

Defensive Equity: a Low Volatility Strategy

University of Western Ontario Pension

Bruce Curwood, MBA, CFA, CIMA, Acc.Dir

May 22, 2012

Important information

Nothing contained in this material is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of any investment, nor a solicitation of any type. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

These views are subject to change at any time based upon market or other conditions and are current as of the date at the beginning of the document. The opinions expressed in this material are not necessarily those held by Russell Investments, its affiliates or subsidiaries. While all material is deemed to be reliable, accuracy and completeness cannot be guaranteed. The information, analysis and opinions expressed herein are for general information only and are not intended to provide specific advice or recommendations for any individual or entity.

Please remember that all investments carry some level of risk, including the potential loss of principal invested. They do not typically grow at an even rate of return and may experience negative growth. As with any type of portfolio structuring, attempting to reduce risk and increase return could, at certain times, unintentionally reduce returns.

Diversification and strategic asset allocation do not assure profit or protect against loss in declining markets.

Indexes and/or benchmarks are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment.

Russell Investments is the owner of the trademarks, service marks, and copyrights related to its respective indexes.

Source for MSCI data: MSCI. The MSCI information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used to create any financial instruments or products or any indices. The MSCI information is provided on an "as is" basis and the user of this information assumes the entire risk of any use made of this information. MSCI, each of its affiliates and each other person involved in or related to compiling, computing or creating any MSCI information (collectively, the MSCI Parties) expressly disclaims all warranties (including, without limitation, any warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall any MSCI Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) or any other damages.

Unless otherwise noted, source for the data in this presentation is Russell Investments.

Copyright© Russell Investments 2012. All rights reserved. This material is proprietary and may not be reproduced, transferred, or distributed in any form without prior written Permission from Russell Investments. It is delivered on an "as is" basis without warranty.

Russell Investment Group is a Washington, USA corporation, which operates through subsidiaries worldwide, including Russell Investments, and is a subsidiary of The Northwestern Mutual Life Insurance Company.

The Russell logo is a trademark and service mark of Russell Investments.

Date of first use: January 2012

USI-11903-01-13

THIS CONFERENCE MATERIAL WAS CREATED BY RUSSELL AS AN EDUCATIONAL TOOL, AND IS NOT INTENDED FOR FURTHER DISTRIBUTION.

**Defensive equity:
Is the market mispricing risk?**

Risk should mean a risk premium

Some stocks are riskier than others

5

 Russell Investments

Does it follow that risky stocks have generated higher returns?

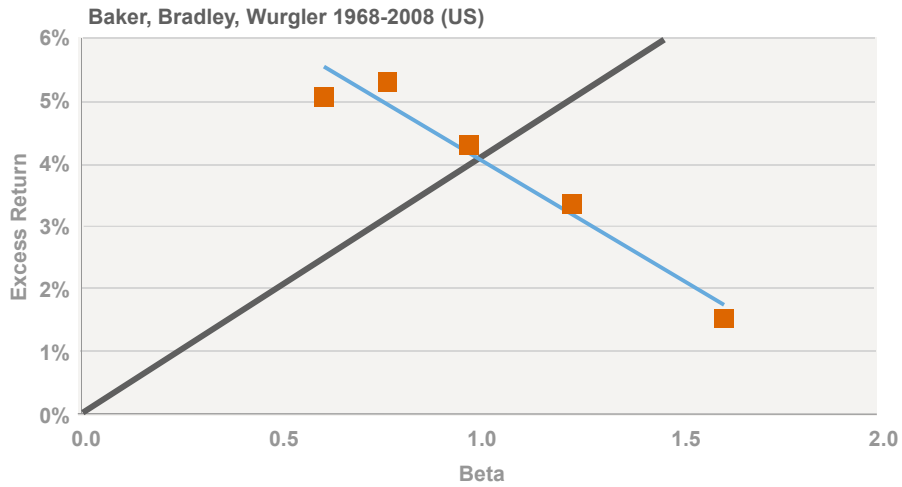
“In a nutshell, market β seems to have no role in explaining the average returns on NYSE, AMEX and NASDAQ stocks for 1963-1990”

Source: “The Cross-Section of Expected Stock Returns” by Eugene F. Fama and Kenneth R. French. *Journal of Finance*, June 1992

6

 Russell Investments

What price does the market place on that riskiness?

