



## Factor Investing: Measuring and managing factor exposures

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April 25, 2012

# Important information & disclosures

*Investors should carefully consider the investment objectives, risks, charges and expenses before investing in Russell ETFs. This and other information can be found in the funds' prospectuses, which may be obtained by calling 888-RSL-ETFS (888-775-3837) or downloading the file from russellets.com. Read the prospectus carefully before you invest.*

ETFs are subject to risks similar to those of stocks, including those related to short-selling and margin account maintenance. Funds that emphasize investments in aggressive growth stocks generally are more volatile than other types of investments, as aggressive growth companies may participate in new industries, products or markets. Aggressive growth companies may operate in more highly concentrated markets. Investments in growth stocks are subject to the risks of common stocks, as well as the risks that:

- (i) the majority of earnings are retained and not paid out as dividends to investors or
- (ii) the stock price may rise and fall significantly based on investors' perceptions of future growth prospects. Investments in value stocks are subject to the risks of common stocks, as well as the risks that
  - (i) their intrinsic values may never be realized by the market or
  - (ii) such stock may turn out not to have been undervalued.

The risks of investing in deep value stocks are magnified because of the greater potential losses associated with investing in these stocks. Funds that emphasize exposure to high beta, high volatility or high momentum stocks are seen as having a higher risk profile than the overall market. However, a portfolio comprised of high beta or high volatility stocks may not produce investment exposure that is more sensitive or has higher variability to changes in such stocks' price levels. Positive momentum stocks may experience periods of relative underperformance and may not produce investment experience consistent with prior performance. Funds that emphasize exposure to low beta or low volatility stocks are seen as having a lower risk profile than the overall market. However a portfolio comprised of low beta or low volatility stocks may not produce investment exposure that is less sensitive or has lower variability to a change in price level. Russell Factor ETFs are passively managed and may not match or achieve a high degree of correlation with the return of the Index.

## **Not FDIC Insured. May Lose Value. Not Bank Guaranteed.**

Russell-Axioma Factor Indexes are new and have limited performance history. A new index is subject to errors in construction which may result in unintended exposures.

Russell Factor ETFs are new and have limited operating history. There is no assurance the investment process will consistently lead to successful investing. There is no assurance the stated objectives will be met.

## Important information & disclosures continued

ONEF: The Fund employs an asset allocation strategy that provides exposure to multiple asset classes in a variety of domestic and foreign markets. Neither the Fund nor Russell Investment Management Company (the “Adviser”) can offer any assurance that the asset allocation of the Fund will either maximize returns or minimize risks. The tactical asset allocation component of the Fund’s strategy may not work as intended. The value of your investment may decrease if the Adviser’s judgment about the attractiveness, value or market trends affecting a particular asset class, sector, strategy or Underlying ETF is incorrect. The Fund’s risk profile with respect to particular asset classes, sectors or strategies may change at any time based on the Adviser’s tactical asset allocation decisions.

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RIMCo-0736 RUS000831 12/31/2012

## Topics of discussion

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- Russell-Axioma partnership
- Risk factors and risk models
- Current market environment
- Using Factor ETFs in an investment portfolio
- Russell ETFs Factor Management Tool

Russell ETFs

Exposure driven by insight™



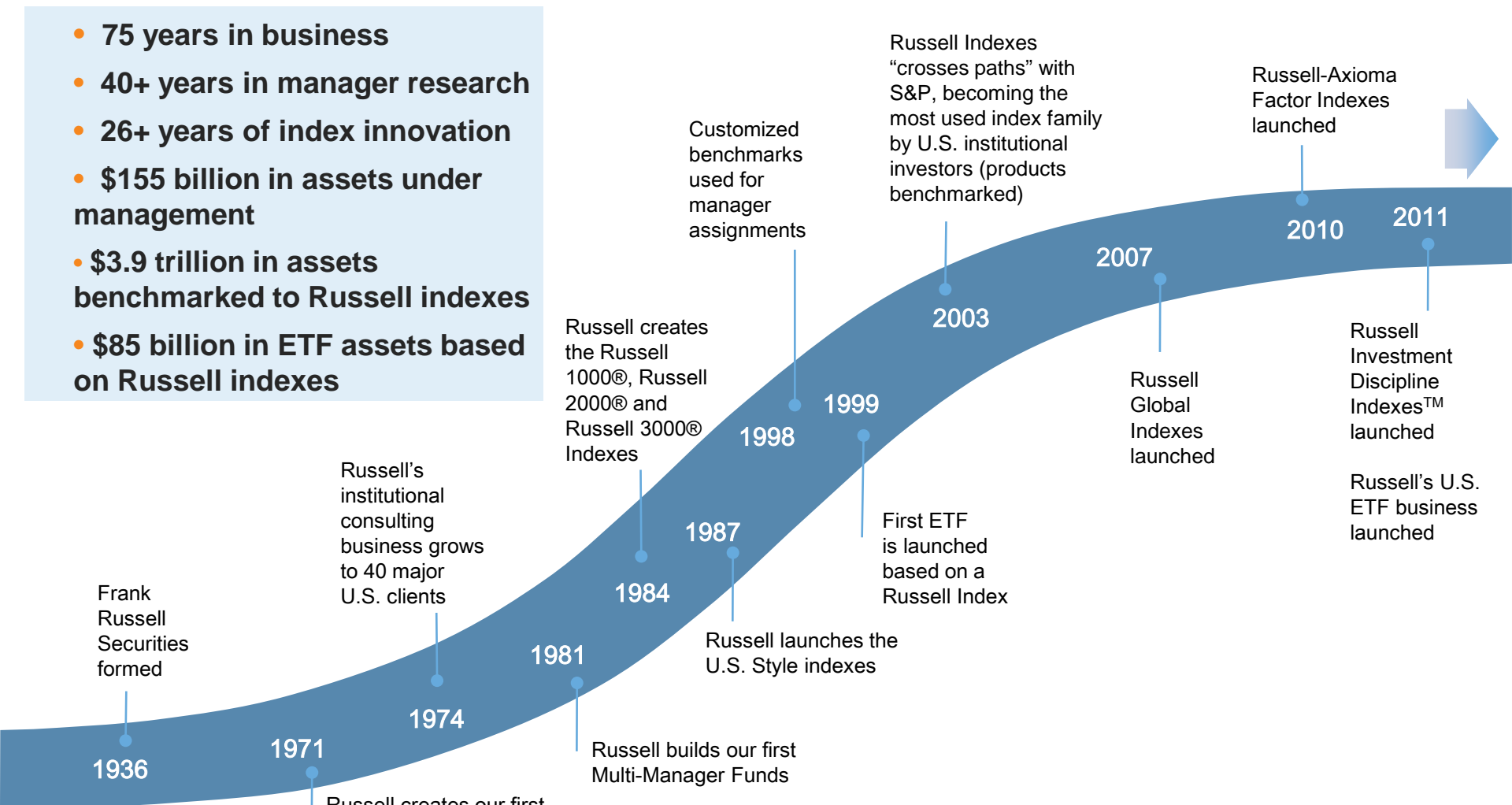
## An introduction to Russell Investments and Axioma

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# Russell Investments: A leader in index innovation

- 75 years in business
- 40+ years in manager research
- 26+ years of index innovation
- \$155 billion in assets under management
- \$3.9 trillion in assets benchmarked to Russell indexes
- \$85 billion in ETF assets based on Russell indexes



As of Dec. 31, 2011

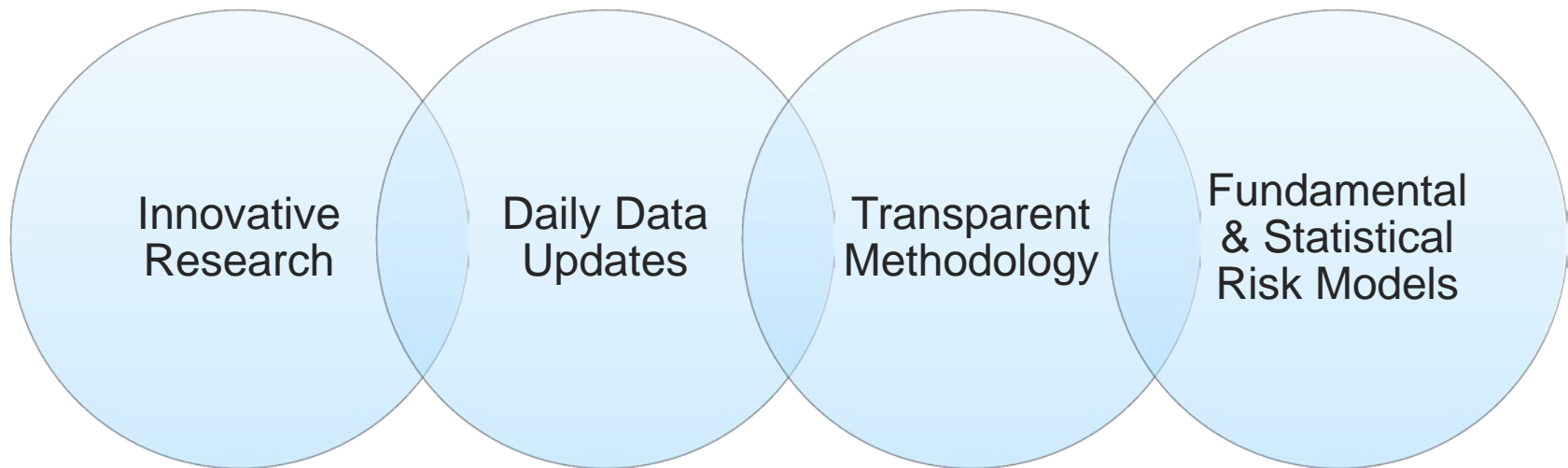
Axioma and Russell Investments are the source and joint owners of trademarks, service marks and copyrights related to the Russell-Axioma Factor Indexes.

