

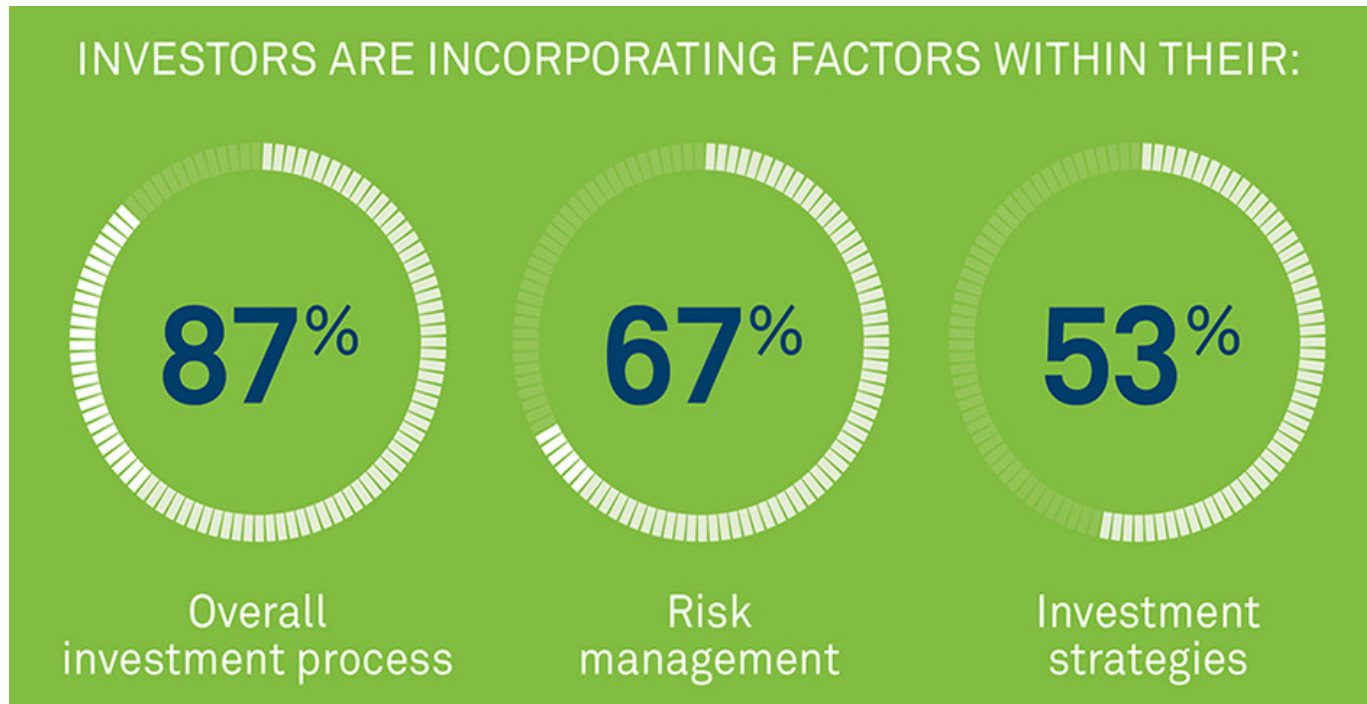
BLACKROCK®

The Rise of Factor Investing for Institutions

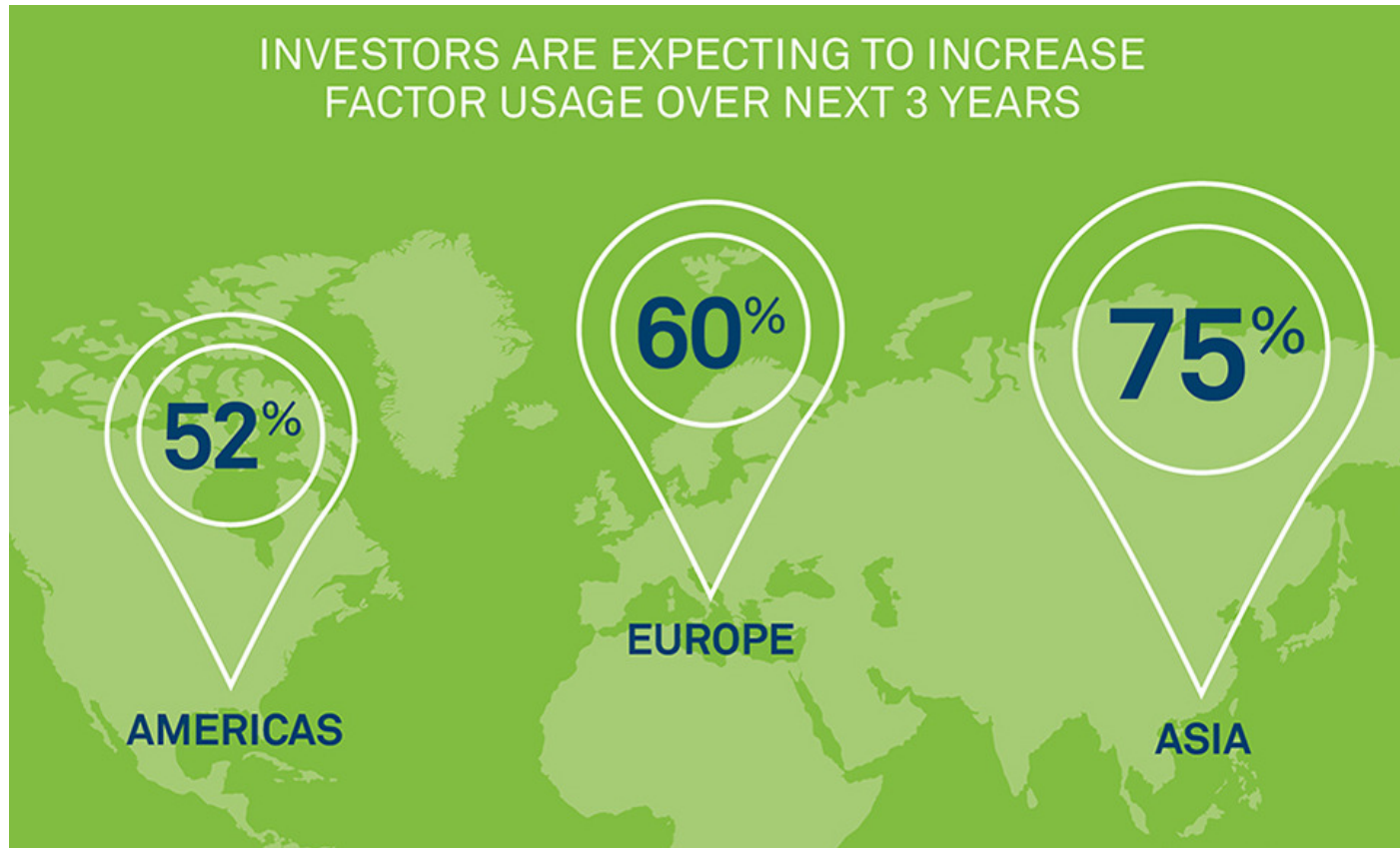
Joseph J. Nelesen, Ph.D.