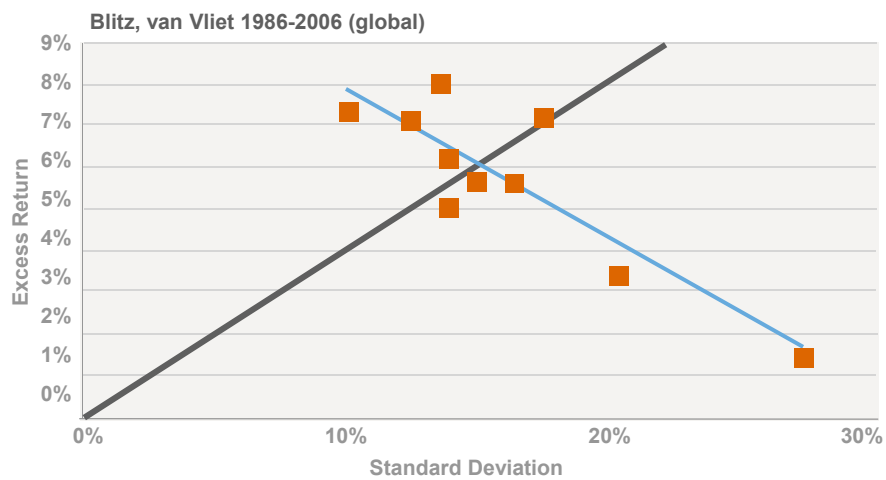


Source: "Benchmarks as Limits to Arbitrage: Understanding the Low-Volatility Anomaly" by Malcolm Baker, Brendan Bradley and Jeffrey Wurgler. *Financial Analysts' Journal* 67(1). Jan/Feb 2011. The chart shows the beta and the return above the risk-free rate over the 41 year period of five equal-sized quintiles calculated according to trailing beta.

7

Russell Investments

What price does the market place on that riskiness?



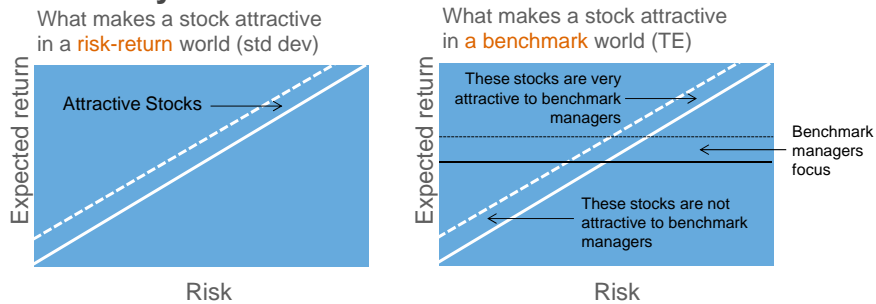
Source: "The volatility effect: lower risk without lower return" by David C. Blitz and Pim van Vliet. *Journal of Portfolio Management*, Fall 2007. The chart shows the standard deviation and the return above the risk-free rate over the 20 year period of ten deciles calculated according to trailing 3-year volatility. The difference between the first and tenth decile returns and standard deviations was 5.9% and 23.7% respectively. Results were also broken down by region, with the pattern holding within each region as well as in the aggregate.