# Axioma:

## A leader in risk analytics and portfolio construction



- A leading developer of risk analytics, portfolio rebalancing and performance attribution products
- Founded in 1988 and rapidly growing
- Axioma's software is used by five of the top 10 U.S. asset managers as ranked by AUM<sup>1</sup>
- **Key benefits:**



<sup>1</sup> Source: Axioma, as of 8/31/11

# The Russell Axioma Partnership

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- **Russell-Axioma Factor Indexes leverage the unique capabilities of Russell and Axioma:**
  - **Russell = Index leader**
  - **Axioma = Portfolio construction and factor risk modeling expertise**

**RESULT: Innovative, strategic index products**





**Factor Investing:  
An introduction to risk factors and risk models**

# Factor investing:

## Style factors and why they're important

### ■ What is a factor?

- A factor is a fundamental influence that has been identified as an important contributor towards explaining the return of an asset
- Some factors are also important in explaining the *variability* of returns. We call these risk factors

Variability of Return = Volatility = Risk

- Factors can be anything an investor views as a potential driver of portfolio returns and risk (market, balance sheet/income statement, sectors, countries, currencies etc.)

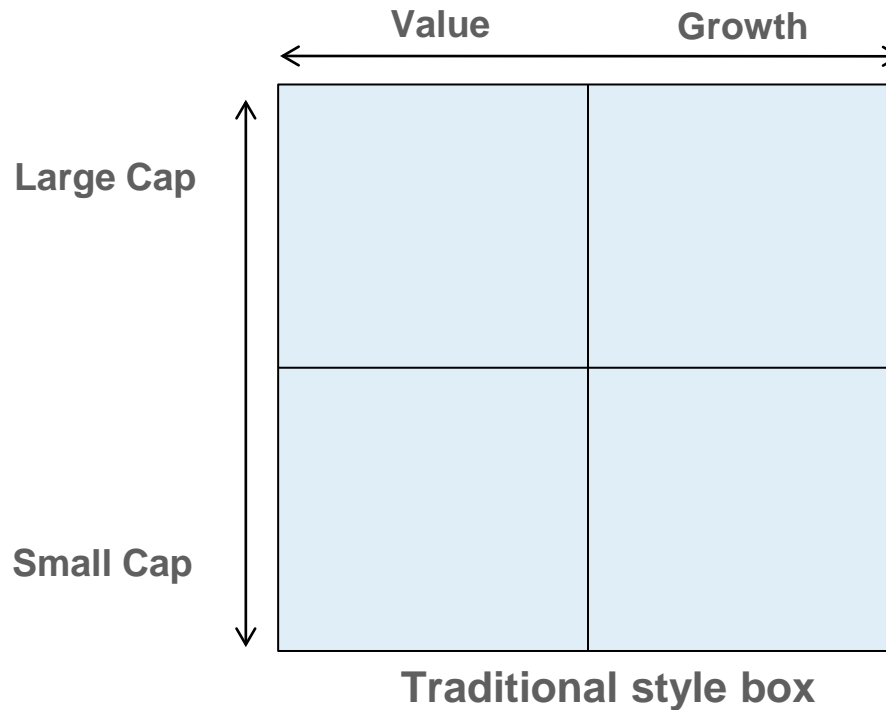
### ■ Importance of factors

- Factors are the foundation for how investment professionals think about returns associated with “alpha” and “beta.”
- Every portfolio has “exposure” to factors – whether or not they are identified or intended.
- By understanding factor exposures, investors can enhance intended exposures and reduce unintended exposures (i.e. control risk).

# Factor investing:

## Traditional equity allocation is two-dimensional, but...

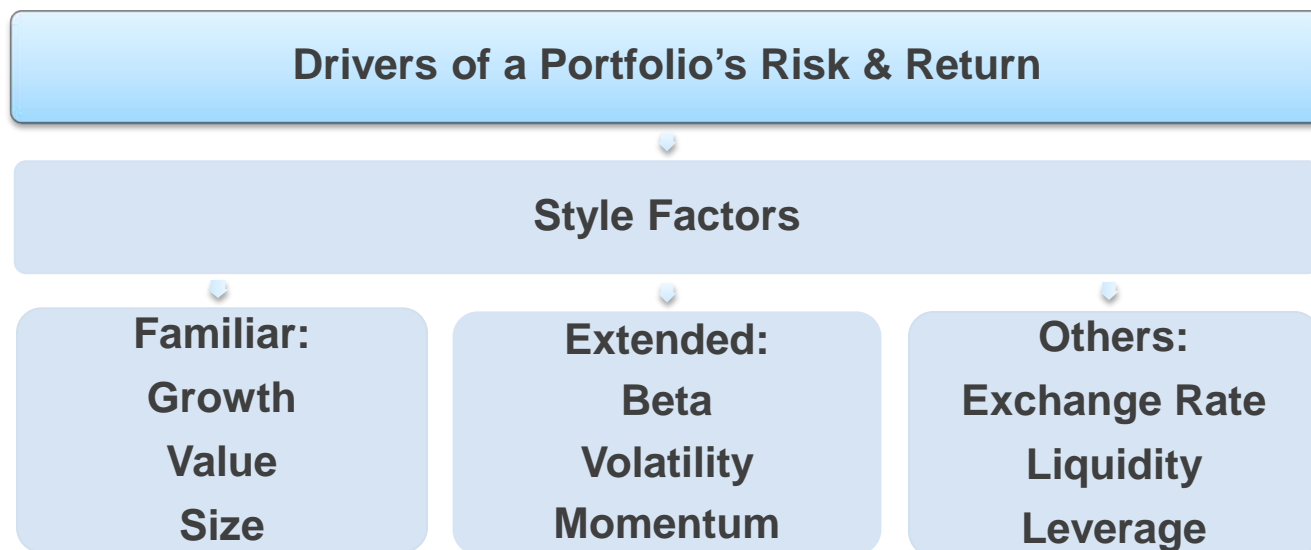
- Size: Large cap and small cap
- Style: Value and growth



# Factor investing:

... we have long known that style factors are multi-dimensional

- Research has shown for decades that “style” is more than growth and value.<sup>1</sup>
- Factors are multi-dimensional and include:
  - Fundamental-based influences such as growth and value.
  - Market-based influences such as beta, volatility, momentum and others.



1. Ross, “The Arbitrage Theory of Capital Asset Pricing,” *Journal of Economic Theory*, 1976; Roll and Ross, “An Empirical Investigation of the Arbitrage Pricing Theory,” *Journal of Finance*, 1980; Fama and French, “Common risk factors in the returns on stocks and bonds,” *Journal of Financial Economics*, 1993; et. al.

# Factor investing:

## Evolution of multi-factor investing

Academic literature is long and deep:

1950s

- Markowitz, H.M. (1952). *“Portfolio Selection,”* Journal of Finance

1960s

- Sharpe, William F. (1964). *“Capital asset prices: A theory of market equilibrium under conditions of risk,”* Journal of Finance

1980s

- Roll and Ross, (1980) *“An Empirical Investigation of the Arbitrage Pricing Theory,”* Journal of Finance

1990s

- Fama and French, (1993) *“Common Risk Factors in the Returns on Stocks and Bonds,”* Journal of Financial Economics

# Factor investing:

## Evolution of multi-factor investing

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- There is widespread institutional acceptance:

“In 2009, researchers assigned to analyze the Norwegian Government Pension Fund recommended it reorient its portfolio around risk factors. And the California Public Employees' Retirement System underwent a similar change in approach in 2010. Other big institutions, such as part of the government pension fund for Sweden, also are exploring how to balance risk factors.” WSJ, Dec 24, 2011
- Having been part of the institutional landscape for years, access to this form of investing is now available via ETFs

# Factor investing:

## What are risk models?

### Equity factor risk models:

- **Understand and decompose portfolio risk (volatility)**
  - A factor risk model is a mathematical model that is used to understand and explain risk of a portfolio according to those factors.
  - Have been around and used since at least the mid 1980s.
- **Used to monitor and control portfolio risk**
  - Maintain explicit mandates (e.g., tracking error < 5%)
  - Help identify potential risk-reducing trades.
- **Decompose portfolio performance**
  - Portfolio return and risk can be decomposed into the return and risk associated with each factor plus idiosyncratic return and risk.
  - Allows PMs to assess if portfolio has unintentional factor exposures, to align exposures to mandates, and to compare realized factor performance to his or her forecasts.

