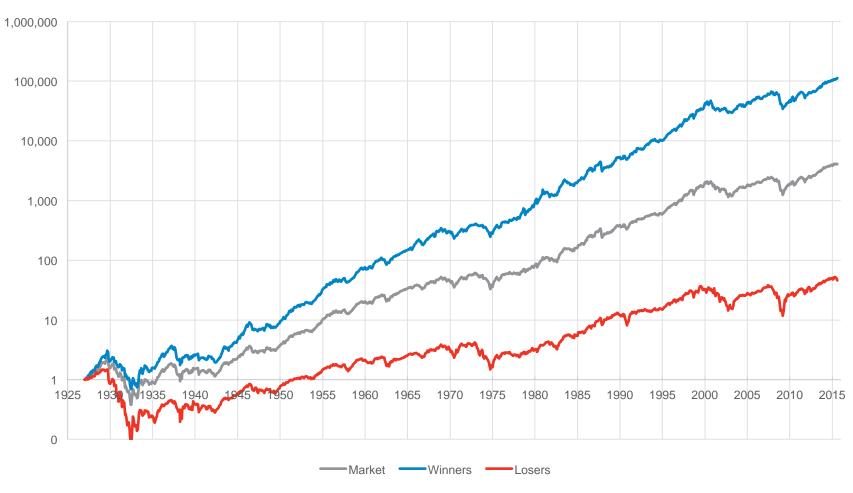
## Small vs. Large



Small vs Large

Source: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\_library.html

## Trending up vs. declining



Winners vs Losers

Source: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\_library.html

## **Cyclicality of smart beta factors**



#### MSCI World single factor index excess returns vs. MSCI World

-16.82	-19.89	33.11	14.72	9.49	20.07	9.04	-40.71	29.99	11.76	-5.54	15.83	26.68	4.94	-0.87	

Source: MSCI as of December 31, 2015. MSCI index methodology resources available at www.msci.com. MSCI World Momentum Index denoted as Momentum; MSCI World Equal Weighted denoted as Size; MSCI World Enhanced Value Index denoted as Value; MSCI World Sector Neutral Quality Index denoted as Quality; MSCI World Minimum Volatility Index denoted as Min Vol. Index returns are for illustrative purposes. Index performance returns do not reflect management fees, transactions costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Index returns prior to the inception date are hypothetical and back-tested index data calculated by the index provider. For additional information, see the Appendix. It is not possible to directly invest in an unmanaged index.

What are Factors and Why Have They Worked?

## **Factor Strategies are Simply Intuitive Screens**



## **These Screens Use Familiar Metrics**

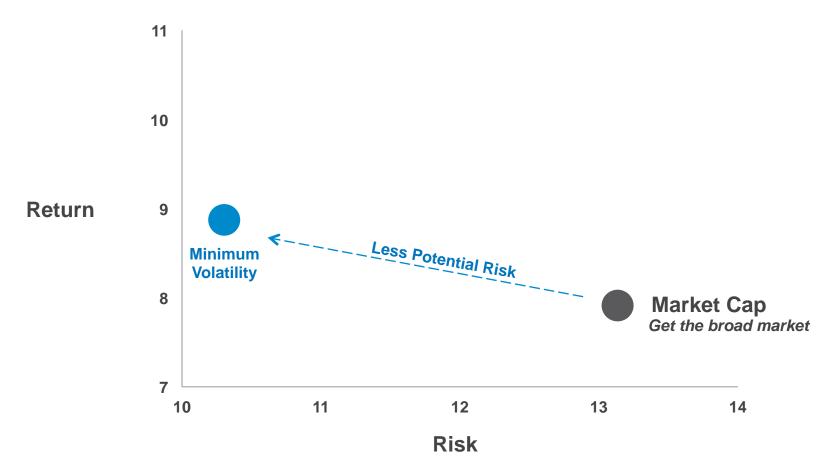
Min Vol	Stock price volatility
Quality	Return on equity Earnings consistency Debt to equity
Value	Price/earnings Price/book Enterprise value / cash flow from operations
Momentum	6 month price momentum 12 month price momentum
Size	Market capitalization

## Why Factors Have Worked....and More importantly, Why They Will Persist

	Rewarded Risk	Structural Impediment	Behavioral Bias
	Earn more for taking on higher risk	Market rules or restrictions make some investments off-limits to certain investors	Not all investors behave rationally all of the time
Min Vol		$\checkmark$	
Quality			
Value	$\checkmark$		
Momentum	$\checkmark$		$\checkmark$
Size			