8

Russell Investments

One possible explanation: manager focus on benchmarks

- Equity managers are given a one-dimensional benchmark: to outperform the broad market
- The risk they manage is tracking error (TE)—**NOT** volatility or standard deviation



9

Russell Investments

For a closer look, analysis is based on the Russell Global Index series

- Overview of Russell Global Indexes:**
 - An extension of the Russell 3000™ methodology to 48 developed and emerging markets around world
 - Captures 98% of global capitalization
 - Rules-based, reconstituted annually in late June
 - Large cap: 3,259 stocks (136 Canadian)
 - Small cap: 6,794 stocks (376 Canadian)
 - 50% of market is classified as value, 50% as growth
 - 50% of market is classified as defensive, 50% as dynamic
 - Global perspective: consistent approach across markets to large/small, value/growth and defensive/dynamic

Data as of 9/30/2011

10

Russell Investments

The quantitative and qualitative sides of defensiveness

- **Accounting-based quality indicators**
 - **Debt/equity ratio: Leverage amplifies business results**
 - **EPS variability: Sensitivity to economic and product cycles**
 - **Return on assets: Strength of business model**

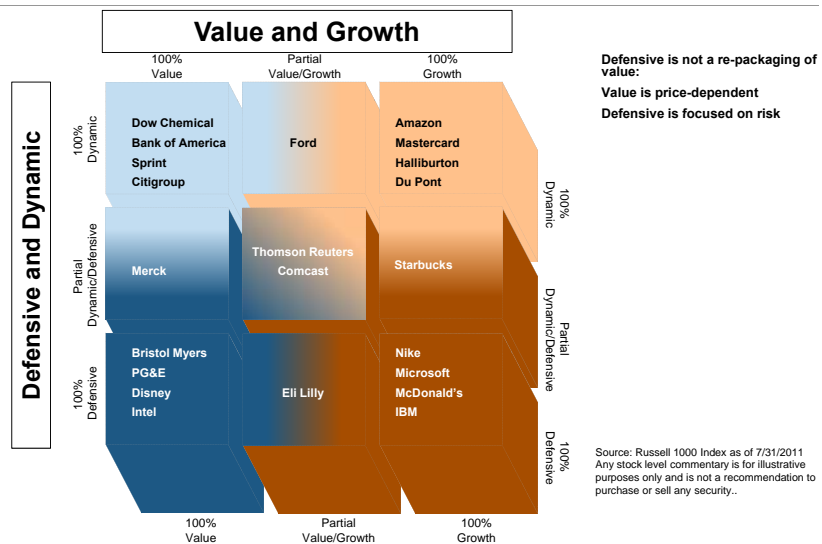
- **Stock volatility**
 - **60-Month total return volatility: Long horizon**
 - **52-Week total return volatility: Short horizon, higher frequency**

- **Russell defensive and dynamic indexes now available for Canada and other markets around the world**

11

Russell Investments

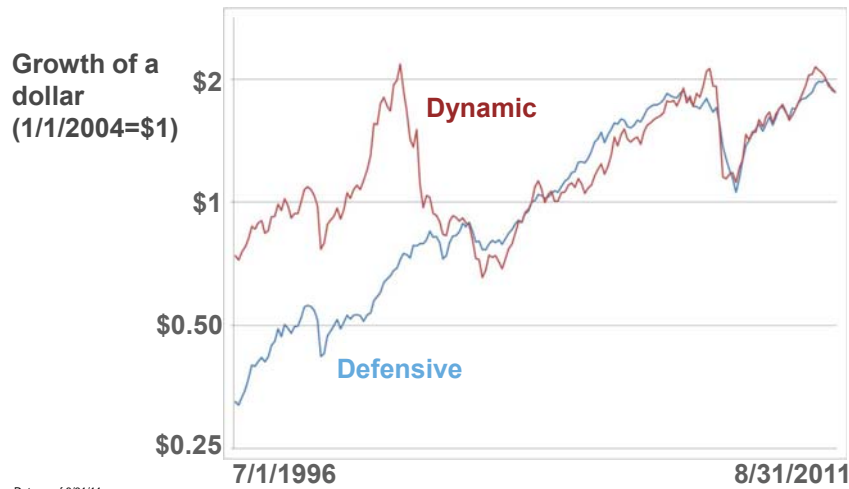
Representative U.S. stocks: defensive/dynamic vs. value/growth