# Factor investing:

## Axioma U.S. Equity Model style factor definitions

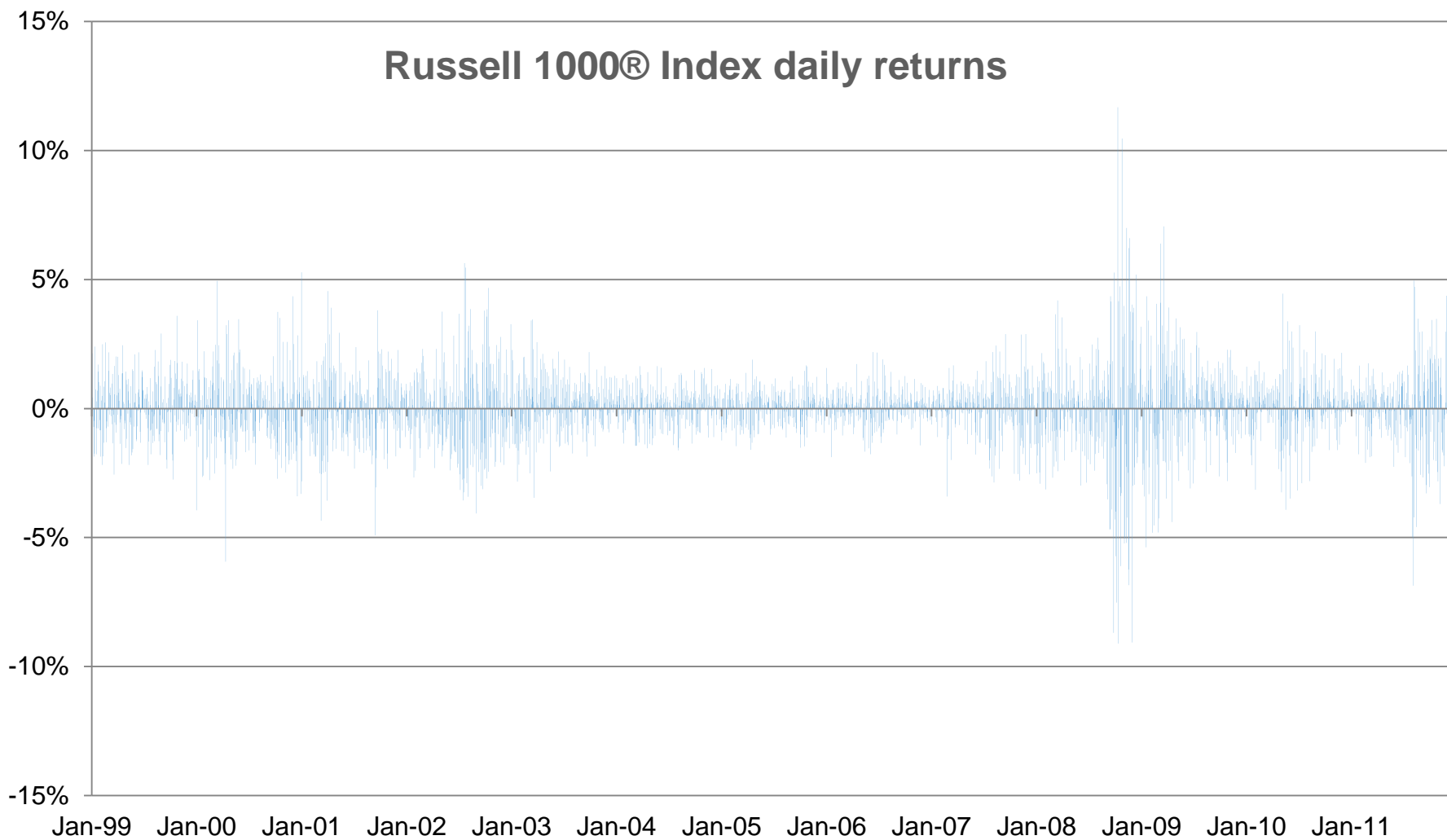
Factor	Axioma definition
Beta (market sensitivity)	Measure of a stock's under- or over-performance relative to the broad market based on a regression using two years of weekly returns (end-of-week closing prices).
Momentum (Medium-term)	Measure of a stock's cumulative return over the last 250 trading days, excluding the last 20 trading days.
Volatility	Measure of a stock's variability in total returns over the last 60 trading days.
Exchange-rate sensitivity	Measure of a stock's sensitivity to fluctuations in the foreign exchange market, calculated by regressing six months of daily stock returns against the returns of a currency basket.
Growth	Measure's a company's historical growth rate, calculated as the product of one minus the dividend payout rate and the one-year return on equity.
Leverage	Measures a company's exposure to debt, calculated as total debt divided by average 20-day market capitalization.
Liquidity	Measures a stock's trading activity, defined as 20-day average daily volume (expressed in units currency, not shares traded) divided by the 20-day average market capitalization.
Momentum (short-term)	Measure of a stock's cumulative return over the last 20 trading days.
Size	Differentiation between large cap and small cap stocks, defined as the natural logarithm of market capitalization.
Value	Measures how fairly a stock is priced within the market, calculated as the ratio of common equity to average 20-day market capitalization.





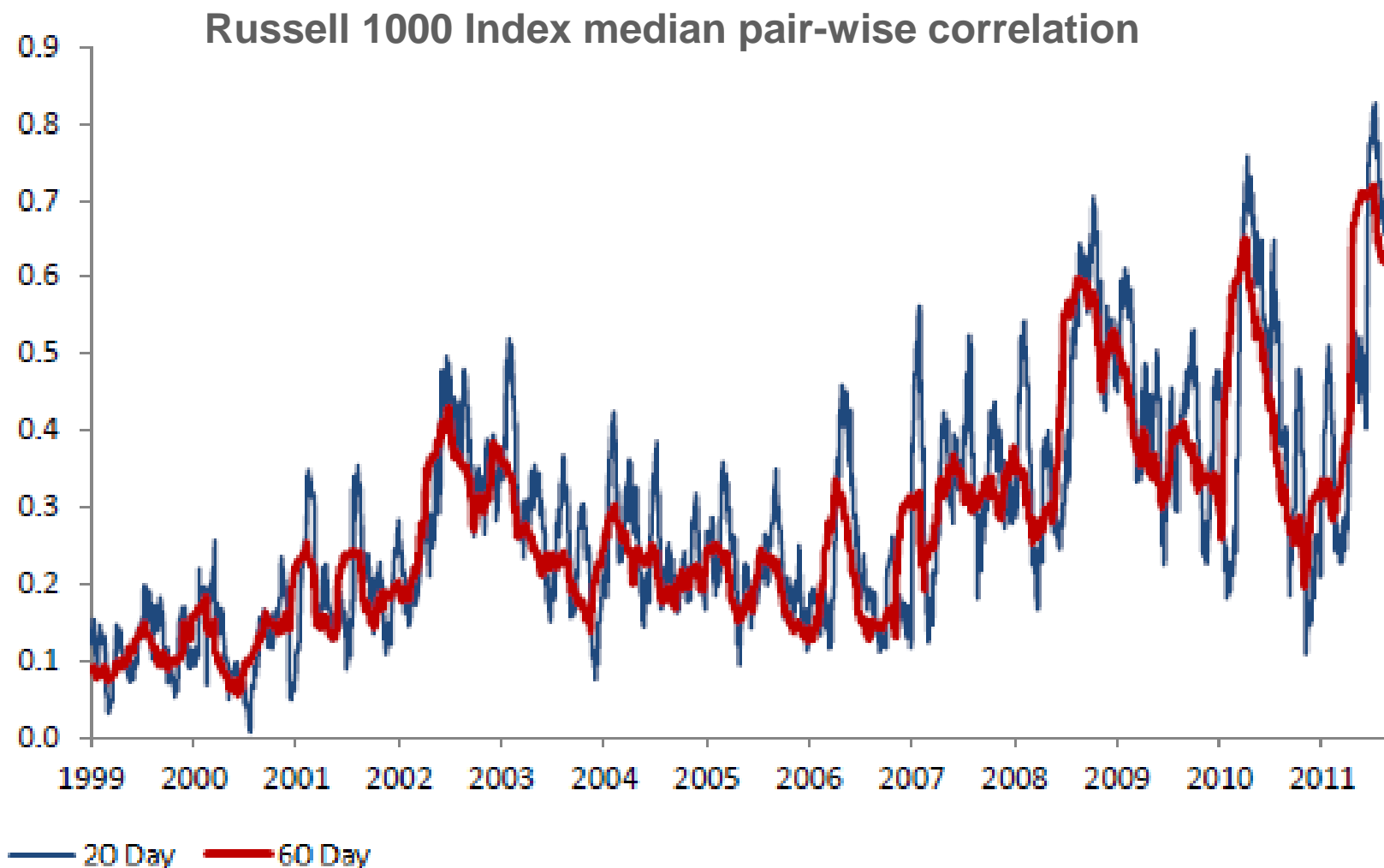
**Current equity market environment:  
Why factors are particularly relevant today**

# Current market environment: Equity markets have become more volatile



Source: Russell Investments, as of 12/31/11.  
Data is historical and not indicative of future results.

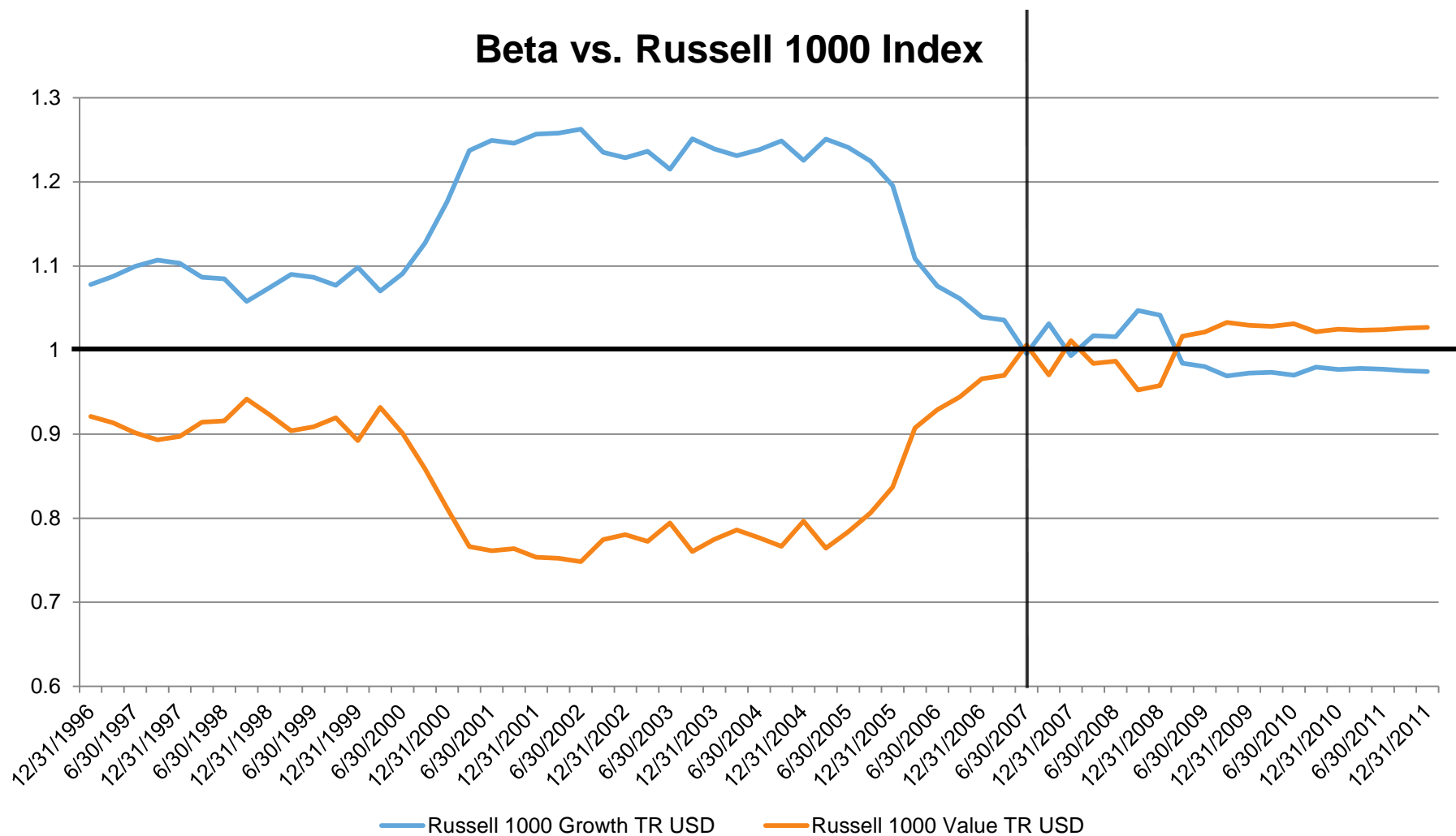
# Current market environment: Equity correlations have increased