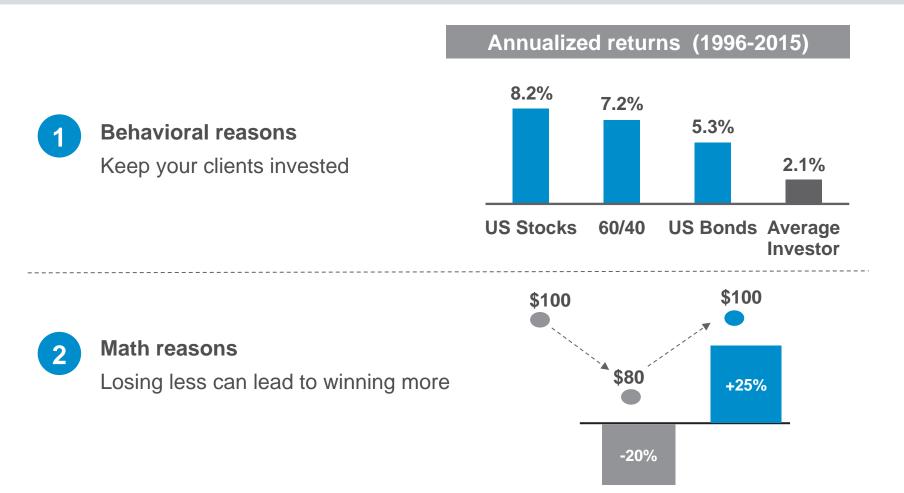
## Minimum Volatility Strategies to Reduce Risk

## What if Investors Are Looking for More?



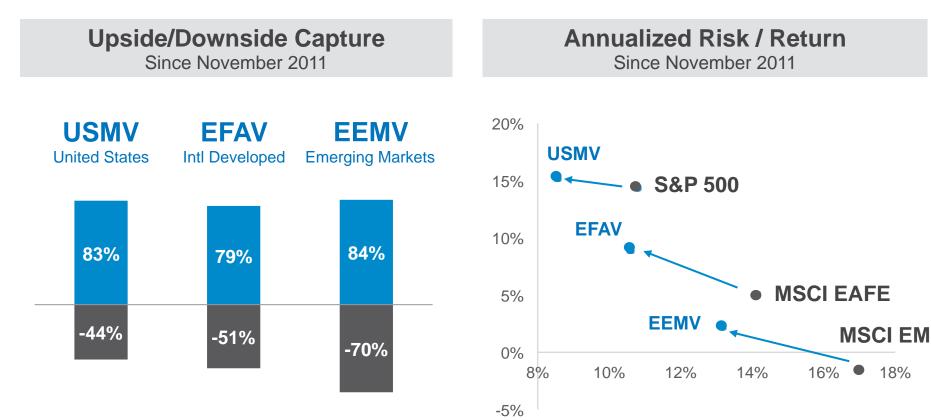
Source: Morningstar as of 6/30/2016 Based on historical rolling 1 year returns of S&P 500 and MSCI USA Minimum Volatility Indexes from 7/1/2001-6/30/2016 Minimum volatility strategies may help reduce losses during declining markets while still experiencing gains during rising markets. There is no guarantee that such outcomes will be achieved. Index returns are for illustrative purposes only and do not represent actual iShares Fund performance. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. This analysis contains back-tested index data. For additional information, see the Appendix.

## Why Minimum Volatility Makes Sense



Sources: BlackRock; Morningstar; Informa Investment Solutions; Dalbar. Returns based on performance between 1/1/1996-12/31/2015. Asset classes represented by the following indexes: US Stocks = S&P 500, 60/40 = balanced portfolio with 60% invested in the S&P 500 Index and 40% invested in the Barclays U.S. Aggregate Bond Index and rebalanced annually, US Bonds = Barclays U.S. Aggregate Bond Index, Average Investor = Dalbar's average asset allocation investor return, which uses data from the Investment Company Institute (ICI), Standard & Poor's and Barclays Index Products to compare mutual fund investor returns to an appropriate set of benchmarks. The study utilizes mutual fund sales, redemptions and exchanges each month as the measure of investor behavior. These behaviors reflect the "average investor." Based on this behavior, the analysis calculates the "average investor return" for various periods. **Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Hypothetical example for illustrative purpose** 

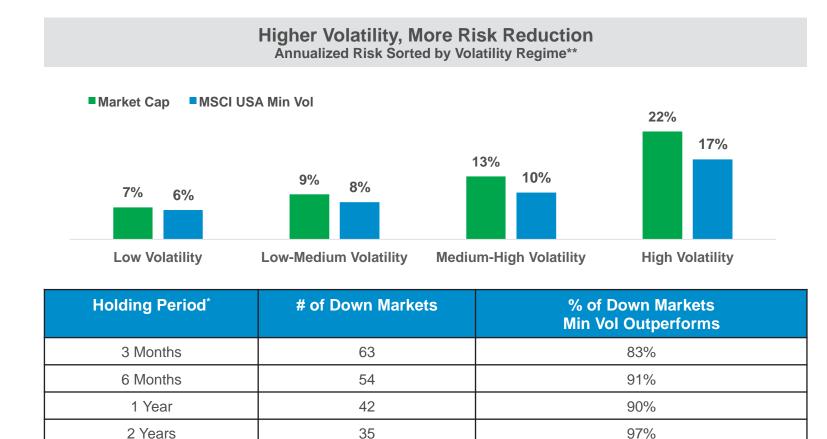
## Min Vol ETFs Have Captured More Upside than Downside



Source: Morningstar. Based on respective iShares Minimum Volatility ETF monthly performance between 11/1/11–6/30/16. Past performance does not guarantee future results. For standardized performance, please see the end of this document.