12

Russell Investments

However, the Canada story is largely a story of sectors and one particular stock (Nortel)

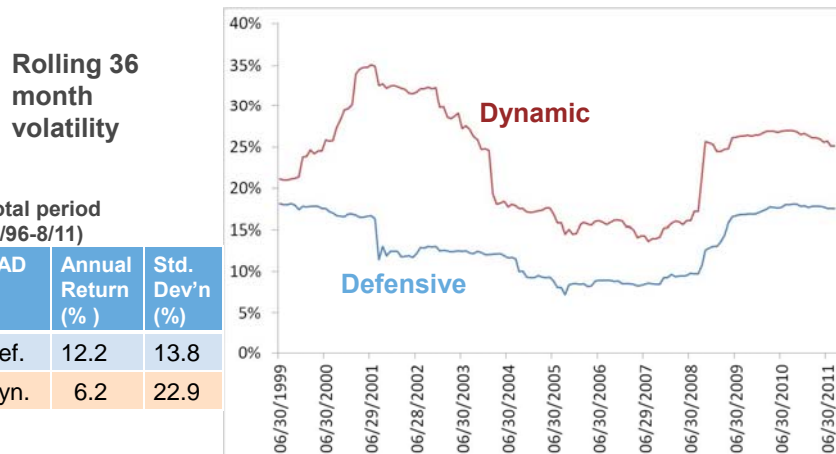


Data as of 8/31/11
Returns prior to March 2011 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities. Indexes are unmanaged and cannot be invested in directly. Past performance is not indicative of future results.

15

Russell Investments

Defensive index has been less volatile



Total period (7/96-8/11)

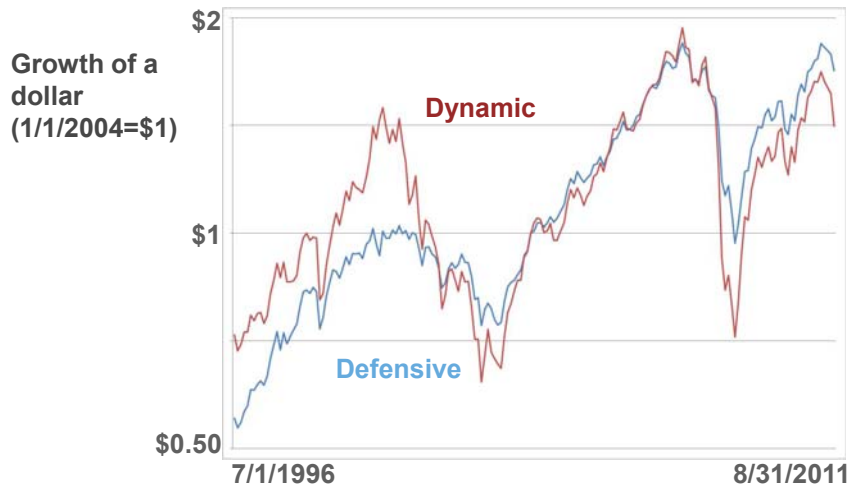
CAD	Annual Return (%)	Std. Dev'n (%)
Def.	12.2	13.8
Dyn.	6.2	22.9

Data as of 8/31/11
Returns prior to March 2011 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities. Indexes are unmanaged and cannot be invested in directly. Past performance is not indicative of future results.

16

Russell Investments

Globally, defensive won during bear markets



Data as of 8/31/11

Returns prior to March 2011 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities. Indexes are unmanaged and cannot be invested in directly. Past performance is not indicative of future results.