August 2016, 4º Congreso de Asofiduciarias, Cartagena

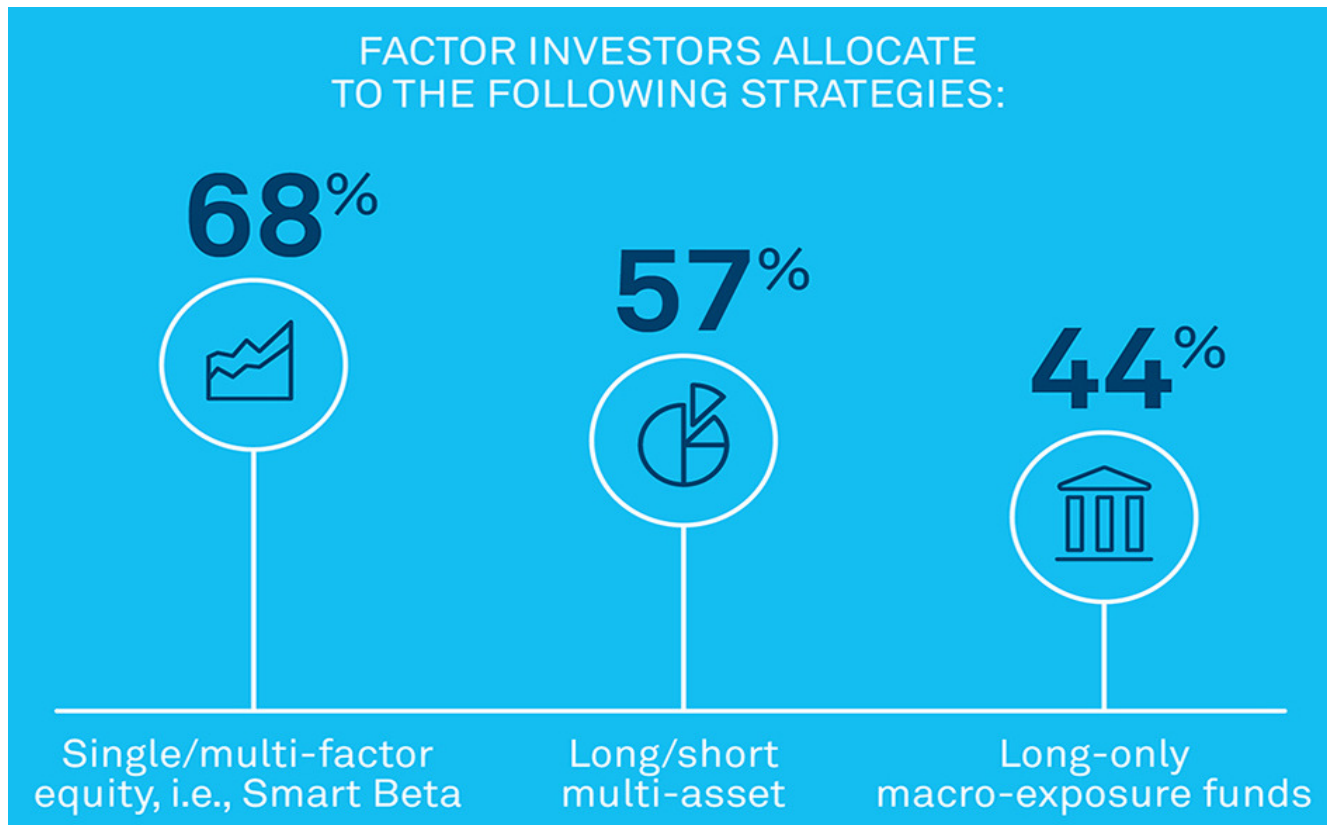
With these insights, how are institutions around the world using factors?