Source: Morningstar as of 6/30/2016. Based on performance between 11/1/11 - 6/30/16. Annualized risk represented by standard deviation which measures how dispersed returns are around the average. A higher standard deviation indicates that returns are spread out over a larger range of values and thus, more volatile. The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. For standardized performance, please see the end of this document.

## Min Vol Rewards Longer Holder Periods and Reduces Risk When Most Needed



Source: \*MSCI, Blackrock.com. Holding periods are computed using rolling 3 month, 6 month, 1 year, 2 year, and 3 year returns. Based on back-tested index returns of the MSCI Minimum USA Volatility Index from 1/1/2001-6/30/16, relative to the S&P 500 Index. \*\* MSCI and BlackRock, analysis compares the MSCI USA Index with the MSCI USA MinVol index from 1/1/2001-3/31/2016. Monthly returns have been sorted equally by volatility as measured by the VIX. **Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Index returns are for illustrative purposes only. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. For more information, see appendix.** 

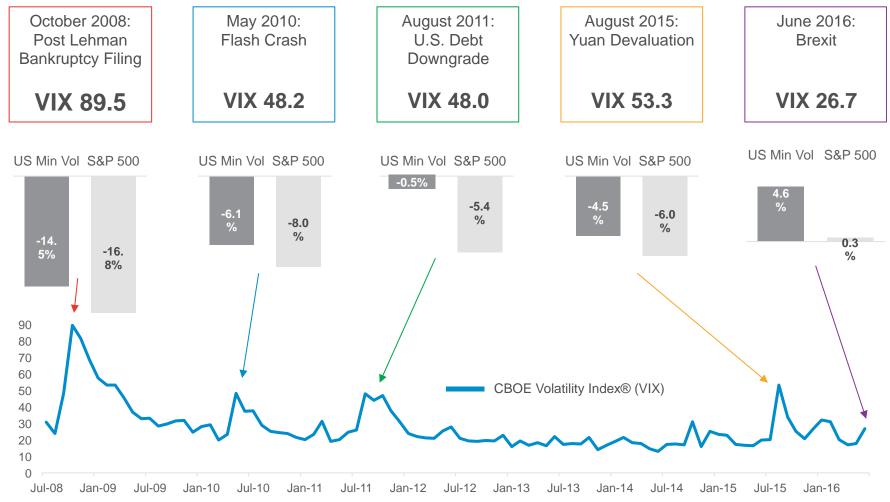
100%

35

## **BLACKROCK**°

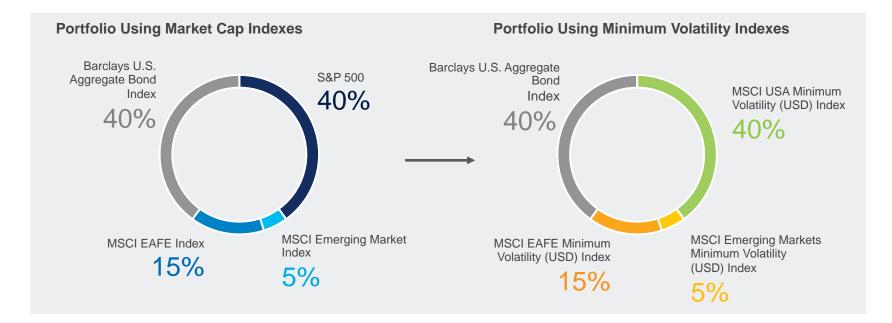
3 Years

#### iShares Minimum Volatility ETFs Min Vol Has Outperformed During Periods of High Volatility



Source: Bloomberg, as of 6/30/16. The CBOE Volatility Index® (VIX®) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. VIX Index Level reflects the highest intraday level reached that month. Index returns are for illustrative purposes only and do not represent actual iShares Fund performance. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.