17

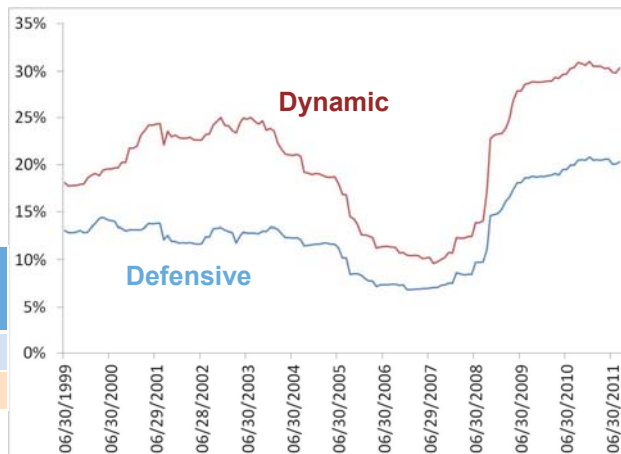
Russell Investments

Global defensive index has been less volatile

Rolling 36 month volatility

Total period (7/96-8/11)

USD	Annual Return (%)	Std. Dev'n (%)
Def.	7.6	13.7
Dyn.	4.5	21.2



Data as of 8/31/11

Returns prior to March 2011 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities. Indexes are unmanaged and cannot be invested in directly. Past performance is not indicative of future results.

18

Russell Investments

How you report will affect how a defensive strategy is perceived

- If returns continue to be measured only relative to market benchmark, the strategy will appear to create risk or high tracking error (>TE)
- Keep in mind that defensive affects both risk and return (and align measurement to this)
- **Risk:** lower risk (in absolute terms or std dev - not tracking error)
- **Return:** may be above-market after adjusting for risk – but it's optimistic to believe it will be above-market before adjusting for risk

19

 Russell Investments

Summary – Defensive equity can change how you look at:

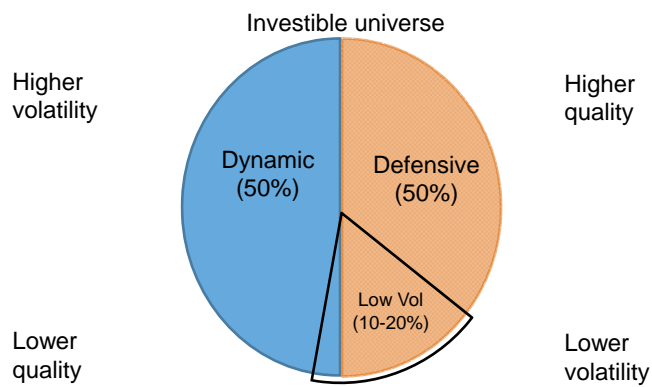
- **Active management**
 - The best active managers often lean toward dynamic stocks
- **Equity strategy**
 - Some investors will choose to include a dedicated defensive component in their portfolio structure
- **Asset allocation**
 - Canada and global defensive benchmarks are now available
- **Performance measurement**
 - Defensive equity is first of all about lower risk

20

 Russell Investments

Benchmarking your defensive equity strategy

Equity markets have varying exposure to Defensive and Dynamic stocks



A good benchmark will:

- Represent the investible universe
- Have a transparent construction methodology

What does “Defensive” or “Dynamic” indicate?

- Defensive companies are relatively stable
- Dynamic companies are relatively less stable