Sources: Russell Investments, Axioma, as of 12/31/11.  
Data is historical and not indicative of future results.

# Current market environment:

## Growth and value betas have converged & reversed



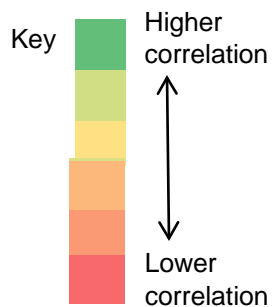
Source: Russell Investments, as of 12/31/11.  
Data is historical and not indicative of future results.

# Current market environment: Enhanced diversification potential

## 5-year style factor correlations

**As of 30 Dec 2011**

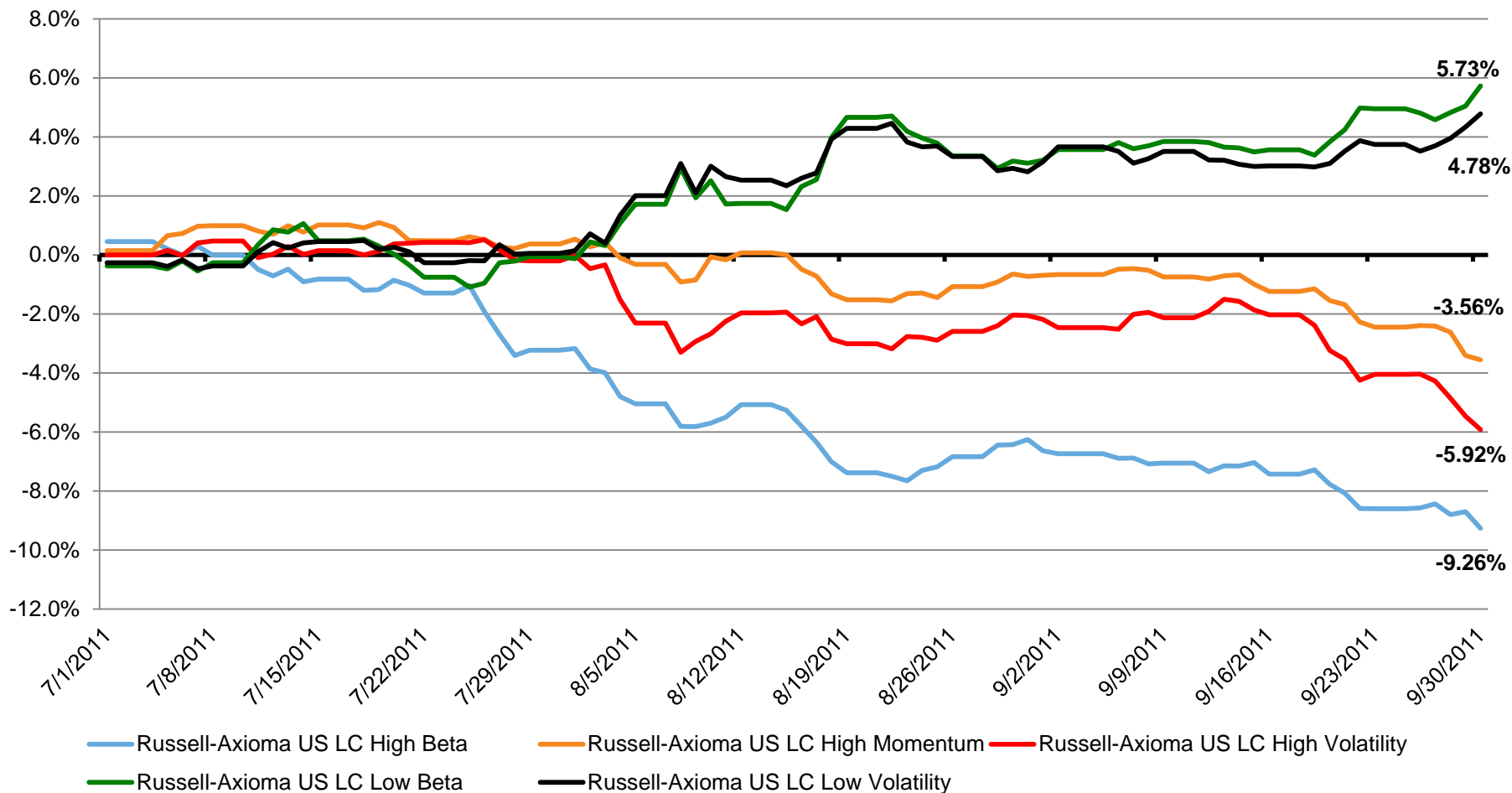
	Value	Lev- erage	Growth	Size	Mkt Sens	Liq- uidity	Short- Term Mom	Medium- Term Mom	Exch Rate Sens	Vol- atility	Avg Industry
Value	1	0.30	0.01	0.14	0.25	-0.14	-0.22	-0.38	-0.10	0.24	0.28
Leverage	0.30	1	-0.25	0.02	0.21	0.16	-0.11	-0.25	0.10	0.08	0.13
Growth	0.01	-0.25	1	0.03	-0.06	-0.09	-0.12	0.05	-0.19	-0.09	-0.03
Size	0.14	0.02	0.03	1	0.10	0.05	-0.01	-0.03	-0.14	0.03	0.10
Market Sensitivity	0.25	0.21	-0.06	0.10	1	0.23	-0.33	0.06	-0.26	0.61	0.75
Liquidity	-0.14	0.16	-0.09	0.05	0.23	1	-0.15	0.02	-0.05	0.07	0.13
Short-Term Momentum	-0.22	-0.11	-0.12	-0.01	-0.33	-0.15	1	0.18	0.19	-0.27	-0.38
Medium-Term Momentum	-0.38	-0.25	0.05	-0.03	0.06	0.02	0.18	1	-0.04	0.00	0.03
Exchange Rate Sensitivity	-0.10	0.10	-0.19	-0.14	-0.26	-0.05	0.19	-0.04	1	-0.35	-0.44
Volatility	0.24	0.08	-0.09	0.03	0.61	0.07	-0.27	0.00	-0.35	1	0.78



Source: Axioma U.S. Equity Medium Horizon Fundamental Factor Risk Model, as of 12/30/11.  
Data is historical and not indicative of future results.