## Seek to Reduce Volatility with Minimum Volatility Funds at the Core

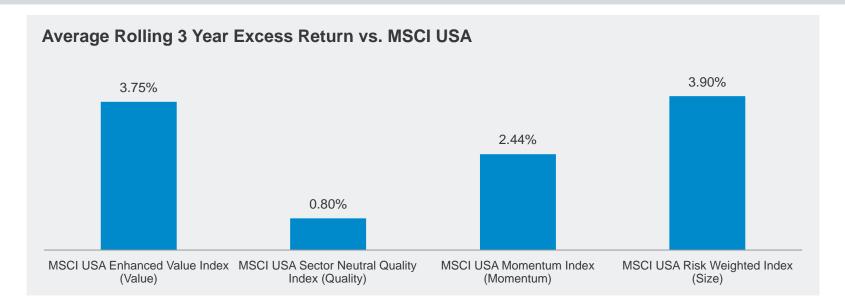


Reflects Period: 12/1/2009 – 6/30/2016 (Since Index Inception)	Market Cap Portfolio	Portfolio With Min Vol Indexes
Annualized Return %	7.3	8.7
Annualized Standard Deviation %	9.7	7.1
Sharpe Ratio	1.1	1.7

Source: BlackRock, Morningstar, as of 12/1/2009 – 6/30/2016. Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Not a recommendation; no guarantee that any strategy will be effective. This illustration is not a complete analysis of every material fact respecting any strategy, and does not include commissions, tax implications or other transaction costs, which may significantly affect the economic consequences of a given strategy.

Seek to Enhance Returns

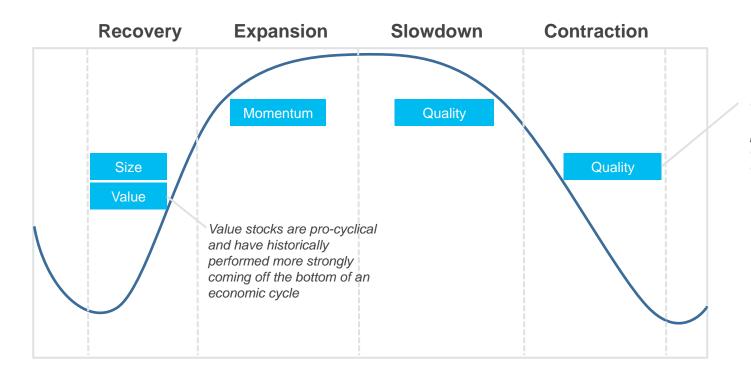
## Over the long term, factor weighted indexes have outperformed



Rolling 3Y	MSCI USA Enhanced Value Index	MSCI USA SN Quality Index	MSCI USA Momentum Index	MSCI USA Risk Weighted Index
Average Excess	3.75%	0.80%	2.44%	3.90%
Average Annualized Std. Deviation	16.63%	13.66%	15.06%	13.38%
Minimum Excess R3YReturn	-4.04%	-2.50%	-5.94%	-2.00%
Min Period Ending	8/31/2012	1/31/2006	6/30/2011	5/28/2010
Maximum Excess R3Y Return	12.03%	4.26%	9.32%	15.87%
Max Period Ending	12/31/2002	2/28/2002	9/30/2002	3/31/2003

Source: Morningstar, MSCI. Based on back-tested index from Dec 1998 – Mar 2016, relative to the MSCI USA Index. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Enhanced Value corresponds to the MSCI USA Enhanced Value Index, SN Quality corresponds to the MSCI USA Sector Neutral Quality Index, Momentum corresponds to MSCI USA Momentum Index, and Size corresponds to the MSCI USA Risk Weighted Index.

Index returns are for illustrative purposes only. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. For more information, see appendix.



Quality stocks are more defensive in nature and have tended to perform best at the peak of an economic cycle or at the beginning of an economic slowdown

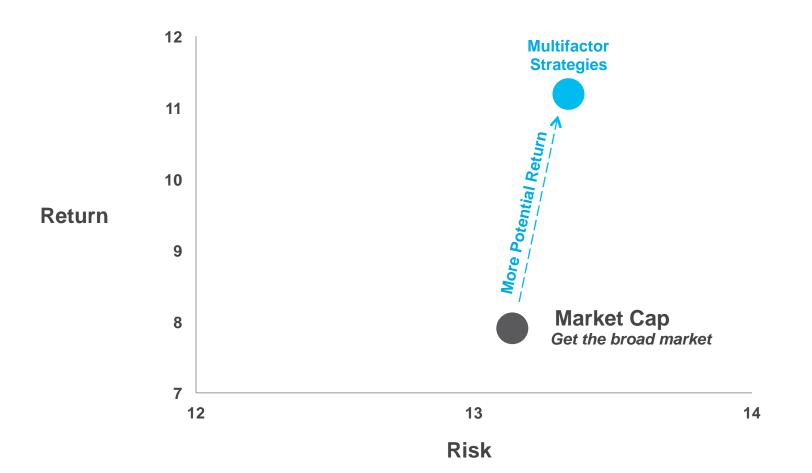
For illustrative purposes only.

Individual factors generally have low or negative correlations to each other and have historically performed differently at different stages of the economic cycle based on specific drivers of risk and return.