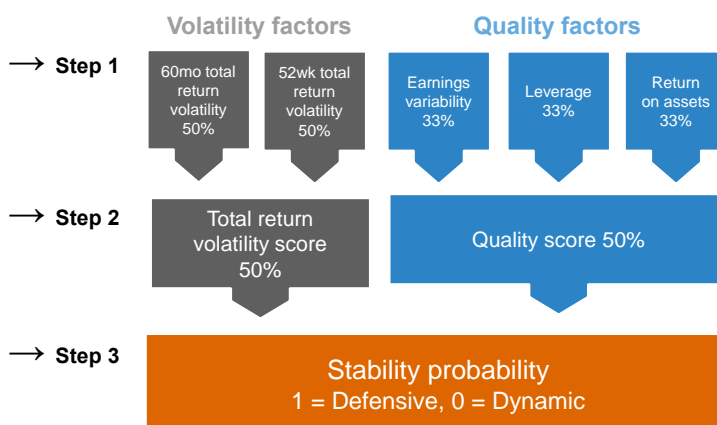
Companies	Defensive	Dynamic
Sensitivity to economic cycles, credit cycles, and market volatility	Less	More
Accounting measures – Quality	50%	
Return on assets	Higher	Lower
Debt to equity ratio	Lower	Higher
Earnings per share variability	Lower	Higher
Market measures – Volatility	50%	
1-Year weekly total return volatility	Lower	Higher
5-Year monthly total return volatility	Lower	Higher

Source: Russell research. The information above is meant to reflect what our research has found to be the relative characteristics and sensitivity of defensive and dynamic companies to market cycles.

23

Russell Investments

Constructing the Russell Stability Indexes



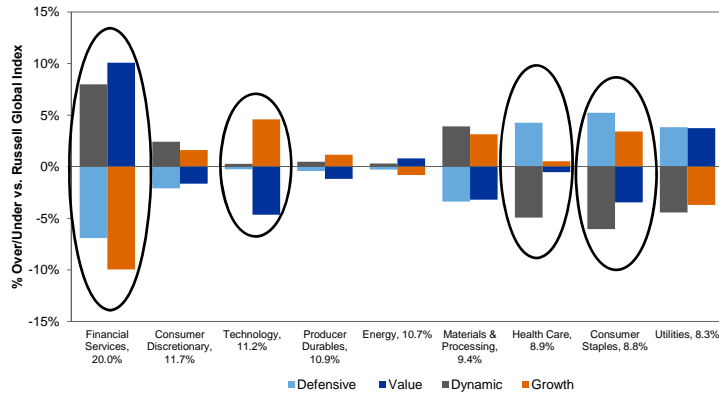
Percentages shown are the weights Russell Indexes apply when determining whether a security falls into the Dynamic or Defensive Index.

24

Russell Investments

How do Dynamic & Defensive differ from a broad market index? An example.

- Russell Global Defensive Index was overweight consumer staples, health care, and utilities relative to the Russell Global Index as of 9/30/2011.
- In contrast, Russell Global Dynamic Index was overweight financial services, materials and processing, and consumer discretionary relative to the Russell Global Index as of 9/30/2011.

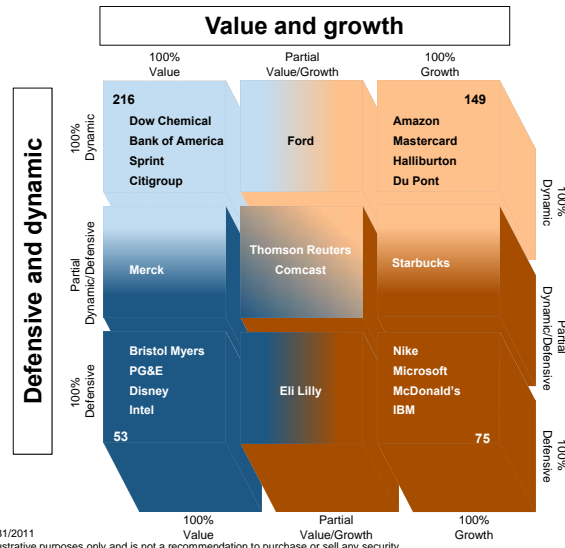


As of 9/30/2011. Data based on the Russell Global Index. Source: Russell Indexes. Indexes are unmanaged and cannot be invested in directly. Data is as of the specified date. Current data may be different.