# Current market environment: Russell-Axioma Large Cap Factor Index performance

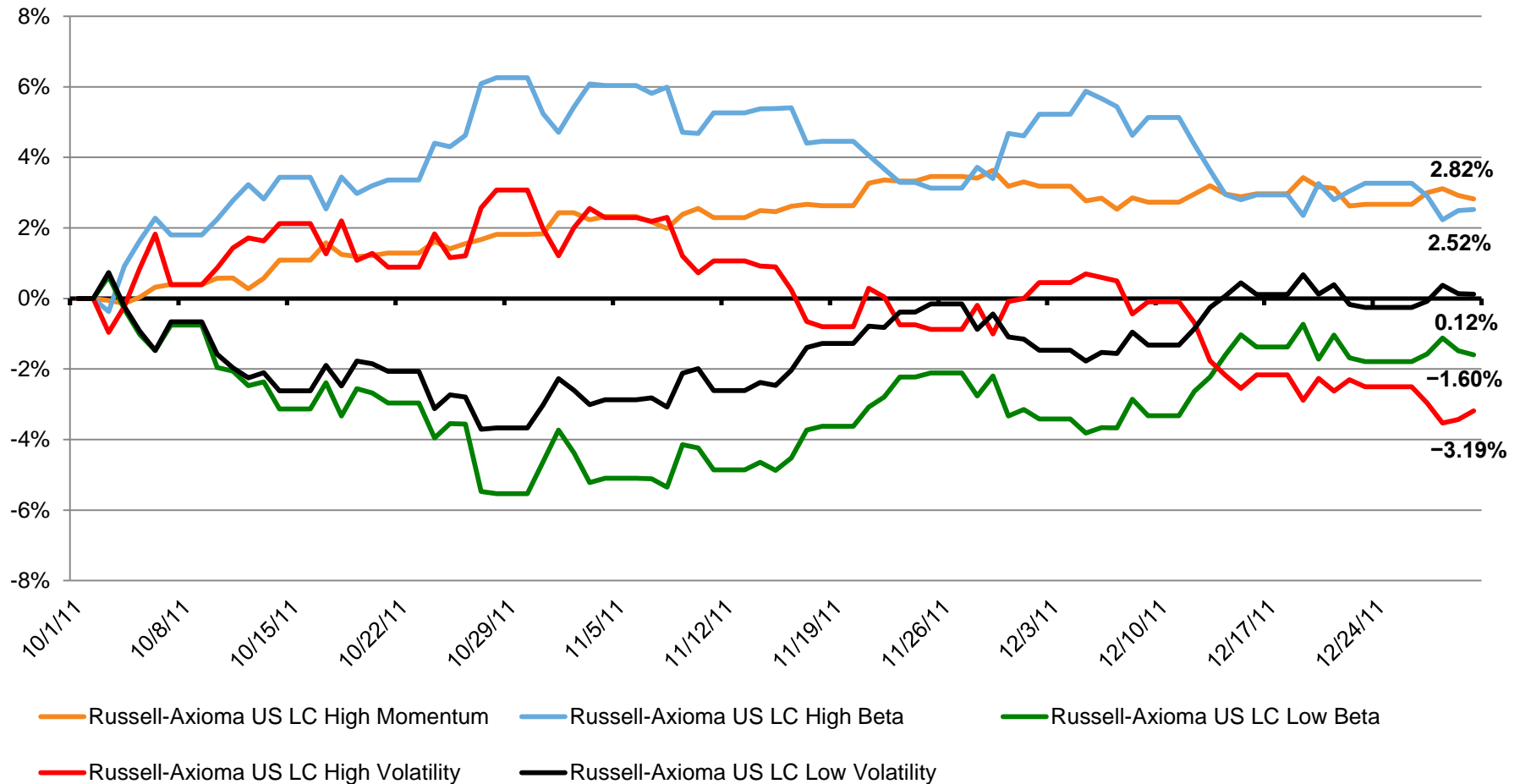
Cumulative returns in excess of the Russell 1000 Index — Q3 2011



Source: Russell Investments (6/30/11 - 9/30/11)  
Data is historical and not indicative of future results.

# Current market environment: Russell-Axioma Large Cap Factor Index performance

Cumulative returns in excess of the Russell 1000 Index — Q4 2011



Source: Russell Investments (9/30/11 - 12/31/11)  
Data is historical and not indicative of future results.



## Using Russell Factor ETFs to help manage factor exposures



# Russell Factor ETFs:

## Beta, volatility & momentum among most influential factors

**High/Low  
Beta**

Stocks with high or low predicted beta over the next 3 to 6 months

**High/Low  
Volatility**

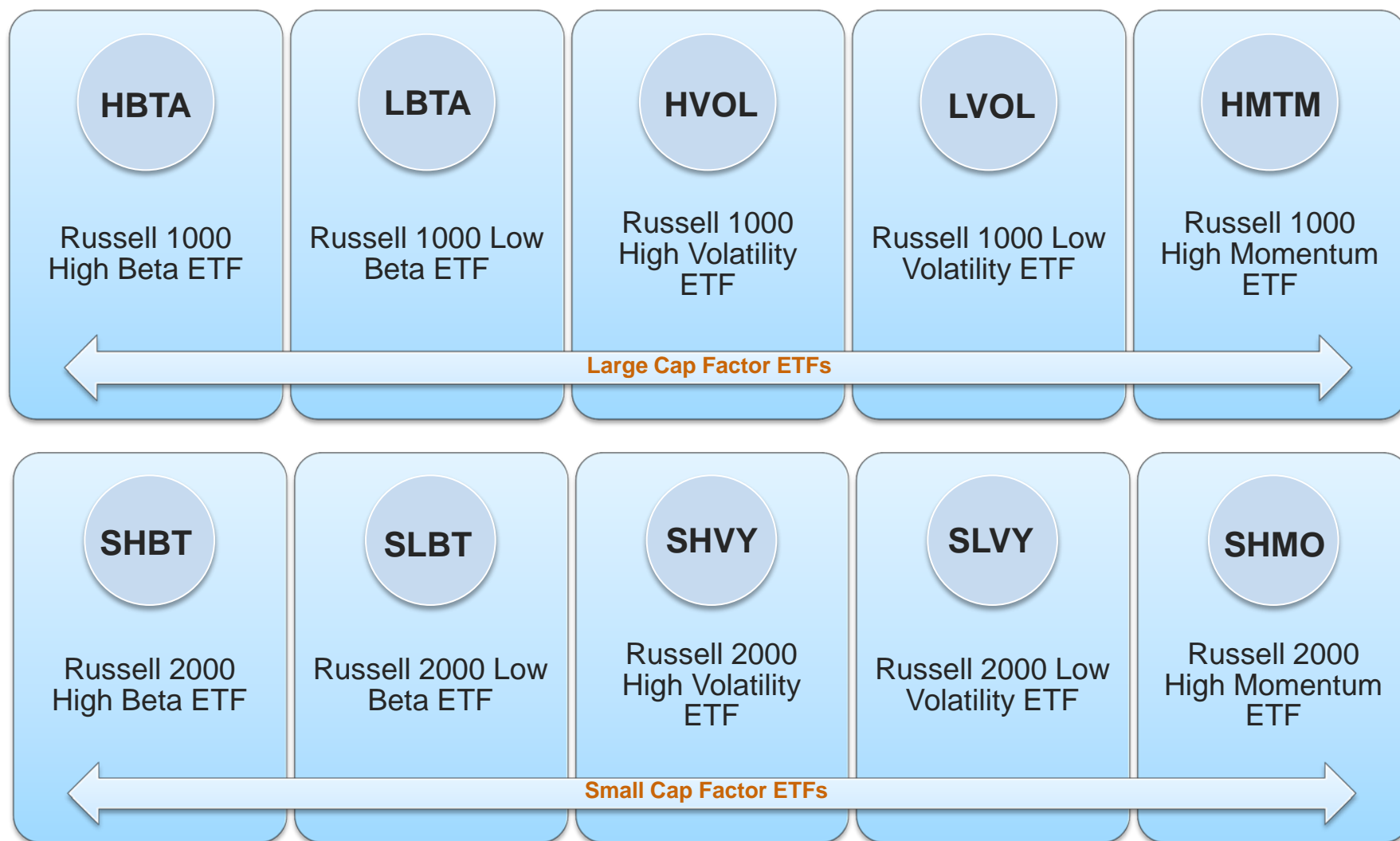
Stocks with high or low variability in total returns over the last 60 trading days

**High  
Momentum**

Stocks with high cumulative total returns over the last 250 trading days, excluding the last 20 trading days

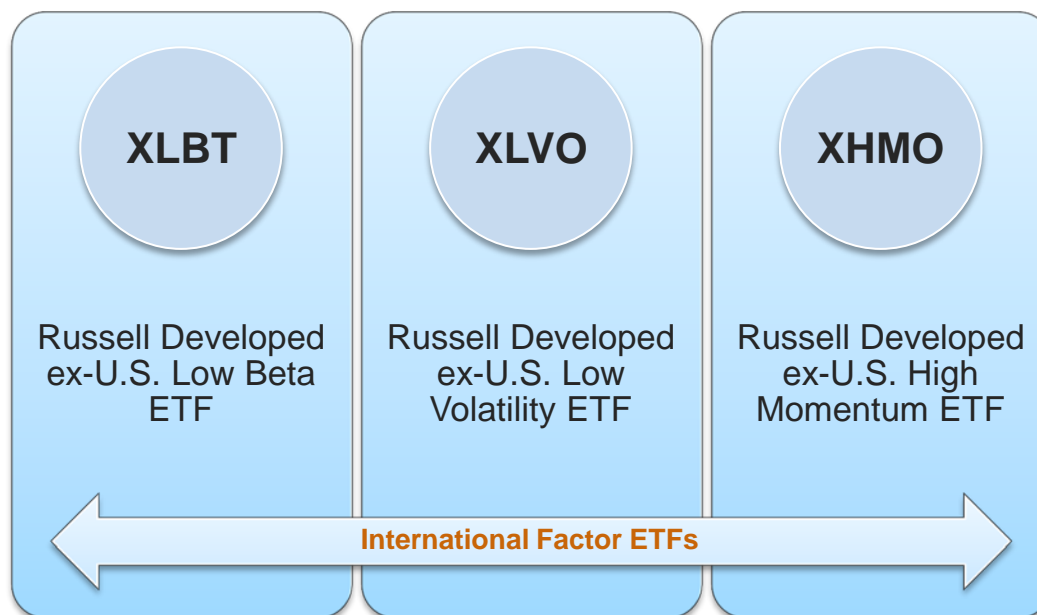
# Russell Factor ETFs:

## U.S. large cap and small cap equity portfolios



# Russell Factor ETFs:

## International large cap equity portfolios



# How to use Russell Factor ETFs

## Russell High & Low Beta ETFs

- **Adjust equity market sensitivity in a single trade**
- A cost-effective new way to directly increase or decrease your portfolio's equity market sensitivity in a single trade