#### **MSCI USA Factor Indexes: Correlations of Excess Returns**

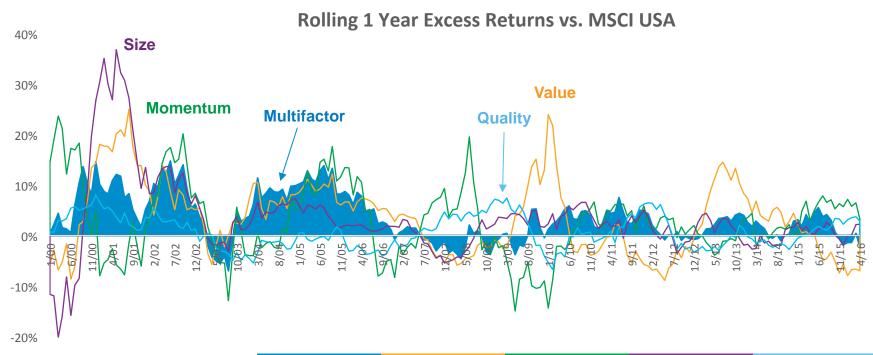
	MSCI USA Sector Neutral Quality Index	MSCI USA Enhanced Value Index	MSCI USA Risk Weighted Index	MSCI USA Momentum Index
MSCI USA Sector Neutral Quality Index	1.000			
MSCI USA Enhanced Value Index	-0.421	1.000		
MSCI USA Risk Weighted Index	0.004	0.443	1.000	
MSCI USA Momentum Index	0.158	-0.173	-0.029	1.000

## What if Investors Are Looking for More?



Source: Morningstar as of 6/30/2016 Based on historical rolling 1 year returns of S&P 500 and MSCI USA Minimum Volatility Indexes from 7/1/2001-6/30/2016 Minimum volatility strategies may help reduce losses during declining markets while still experiencing gains during rising markets. There is no guarantee that such outcomes will be achieved. Index returns are for illustrative purposes only and do not represent actual iShares Fund performance. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. This analysis contains back-tested index data. For additional information, see the Appendix.

## **Diversity of Multifactor has improved consistency in outcome**

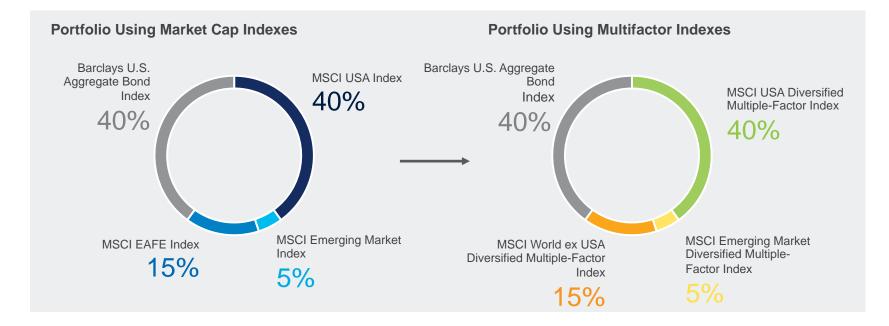


	Multifactor	Value	Momentum	Size	Quality
Total # Periods	197	197	197	197	197
% Monthly Periods outperform USA	77%	63%	64%	76%	54%
Max Drawdown of Excess Returns	-8.9%	-13.1%	-23.7%	-19.9%	-9.4%
Max Drawdown Duration (months)	5	20	54	11	8

Source: MSCI. Based on back-tested index data from Jan 2000 – Apr 2016, relative to the MSCI USA Index. Rolling 1 year data with a 1 month step. **Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period.** Multifactor corresponds to the MSCI USA Diversified Multiple-factor Index, Value corresponds to the MSCI USA Enhanced Value Index, Quality corresponds to the MSCI USA Sector Neutral Quality Index, Momentum corresponds to MSCI USA Momentum Index, and Size corresponds to the MSCI USA Risk Weighted Index.

Index returns are for illustrative purposes only. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. For more information, see appendix.

## **Seek More From Your Beta with Multifactor Exposures**



Reflects Period: 7/1/2006 – 6/30/2016 (10-Year)	Market Cap Portfolio	Portfolio With Multifactor Indexes
Annualized Return %	5.9	6.8
Annualized Standard Deviation %	9.9	10.2
Sharpe Ratio	0.5	0.6

Source: BlackRock, Morningstar, as of 7/1/2006 – 6/30/2016. Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction cots or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Analysis based on back-test index data. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. For more information, see Appendix. Not a recommendation; no guarantee that any strategy will be effective. This illustration is not a complete analysis of every material fact respecting any strategy, and does not include commissions, tax implications or other transaction costs, which may significantly affect the economic consequences of a given strategy.