Is it a global change? Yes...

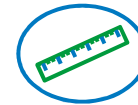


So, what factor strategies are most common?



The challenge: Factor cyclicality

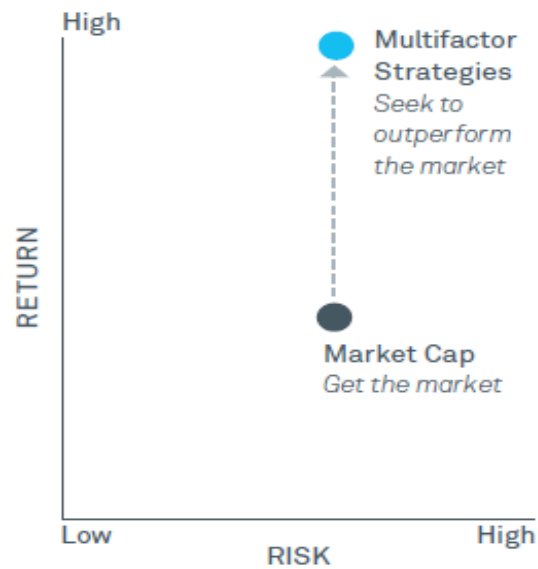
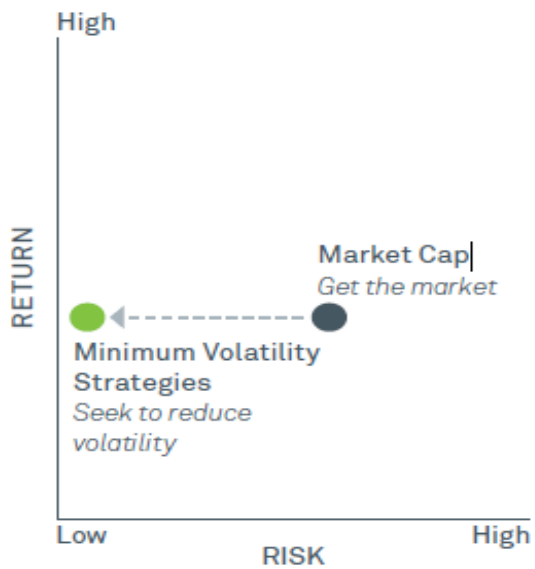
What are the most common, investable factors?



	Minimum volatility	Value	Momentum	Size	Quality
Rewarded risk		✓	✓	✓	
Structural impediment	✓				
Behavioral bias	✓	✓	✓		✓

Factors can help manage risk and return objectives

Based on Historical Performance



Source: MSCI. Based on the MSCI World, MSCI World Minimum Volatility, MSCI World DMF Indexes and MSCI World Single Factor Indexes.