25

Russell Investments

Defensive is not “deep value” Dynamic is not “aggressive growth”

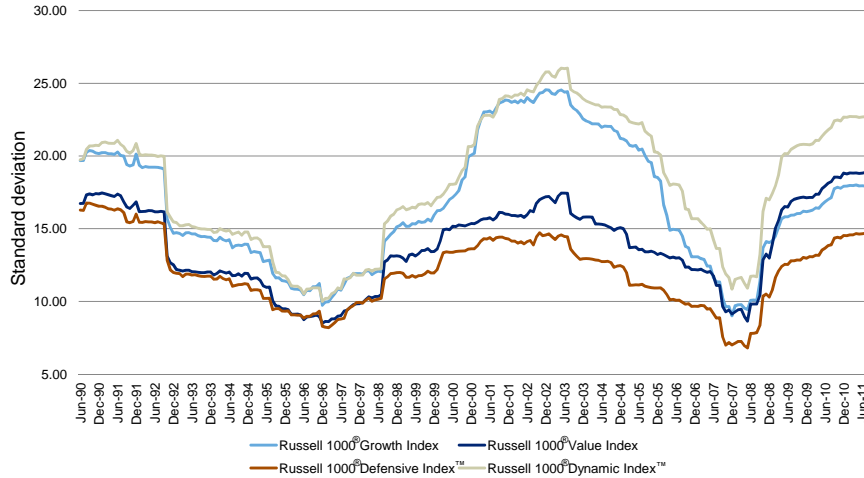


Source: Russell 1000 Index as of 7/31/2011
Any stock level commentary is for illustrative purposes only and is not a recommendation to purchase or sell any security.

26

Russell Investments

Relative risk of defensive and dynamic indexes



Data as of 8/31/11
For the Defensive & Dynamic Index, returns prior to August 2011 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities. Indexes are unmanaged and cannot be invested in directly. Past performance is not indicative of future results.

27

Russell Investments

Does defensive do well in volatile markets?

- The Russell Global Defensive Index had the best risk-adjusted return among the core, growth, value, and dynamic indexes over the long-term.
- Over the long-term, the Russell Global Defensive Index had the lowest beta among these indexes as well.

Russell Global Index, All figures annualized

Index	Total Return	Volatility (Standard Deviation)	Sharpe Ratio	Beta vs. Russell Global Index	Tracking Error vs. Russell Global Index
Russell Global Defensive Index™	7.1%	13.7%	0.30	0.8	5.0
Russell Global Value Index	6.4%	16.6%	0.20	0.9	4.7
Russell Global Index	5.5%	17.1%	0.14	1.0	--
Russell Global Growth Index	4.1%	18.7%	0.06	1.1	4.5
Russell Global Dynamic Index™	3.5%	21.4%	0.02	1.2	5.3

Data based on the Russell Global Index. Source: Russell Indexes. Data range July 1996-September 2011. Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

28

Russell Investments

Let your market environment drive your style

- The four style indexes behave differently in up and down markets
- The difference in returns increases in order of Defensive, Value, Growth, and Dynamic

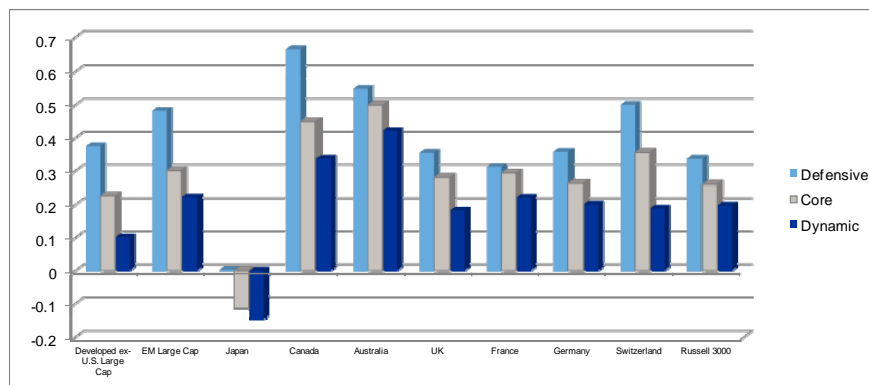
		Down months	Up months	
Russell Global Defensive Index	mean return	-2.8%	3.1%	Historically lowest downside risk
	% of market return	71%	83%	
Russell Global Value Index	mean return	-3.5%	3.6%	
	% of market return	88%	94%	
Russell Global Index	Number of months	74	108	
	mean return	-4.0%	3.8%	
	% of market return	100%	100%	
Russell Global Growth Index	mean return	-4.4%	4.0%	Historically highest upside potential
	% of market return	112%	105%	
Russell Global Dynamic Index	mean return	-5.2%	4.5%	
	% of market return	130%	119%	