## Appendix

## Hypothetical performance and backtesting

Backtested performance is NOT an indicator of future actual results. The results reflect performance of a strategy not historically offered to investors and do NOT represent returns that any investor actually attained. Backtested results are calculated by the retroactive application of a model constructed on the basis of historical data and based on assumptions integral to the model which may or may not be testable and are subject to losses.

**General assumptions include:** BlackRock would have been able to purchase the securities recommended by the model and the markets were sufficiently liquid to permit all trading. Changes in these assumptions may have a material impact on the backtested returns presented. Certain assumptions have been made for modeling purposes and are unlikely to be realized. No representations and warranties are made as to the reasonableness of the assumptions. This information is provided for illustrative purposes only.

Backtested performance is developed with the benefit of hindsight and has inherent limitations. Specifically, backtested results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. Since trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, backtesting allows the security selection methodology to be adjusted until past returns are maximized. Actual performance may differ significantly from backtested performance.

Backtested results are adjusted to reflect the reinvestment of dividends and other income and, except where otherwise indicated, are presented gross-of fees and do not include the effect of backtested transaction costs, management fees, performance fees or expenses, if applicable. No cash balance or cash flow is included in the calculation.

## Appendix: Multifactor and Min Vol Investing suite—Index Information

- This analysis contains back-tested index data.
- Index returns are for illustrative purposes only and do not represent any actual fund performance.
- Index performance returns do not reflect any management fees, transaction costs or expenses.
- Indexes are unmanaged and one cannot invest directly in an index.
- Past performance does not guarantee future results.
- Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period.
- Hypothetical data results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for risk factors that may affect the actual fund performance.
- The actual performance of the fund may vary significantly from the hypothetical index performance due to transaction costs, liquidity or other market factors.

Index Name	Index Launch Date	Index Back tested period	iShares ETF Benchmarked to Index
MSCI USA Minimum Volatility Index	June 2, 2008	1/1/01-6/2/08	iShares Edge MSCI Min Vol USA ETF (USMV)
MSCI USA Diversified Multifactor Index	February 17, 2015	1/1/01-2/17/15	iShares Edge MSCI Multifactor USA ETF (LRGF)
MSCI World ex USA Diversified Multifactor Index	February 17, 2015	1/1/01-2/17/15	iShares Edge MSCI Multifactor Intl ETF (INTF)
MSCI EM Minimum Volatility	December 1, 2009	1/1/01-12/1/09	iShares Edge MSCI Min Vol Emerging Markets ETF (EEMV)
MSCI EM Diversified Multifactor Index	February 17, 2015	1/1/01-2/17/15	iShares Edge MSCI Multifactor Emerging Markets ETF
MSCI EAFE Minimum Volatility	December 1, 2009	1/1/01-12/1/09	iShares Edge MSCI Min Vol EAFE ETF
MSCI USA Enhanced Value	December 12, 2014	1/1/01-12/12/14	iShares Edge MSCI USA Value Factor ETF
MSCI USA Momentum	February 15, 2013	1/1/01-2/15/13	iShares Edge MSCI USA Momentum Factor ETF
MSCI USA Sector Neutral Quality	December 12, 2014	1/1/01-12/12/14	iShares Edge MSCI USA Quality Factor ETF
MSCI USA Risk Weighted	June 28, 2011	1/1/01-6/28/11	iShares Edge MSCI USA Size Factor ETF

## Standardized Index and Fund Performance as of 6/30/16

Index Name	1 year	5 years	10 years	Since Jan. 1, 2001	Index Launch Date:
MSCI EAFE Minimum Vol (USD) NR USD	3.89	7.23	5.94	7.71	June 2, 2008
MSCI EM Diversified Multi-Factor NR USD	-12.44	-1.95	6.90	13.09	December 1, 2009
MSCI EM Minimum Vol (USD) NR USD	-9.15	0.89	8.08	11.94	February 17, 2015
MSCI USA Diversified Multi-Factor GR USD	-0.64	12.36	8.17	8.03	February 17, 2015
MSCI USA Enhanced Value GR USD	-4.51	10.86	7.45	8.06	December 1, 2009
MSCI USA Minimum Volatility (USD) GR USD	17.33	14.77	9.80	7.34	February 17, 2015
MSCI USA Momentum GR USD	8.34	14.57	8.55	7.28	December 12, 2014
MSCI USA Risk Weighted GR USD	6.49	12.90	8.89	8.32	February 15, 2013
MSCI USA Sector Neutral Quality GR USD	5.37	12.49	8.99	5.75	December 12, 2014
MSCI World EX USA Div Mult-Factor NR USD	-7.06	4.17	4.77	8.38	June 28, 2011