The cyclical nature of risk factors

LOWER SIZE

Smaller companies

VALUE

Cheaper companies

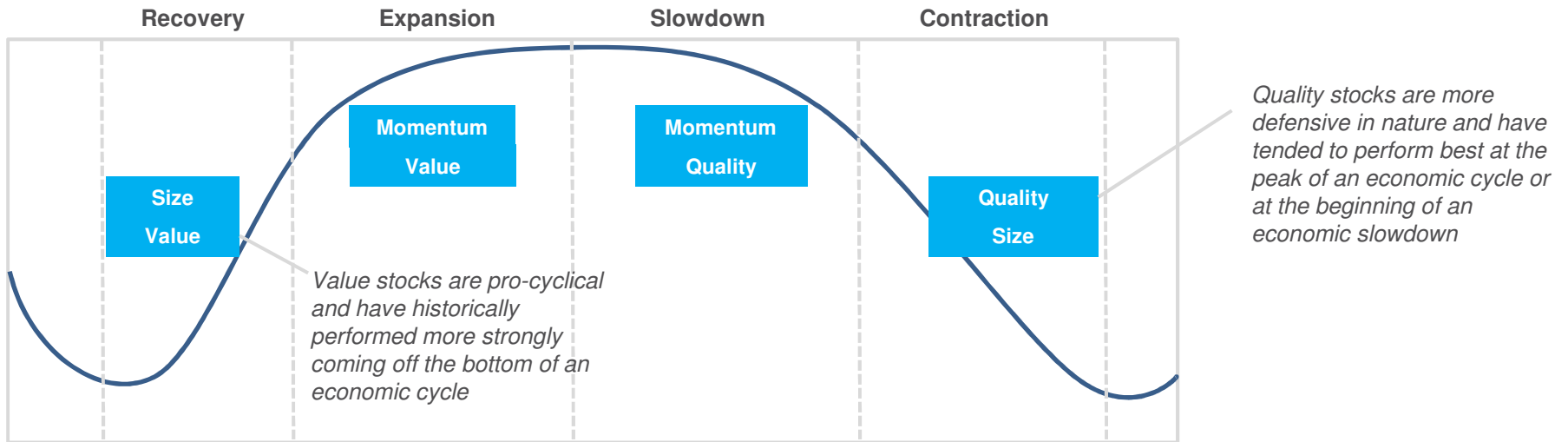
QUALITY

Good companies

MOMENTUM

Winners

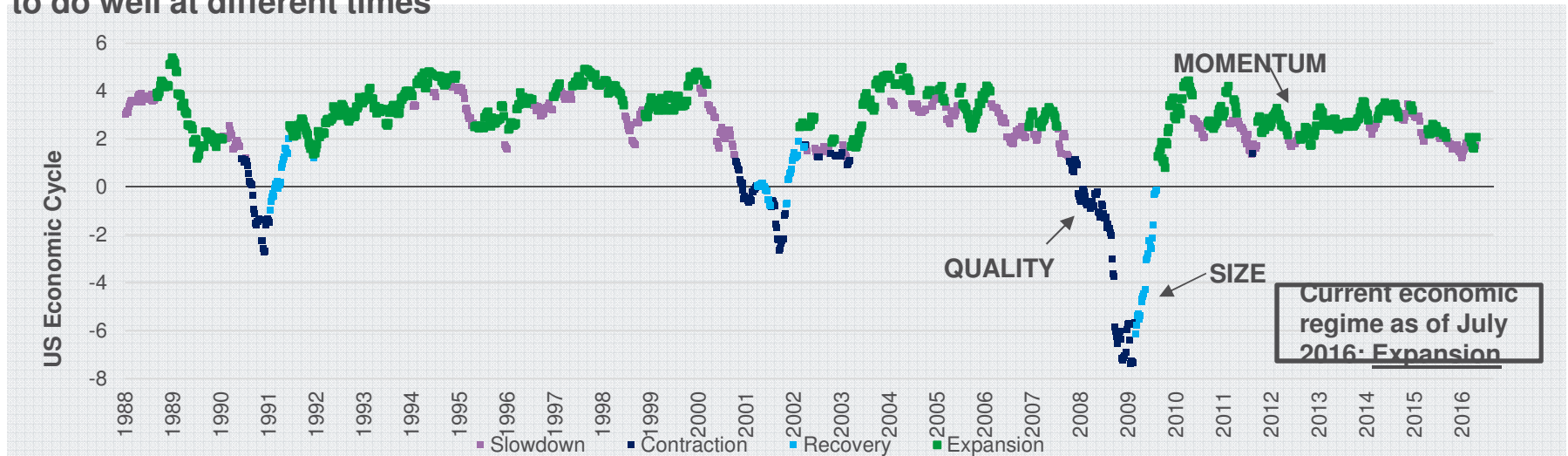
Typical Behavior of Global Business Cycle



For illustrative purposes only.