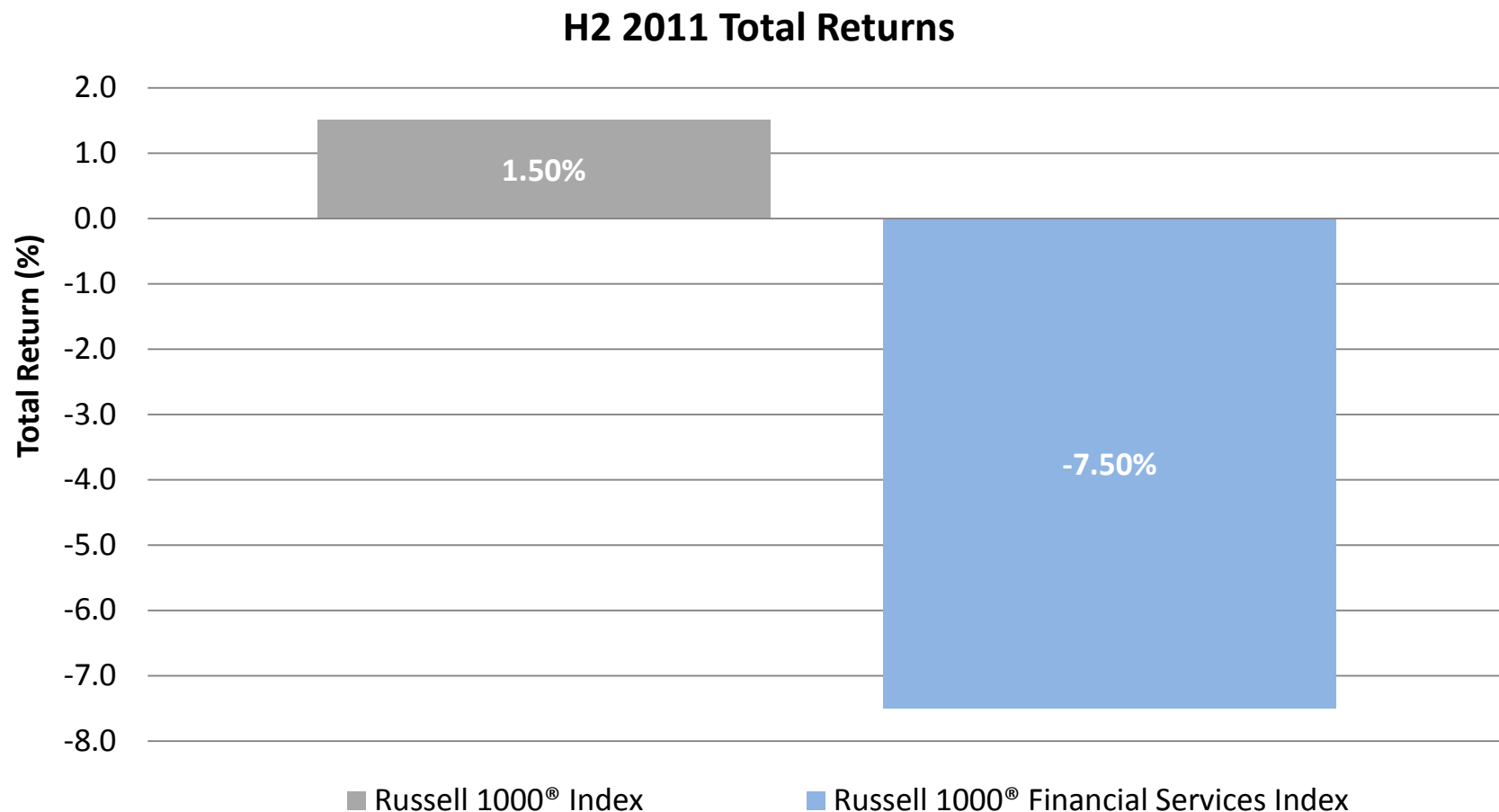
## Russell High & Low Volatility ETFs

- **Help manage volatility while staying invested**
- A cost-effective new way to directly manage volatility within your portfolio and target potentially smoother equity performance over time

## Russell High Momentum ETFs

- **Target stocks that have historically outperformed the market**
- A cost-effective new way to access a portfolio of stocks with the highest medium-term total returns to potentially increase diversification and enhance long-term risk-adjusted returns

# Financial services index underperformed in H2 2011: But what were the drivers of that underperformance?



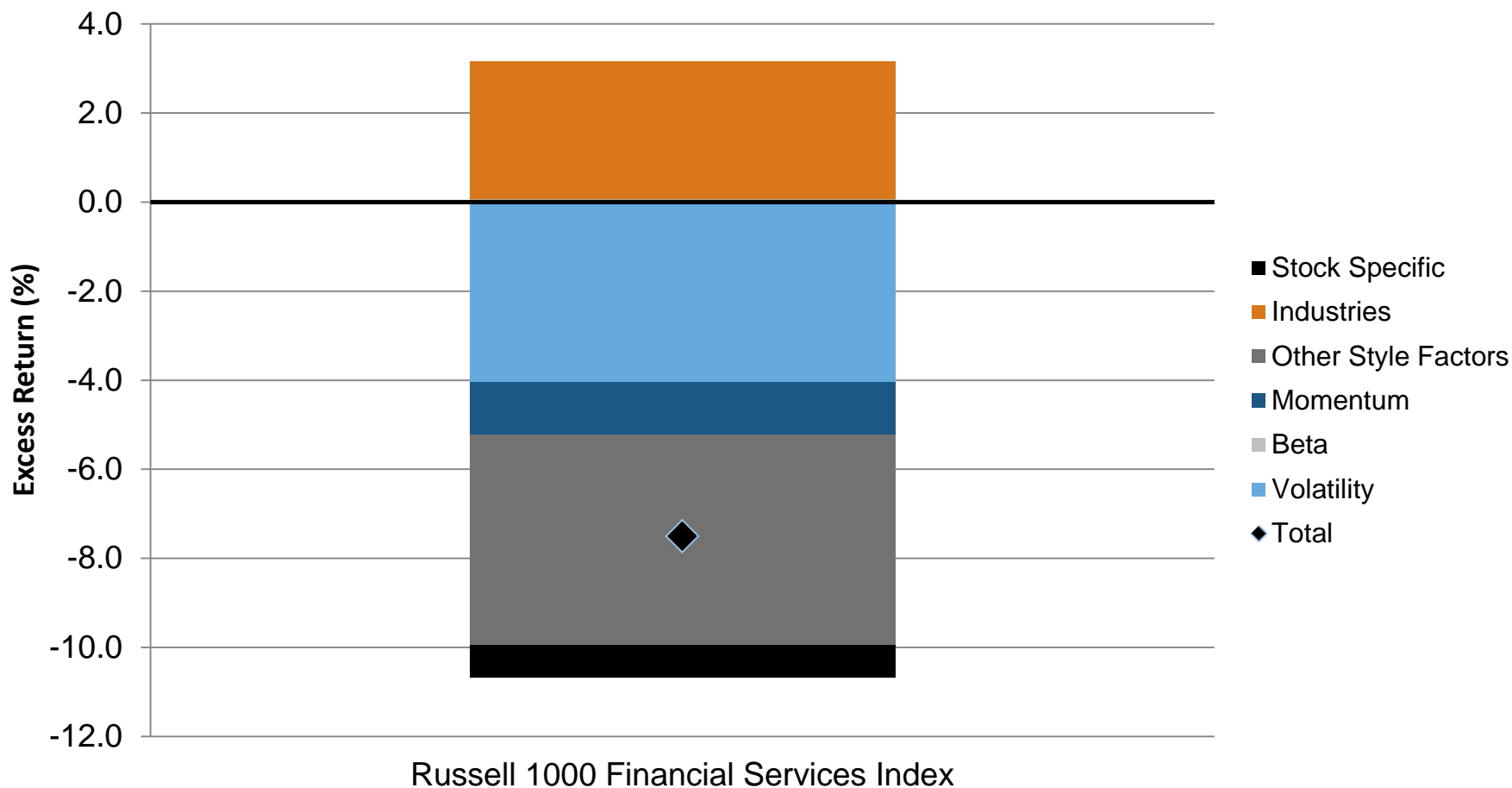
Source: Russell Investments, (6/30/11 - 12/31/11)

Index performance is for illustrative purposes only and does not represent actual fund performance. One cannot invest directly in an index. Past performance is not a guarantee of future results.