All Data as of 6/30/16

	Fund Inception	Gross Expense	30-Day SEC Yield (With / Without	Contractual Fee Waiver Expiration	1-Year	Returns	5-Year	Returns	10-Yea	Returns	Since Ir	nception
Fund Name	Date	Ratio	Waiver)	(If Applicable)	NAV	Mkt Price	NAV	Mkt Price	NAV	Mkt Price	NAV	Mkt Price
iShares Edge MSCI Min Vol EAFE ETF (EFAV)	10/18/2011	0.33%	2.74% / 2.63%	November 30, 2016	3.84%	4.30%					9.09%	9.20%
iShares Edge MSCI Min Vol Emerging Markets ETF (EEMV)	10/18/2011	0.69%	2.37% / 1.94%	December 31, 2018	-9.12%	-8.21%					3.43%	3.60%
iShares Edge MSCI Min Vol USA ETF (USMV)	10/18/2011	0.15%	2.08%		17.14%	17.17%					16.00%	16.00%
iShares Edge MSCI Multifactor USA ETF (LRGF)	4/28/2015	0.35%	1.95%		-0.96%	-0.88%					-1.64%	-1.61%
iShares Edge MSCI Multifactor Intl ETF (INTF)	4/28/2015	0.45%	2.40%		-7.37%	-7.48%					-8.19%	-7.66%
iShares Edge MSCI USA Quality Factor ETF (QUAL)	7/16/2013	0.15%	1.98%		6.58%	6.61%					11.60%	11.61%
iShares Edge MSCI USA Value Factor ETF (VLUE)	4/16/2013	0.15%	2.41%		-3.43%	-3.43%					8.79%	8.79%
iShares Edge MSCI USA Size Factor ETF (SIZE)	4/16/2013	0.15%	1.82%		6.38%	6.40%					11.84%	11.87%
iShares Edge MSCI USA Momentum Factor ETF (MTUM)	4/16/2013	0.15%	1.62%		8.18%	8.15%					14.37%	14.38%
iShares Edge MSCI Multifactor Emerging Markets ETF (EMGF)	12/8/2015	0.70%	1.93% / 1.80%	December 31, 2016							5.05%	4.63%

#### Source: BlackRock as of 6/30/16.

The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by visiting www.iShares.com or www.blackrock.com.

Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the Fund. Brokerage commissions will reduce returns. Market returns are based upon the midpoint of the bid/ask spread at 4:00 p.m. eastern time (when NAV is normally determined for most ETFs), and do not represent the returns you would receive if you traded shares at other times.

Index methodology is available upon request.

Back tested data is calculated by individual index providers and used in analysis until live index data is available. This analysis uses backtested data from MSCI Inc.

## Important information regarding iShares ETFs

Carefully consider the Funds' investment objectives, risk factors, and charges and expenses before investing. This and other information can be found in the Funds' prospectuses or, if available, the summary prospectuses which may be obtained by visiting www.iShares.com or www.blackrock.com. Read the prospectus carefully before investing.

Investing involves risk, including possible loss of principal.

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets and in concentrations of single countries. The iShares Minimum Volatility ETFs may experience more than minimum volatility as there is no guarantee that the underlying index's strategy of seeking to lower volatility will be successful. There is no guarantee that any fund will pay dividends.

There can be no assurance that performance will be enhanced for funds that seek to provide exposure to certain quantitative investment characteristics ("factors"). Exposure to such investment factors may detract from performance in some market environments, perhaps for extended periods. In such circumstances, a fund may seek to maintain exposure to the targeted investment factors and not adjust to target different factors, which could result in losses.

The strategies discussed are strictly for illustrative and educational purposes and should not be construed as a recommendation to purchase or sell, or an offer to sell or a solicitation of an offer to buy any security. There is no guarantee that any strategies discussed will be effective. The information presented does not take into consideration commissions, tax implications, or other transactions costs, which may significantly affect the economic consequences of a given strategy or investment decision.

The Funds are distributed by BlackRock Investments, LLC (together with its affiliates, "BlackRock").

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## Index disclosures (as of September 30, 2016)

#### This analysis contains back-tested index data

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- Hypothetical data results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for risk factors that may affect the actual fund performance
- > Actual performance of the fund may vary significantly from hypothetical index performance due to transaction costs, liquidity or other market factors

Index name	Index launch date	Dates of back-tested returns	1-year ann. returns	5-year ann. returns	10-year ann. returns
MSCI USA Diversified Multi-Factor Index	2/17/15	11/30/98-2/16/15	11.15%	17.35%	8.27%
MSCI World Momentum Index	12/11/13	11/28/75-12/11/13	10.28%	9.95%	3.93%
MSCI World Equal Weighted Index	1/22/08	11/28/75-1/22/08	3.46%	8.93%	4.81%
MSCI World Enhanced Value Index	08/11/14	11/28/97-08/11/14	3.82%	6.94%	2.15%
MSCI World Sector Neutral Quality Index	08/11/14	11/30/98-08/11/14	9.00%	8.98%	4.98%

Index methodology is available at www.msci.com.