Deep dive into economic regime

Due to different economic rationales that drive factor performance, individual factors have tended to do well at different times

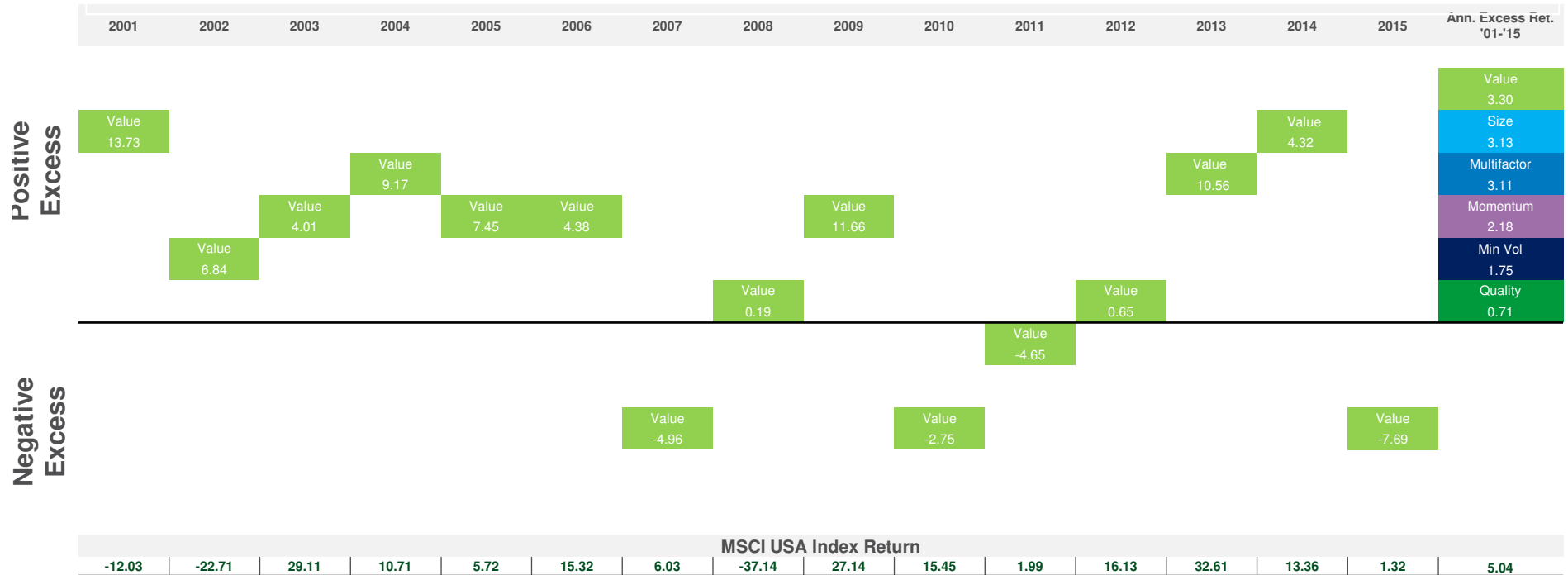


- ▶ Contraction 2007 - 2009: **Quality** outperformed the broad index, on average, by 0.3% each month as investors looked to financially healthy companies for more stable returns during the economic downturn.
- ▶ Recovery in 2009: **Size** outperformed the broad index, on average, by 0.3% each month when the economy accelerated and smaller, high-growth companies pushed ahead their larger counterparts.
- ▶ Expansion 2010 – 2016: **Momentum** outperformed the broad index, on average, by 0.2% each month as a low probability of recession means

more stable trends.
 Source: BlackRock. Slowdown is Low Recession Probability, Growth Decelerating; Contraction is High Recession Probability, Growth Decelerating; Recovery is High Recession Probability, Growth Accelerating; Expansion is Low Recession Probability, Growth Accelerating. Quality corresponds to the MSCI USA Sector Neutral Quality Index, Momentum corresponds to MSCI USA Momentum Index, Size corresponds to the MSCI USA Risk Weighted Index, and Broad Index corresponds to the MSCI USA Index.