# Return attribution:

## Industry exposure added to excess return but volatility detracted

### Excess return vs. Russell 1000 Index: H2 2011

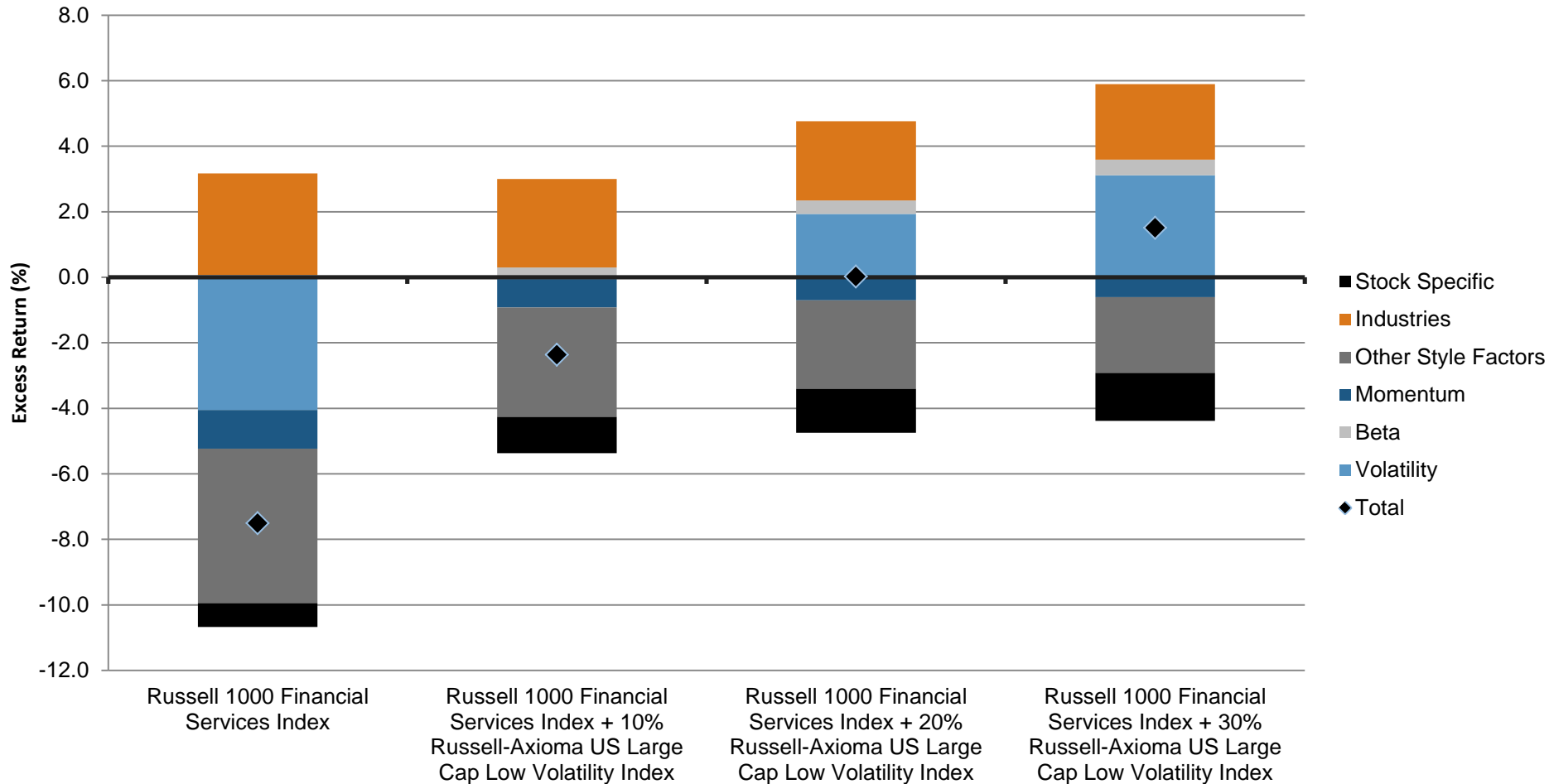


Source: Axioma U.S. Equity Medium Horizon Fundamental Factor Risk Model, 6/30/11–12/31/11. Benchmark: Russell 1000 Index.

Index performance is for illustrative purposes only and does not represent actual fund performance. One cannot invest directly in an index. Past performance is not a guarantee of future results.

# Excess return attribution:

## Managing volatility exposure helped improve performance



Source: Axioma U.S. Equity Medium Horizon Fundamental Factor Risk Model, 6/30/11 – 12/31/11. Benchmark: Russell 1000 Index.

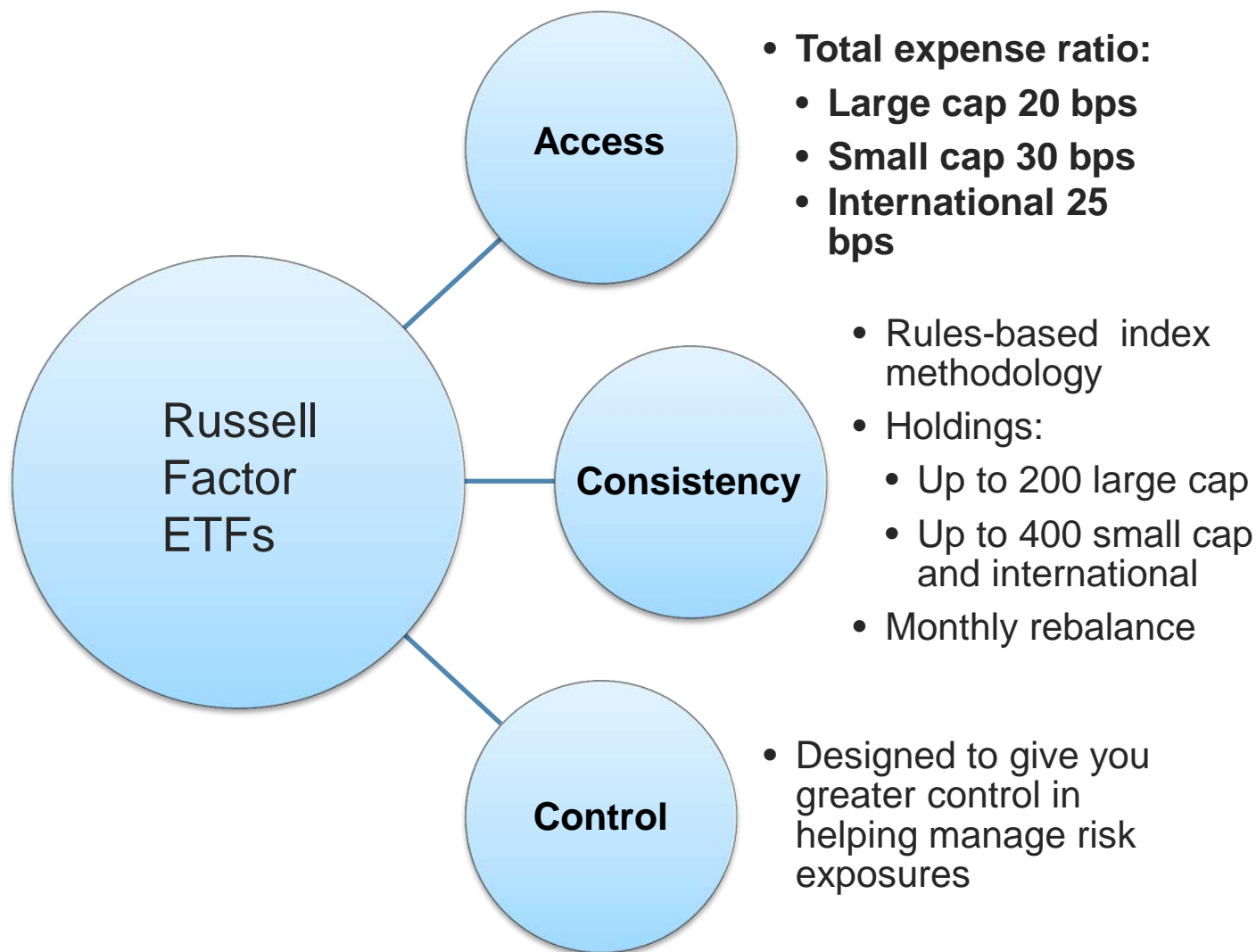
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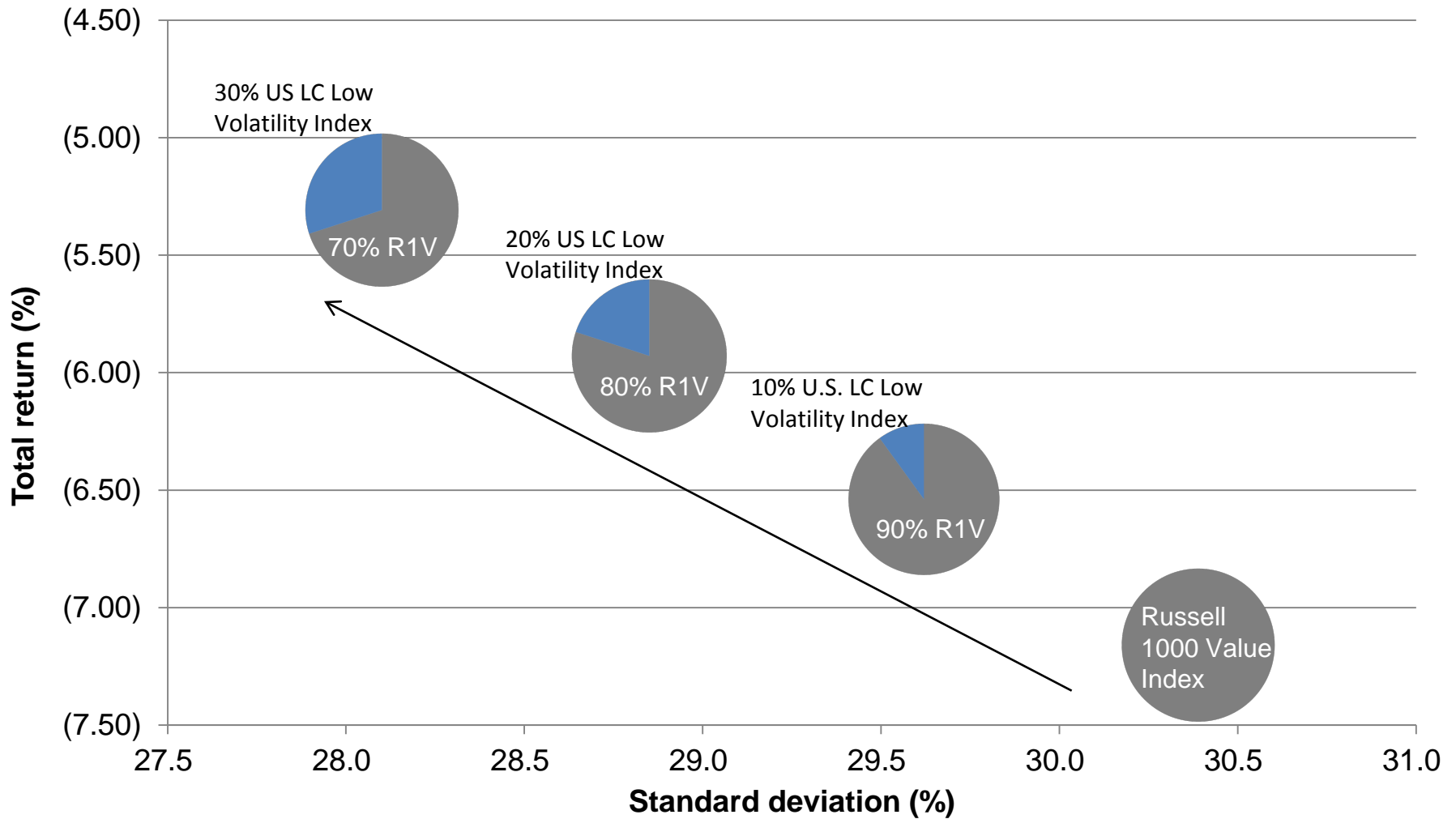
Appendix