## Minimum Volatility index and fund performance (as of September 30, 2016)

Index Name	Index Inception Date	Dates of Back-Tested Returns	1-Year	5-Year	10-Year
MSCI ACWI Minimum Volatility (USD) Index	11/30/2009	6/30/2000-11/30/2009	16.98%	12.09%	7.87%
MSCI EAFE Minimum Volatility (USD) Index	12/1/2009	6/30/2000-12/1/2009	11.80%	9.85%	6.13%
MSCI Emerging Markets Minimum Volatility (USD) Index	12/1/2009	6/30/2000-12/1/2009	11.60%	5.63%	8.31%
MSCI Emerging Markets Index	1/1/2001	6/30/2000-1/1/2001	17.14%	3.39%	4.28%
MSCI USA Minimum Volatility (USD) Index	6/2/2008	6/30/2000-6/2/2008	17.40%	15.97%	9.10%

		Crees	30 Day SEC Yield	Contractual Fee Waiver	1-Year	Returns	5-Year	Returns	10-Year	Returns	Since In	ception
Fund Name	Fund Inception Date	Gross Expense Ratio		Expiration (If Applicable)	NAV	Mkt Price	NAV	Mkt Price	NAV	Mkt Price	NAV	Mkt Price
iShares Edge MSCI Min Vol Global ETF	10/18/2011	0.33%	2.42% / 2.30%	December 31, 2018	16.54%	16.49%					11.16%	11.22%
iShares Edge MSCI Min Vol EAFE ETF	10/18/2011	0.33%	2.73% / 2.63%	November 30, 2016	11.32%	11.20%					9.07%	9.12%
iShares Edge MSCI Min Vol Emerging Markets ETF	10/18/2011	0.69%	2.84% / 2.41%	December 31, 2018	10.89%	11.32%					4.20%	4.37%
iShares MSCI Emerging Markets ETF	10/18/2011	0.69%	1.73%		16.15%	16.91%	2.52%	3.39%	3.39%	3.50%	11.10%	11.16%
iShares Edge MSCI Min Vol USA ETF	10/18/2011	0.15%	2.21%		17.26%	17.29%					14.85%	14.85%

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Index returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Hypothetical data results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for risk factors that may affect the actual fund performance. The actual performance of the various factor ETFs may vary significantly from the hypothetical index performance due to transaction costs, liquidity or other market factors. Index methodology is available upon request.

Back tested data is calculated by individual index providers and used in analysis until live index data is available. This analysis uses backtested data from MSCI Inc.

## Index and Fund performance (as of September 30, 2016)

Index Name	Index Inception Date	Dates of Back-Tested Returns	1-Year	5-Year	10-Year
MSCI USA Sector Neutral Quality Index	12/12/2014	11/30/98-12/12/14	13.94%	15.60%	8.75%
MSCI USA Enhanced Value Index	12/12/2014	11/28/97-12/12/14	12.04%	17.47%	7.49%
MSCI USA Risk Weighted Index	6/28/2011	12/31/74-6/28/11	15.15%	16.52%	8.71%
MSCI USA Momentum Index	2/15/2013	12/31/74-2/15/13	14.94%	17.95%	8.97%

Ticker	Fund Name	Fund Inception Date	Gross Expense Ratio	30 Day SEC Yield (With/ Without Waiver)	Contractual Fee Waiver Expiration (If Applicable)	1-Year NAV	Returns Mkt Price	5-Year	Returns Mkt Price	10-Year NAV	Returns Mkt Price	Since In	Mkt Price
QUAL	iShares Edge MSCI USA Quality Factor ETF	7/16/2013	0.15%	1.97%		13.81%	13.86%					11.57%	11.56%
VLUE	iShares Edge MSCI USA Value Factor ETF	4/16/2013	0.15%	2.36%		11.86%	11.83%					10.14%	10.13%
SIZE	iShares Edge MSCI USA Size Factor ETF	4/16/2013	0.15%	1.82%		15.07%	15.19%					11.79%	11.80%
MTUM	iShares Edge MSCI USA Momentum Factor ETF	4/16/2013	0.15%	1.68%		14.79%	14.84%					13.79%	13.79%

The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by calling toll-free 1-800-iShares (1-800-474-2737) or by visiting www.iShares.com. Index returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Data for time periods prior to the index inception date is hypothetical and is provided for informational purposes only to indicate historical performance had the index been available over the relevant time period. Hypothetical data results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for risk factors that may affect the actual fund performance. The actual performance of the various factor ETFs may vary significantly from the hypothetical index performance due to transaction costs, liquidity or other market factors. Index methodology is available upon request.

Back tested data is calculated by individual index providers and used in analysis until live index data is available. This analysis uses backtested data from MSCI Inc.

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