The cyclical nature of factors

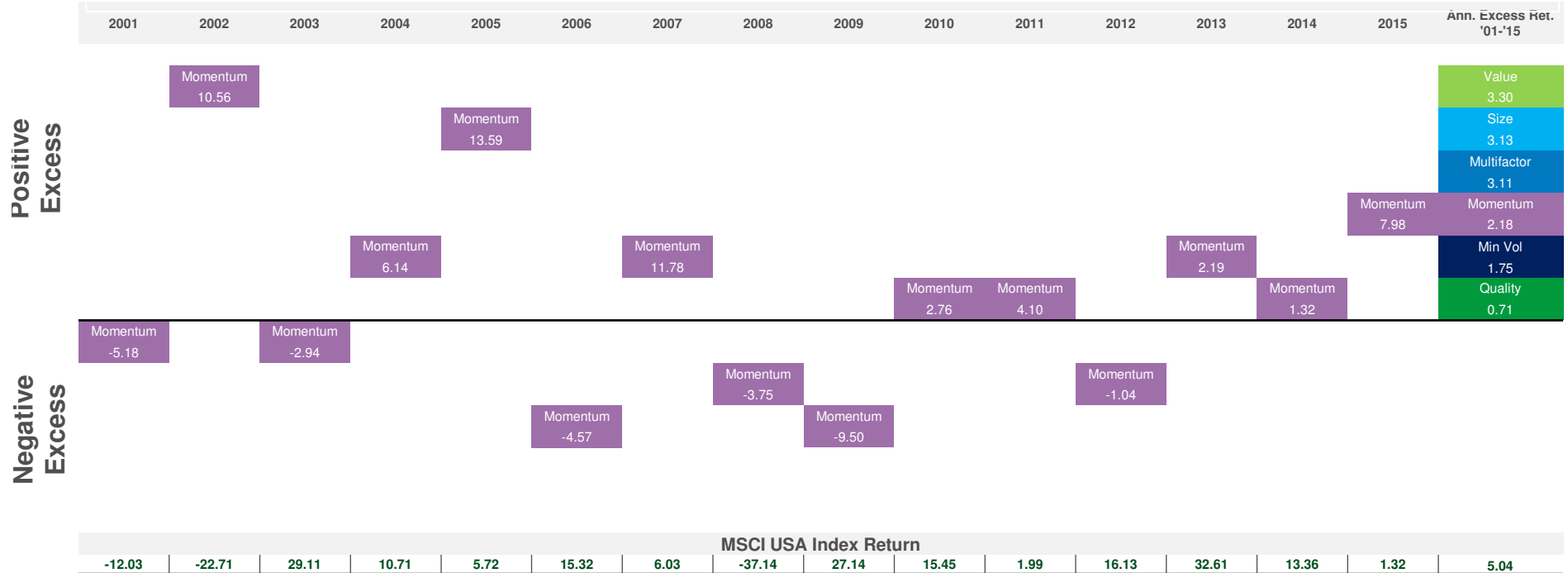
Factors – Excess Returns over MSCI USA



Source: MSCI as of 12/31/2015. MSCI index methodology resources available at www.msci.com. MSCI USA Momentum Index denoted as Momentum; MSCI USA Risk Weighted Index denoted as Size; MSCI USA Enhanced Value Index denoted as Value; MSCI Sector Neutral Quality Index denoted as Quality; MSCI Minimum Volatility Index denoted as Min Vol. MSCI USA DMF Index denoted as Multifactor. 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. 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. The information above includes back-tested data. For additional information, see "Index Disclosures" slides located in the Appendix. It is not possible to directly invest in an unmanaged index.

The cyclical nature of factors

Factors – Excess Returns over MSCI USA



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The cyclical nature of factors