# Russell Factor ETFs: Key Benefits



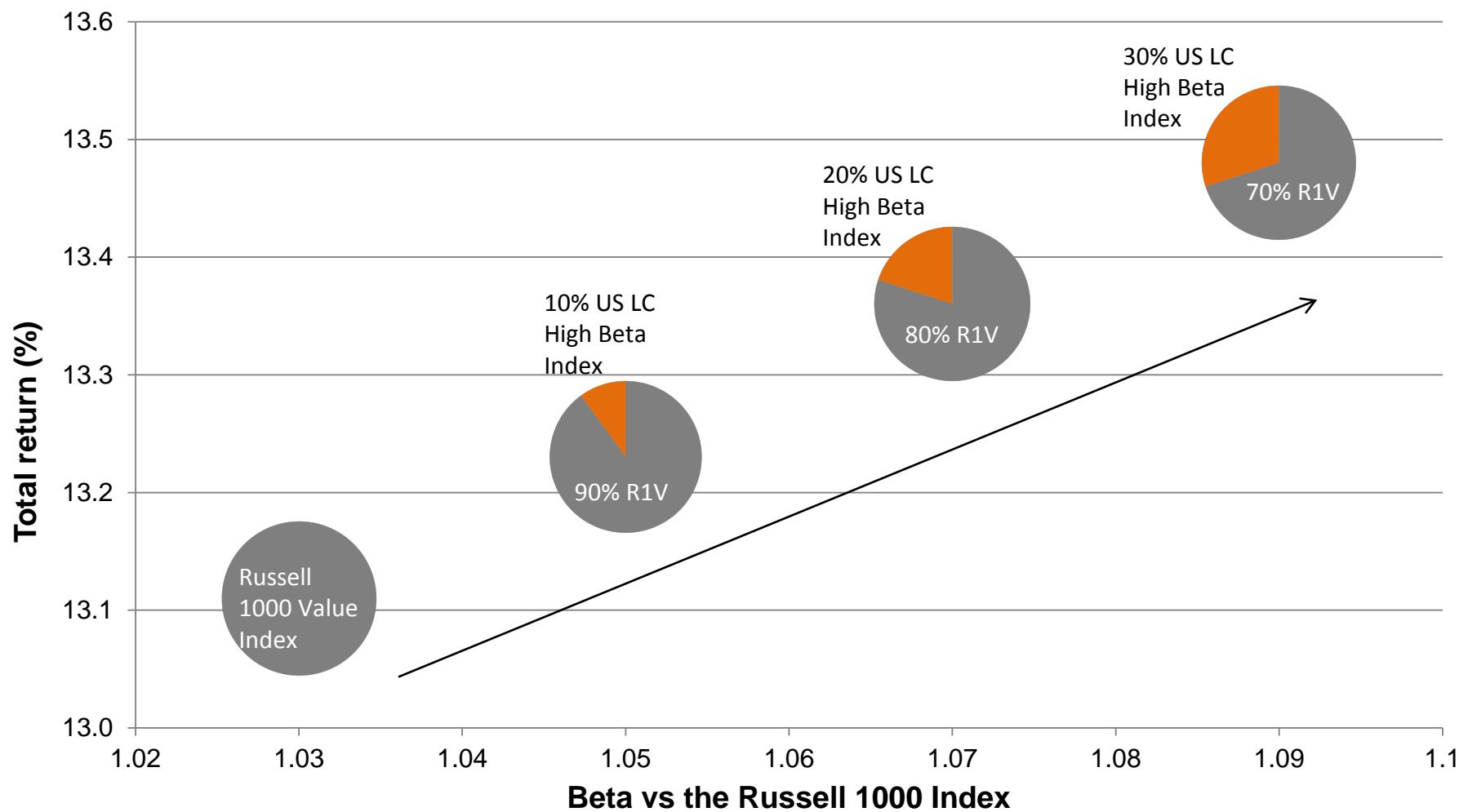
# Using factors to help manage a portfolio's volatility exposure



Source: Russell Investments (06/01/11 – 12/31/11)

Index performance is for illustrative purposes only and does not represent actual fund performance. One cannot invest directly in an index. Past performance is not a guarantee of future results.

# Using factors to help adjust a portfolio's beta



Source: Russell Investments (10/01/11 – 12/31/11)

Index performance is for illustrative purposes only and does not represent actual fund performance. One cannot invest directly in an index. Past performance is not a guarantee of future results.

# Russell-Axioma Factor Index methodology

	Russell-Axioma U.S. Large Cap Factor Indexes	Russell-Axioma U.S. Small Cap Factor Indexes	Russell-Axioma Developed ex-U.S. Large Cap Factor Indexes
ETF ticker	HMTM, HBTA, LBTA, HVOL, LVOL	SHMO, SHBT, SLBT, SHVY, SLVY	XHMO, XLBT, XLVO
Eligible universe	All constituents of the Russell 1000 Index	All constituents of the Russell 2000 Index	All constituents of the Russell Developed ex-U.S. Index
Number of holdings	Up to 200 securities	Up to 400 securities	Up to 400 securities
Objective	Factor returns consistent with exposure	Factor returns consistent with exposure	Factor returns consistent with exposure
Emphasized criteria	Portfolio with: <ul style="list-style-type: none"> <li>• Stocks with high or low exposure to the targeted style factor</li> <li>• Limited portfolio turnover at rebalance</li> <li>• Limited influences from other style factors</li> </ul>	Portfolio with: <ul style="list-style-type: none"> <li>• Stocks with high or low exposure to the targeted style factor</li> <li>• Limited portfolio turnover at rebalance</li> <li>• Limited influences from other style factors</li> </ul>	Portfolio with: <ul style="list-style-type: none"> <li>• Stocks with high or low exposure to the targeted style factor</li> <li>• Limited portfolio turnover at rebalance</li> <li>• Limited influences from other style factors</li> </ul>
Considerations	<ul style="list-style-type: none"> <li>• Turnover cap</li> <li>• Neutrality to other style factors</li> <li>• Liquidity</li> </ul>	<ul style="list-style-type: none"> <li>• Turnover cap</li> <li>• Neutrality to other style factors</li> <li>• Liquidity</li> </ul>	<ul style="list-style-type: none"> <li>• Turnover cap</li> <li>• Neutrality to other style factors</li> <li>• Liquidity</li> <li>• Neutrality to countries and currencies compared to eligible universe</li> </ul>
Index rebalancing	Monthly	Monthly	Monthly

For a more detailed review of index construction methodology, please see “Russell I-Axioma Factor Indexes (Long-only) Construction and Methodology” on the Russell Indexes website: <http://www.russell.com/indexes/data/Factor/russell-axioma-factor-long-only.asp>

# Russell ETFs:

## Exposure driven by insight™

### Russell ETFs

Russell Investment Discipline ETFs™		Russell Factor ETFs			Russell High Dividend Yield ETFs™	Russell OneFund ETFs®
<b>Large Cap</b> <ul style="list-style-type: none"> <li>AGRG - Russell Aggressive Growth ETF</li> <li>CONG - Russell Consistent Growth ETF</li> <li>GRPC - Russell Growth at a Reasonable Price ETF</li> <li>EQIN - Russell Equity Income ETF</li> <li>LWPE - Russell Low P/E ETF</li> <li>CNTR - Russell Contrarian ETF</li> </ul>	<b>Small Cap</b> <ul style="list-style-type: none"> <li>SGGG – Russell Small Cap Aggressive Growth ETF</li> <li>SCOG – Russell Small Cap Consistent Growth ETF</li> <li>SCLP - Russell Small Cap Low P/E ETF</li> <li>SCTR - Russell Small Cap Contrarian ETF</li> </ul>	<b>Large Cap</b> <ul style="list-style-type: none"> <li>HBTA - Russell 1000® High Beta ETF</li> <li>LBTA - Russell 1000® Low Beta ETF</li> <li>HVOL - Russell 1000® High Volatility ETF</li> <li>LVOL - Russell 1000® Low Volatility ETF</li> <li>HMTM - Russell 1000® High Momentum ETF</li> </ul>	<b>Small Cap</b> <ul style="list-style-type: none"> <li>SHBT - Russell 2000® High Beta ETF</li> <li>SLBT - Russell 2000® Low Beta ETF</li> <li>SHVY - Russell 2000® High Volatility ETF</li> <li>SLVY - Russell 2000® Low Volatility ETF</li> <li>SHMO - Russell 2000® High Momentum ETF</li> </ul>	<b>International</b> <ul style="list-style-type: none"> <li>XLBT - Russell Developed ex-U.S. Low Beta ETF</li> <li>XLVO - Russell Developed ex-U.S. Low Volatility ETF</li> <li>XHMO - Russell Developed ex-U.S. High Momentum ETF</li> </ul>	<b>Large Cap</b> <ul style="list-style-type: none"> <li>HDIV – Russell High Dividend Yield ETF</li> </ul> <b>Small Cap</b> <ul style="list-style-type: none"> <li>DIVS - Russell Small Cap High Dividend Yield ETF</li> </ul>	<ul style="list-style-type: none"> <li>ONEF - Russell Equity ETF</li> </ul>

Note: ONEF inception date was 5/11/10. On April 15, 2011, One Fund was renamed Russell Equity ETF.

**Russell ETFs**

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**Thank you!**

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