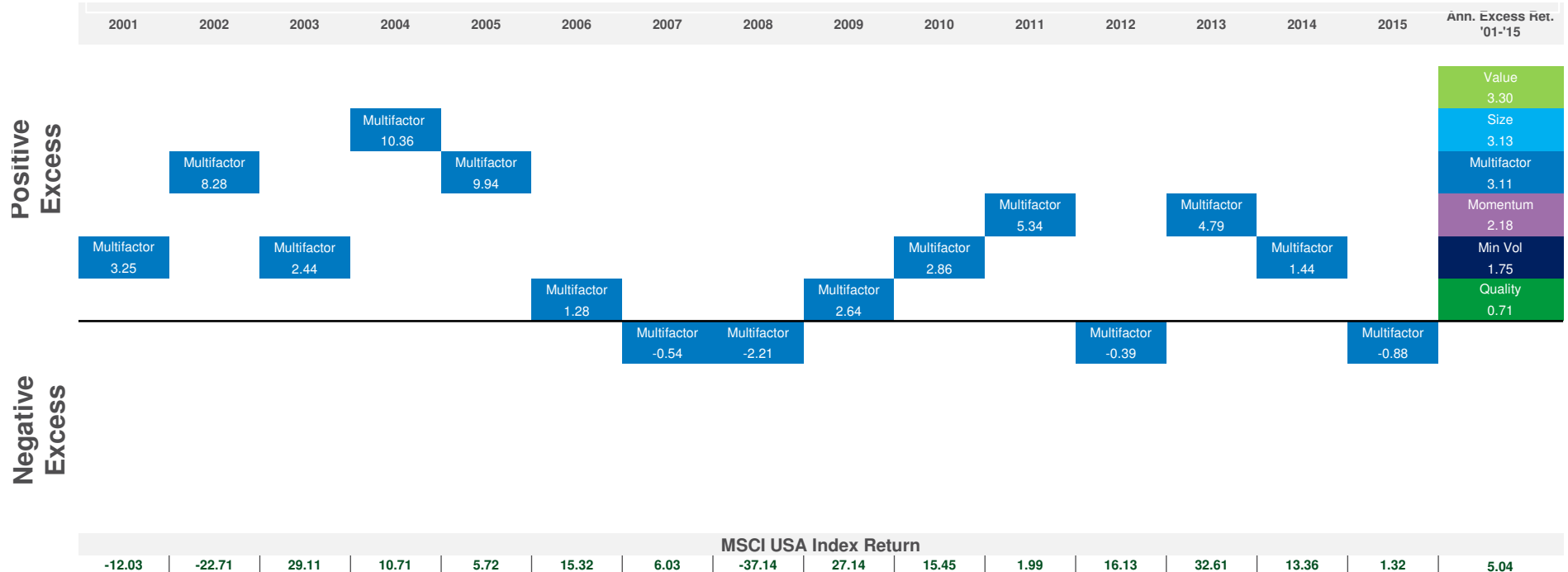
Factors – Excess Returns over MSCI USA

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ann. Excess Ret. '01-'15
Positive Excess		Momentum 10.56														Value 3.30
	Value 13.73	Size 8.56		Multifactor 10.36	Momentum 13.59						Min Vol 10.88			Value 4.32		Size 3.13
	Size 11.69	Multifactor 8.28		Value 9.17	Multifactor 9.94			Min Vol 11.48			Quality 5.49		Value 10.56	Min Vol 3.17		Multifactor 3.11
	Min Vol 4.21	Min Vol 7.40	Value 4.01	Size 7.14	Value 7.45	Value 4.38		Quality 5.89	Value 11.66	Size 3.60	Multifactor 5.34		Multifactor 4.79	Size 2.61	Momentum 7.98	Momentum 2.18
	Multifactor 3.25	Value 6.84	Multifactor 2.44	Momentum 6.14	Size 1.96	Size 2.07	Momentum 11.78	Size 3.14	Size 4.17	Multifactor 2.86	Size 4.31		Momentum 2.19	Multifactor 1.44	Min Vol 4.33	Min Vol 1.75
	Quality 1.71	Quality 1.48	Size 0.70	Min Vol 3.80	Min Vol 0.90	Multifactor 1.28	Quality 4.04	Value 0.19	Multifactor 2.64	Momentum 2.76	Momentum 4.10	Value 0.65	Quality 1.69	Momentum 1.32	Quality 3.29	Quality 0.71
	Momentum -5.18		Momentum -2.94	Quality -2.04	Quality -0.30	Min Vol -0.36	Multifactor -0.54	Multifactor -2.21	Quality -2.20	Min Vol -0.75	Value -4.65	Multifactor -0.39	Size -1.07	Quality -2.63	Multifactor -0.88	
			Quality -5.33			Quality -2.55	Min Vol -1.72	Momentum -3.75	Min Vol -8.79	Quality -1.25		Momentum -1.04	Min Vol -7.28		Size -0.88	
		Min Vol -9.13			Momentum -4.57	Value -4.96		Momentum -9.50	Value -2.75		Size -1.09			Value -7.69		
						Size -5.08					Quality -3.36					
											Min Vol -4.95					
MSCI USA Index Return																
	-12.03	-22.71	29.11	10.71	5.72	15.32	6.03	-37.14	27.14	15.45	1.99	16.13	32.61	13.36	1.32	5.04

Source: MSCI as of 12/31/2015. MSCI index methodology resources available at www.msci.com. MSCI USA Momentum Index denoted as Momentum; MSCI USA Risk Weighted Index denoted as Size; MSCI USA Enhanced Value Index denoted as Value; MSCI Sector Neutral Quality Index denoted as Quality; MSCI Minimum Volatility Index denoted as Min Vol. MSCI USA DMF Index denoted as Multifactor. 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. 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. The information above includes back-tested data. For additional information, see "Index Disclosures" slides located in the Appendix. It is not possible to directly invest in an unmanaged index.

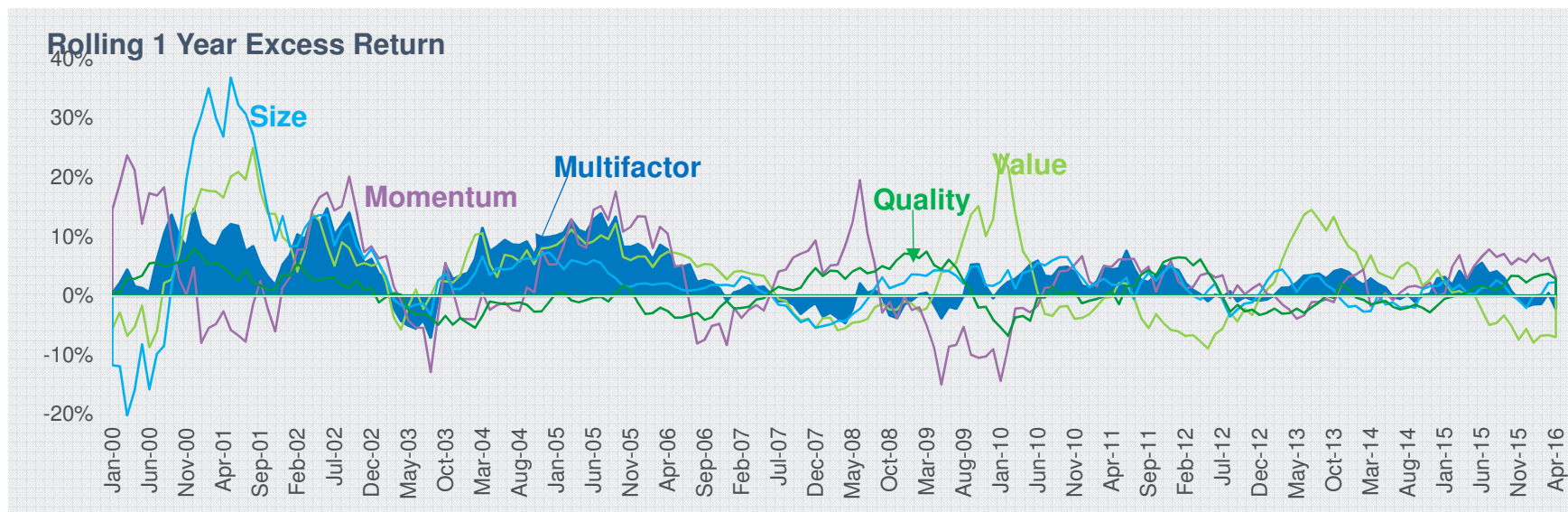
Blending factors; a different way to diversify

Factors – Excess Returns over MSCI USA



Source: MSCI as of 12/31/2015. MSCI index methodology resources available at www.msci.com. MSCI USA Momentum Index denoted as Momentum; MSCI USA Risk Weighted Index denoted as Size; MSCI USA Enhanced Value Index denoted as Value; MSCI Sector Neutral Quality Index denoted as Quality; MSCI Minimum Volatility Index denoted as Min Vol. MSCI USA DMF Index denoted as Multifactor. 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. 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. The information above includes back-tested data. For additional information, see "Index Disclosures" slides located in the Appendix. It is not possible to directly invest in an unmanaged index.

Multifactor has been more consistent, more diversified



	Multifactor	Value	Momentum	Size	Quality
Total Periods	197	197	197	197	197
% Periods outperform MSCI USA Index	77%	63%	64%	76%	54%
Max Drawdown	-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. 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. 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, Size corresponds to the MSCI USA Risk Weighted Index, and Multifactor corresponds to the MSCI USA Diversified Multiple Factor 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.**

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An important philosophy of factors due diligence:

Focus on rewarded factors that endure as a result of a risk premium, structural impediment or behavioral anomaly

- ▶ Pursue excess returns over traditional benchmarks, or seek to achieve specific outcomes

Economic Rationale

Based on strong economic intuition and academic evidence*

Value Creation

Empirical evidence of positive returns*

Diversification

Low correlation with other factors

Efficient Implementation

Captured and implemented in transparent, repeatable manner

* Bender, Jennifer, Briand, Remy, Melas, Dimitris, and Raman Aylur Subramanian (2013), "Foundations of Factor Investing", MSCI Research Insight

Important Notes

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