Data based on the Russell Global Index. Source: Russell Indexes. Data range July 1996-September 2011. Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

29

Russell Investments

Annualized Sharpe Ratios July 1996- August 2011



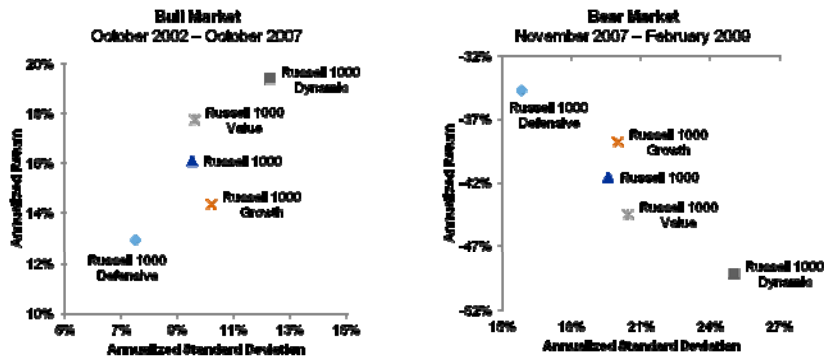
Data based on the Russell 1000 Index. Source: Russell Indexes. Defensive = Russell Global Defensive Index country or region as labeled (eg Russell Global Defensive Japan). Core = the parent index (eg Russell Global Japan). Dynamic = Russell Global Dynamic Index country or region as labeled (eg Russell Global Dynamic Japan). Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

30

Russell Investments

Risk/reward in bull and bear markets*

- Each Style offers a different risk/reward profile in bull and bear markets
- With regards to Stability, Defensive stocks offered a better risk/reward profile in a recent bear market, while Dynamic stocks offered a higher reward (albeit at greater risk) in a recent bull market



* Bull market beginning and end based on a 15% reversal from the previous market cycle, based on the Russell 3000® Index. Data based on the Russell 1000® Index. Source: Russell Indexes. Indexes are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology, however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

31

Russell Investments

Risk and return by country and region

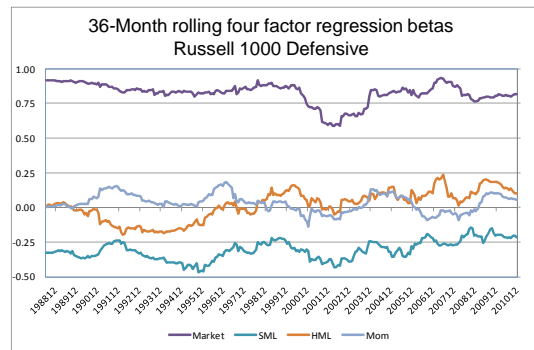
- Defensive has *lower volatility* than Dynamic and the overall market in all cases (by design)
- Defensive has *similar or higher arithmetic historical returns*
- Defensive has *higher geometric historical returns* in all cases
- Defensive's *Sharpe ratio has been higher* in all cases
 - By 46% for Global
 - By 65% for Developed ex-US
 - By 60% for Emerging Markets
 - By 6-48% for individual countries
- Defensive seems to be most effective at a *regional and global level*

See Slide 28 in appendix for detailed data
Slide references the Russell Global Large Cap Indexes, July 1996-August 2011
Indexes are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology, however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

32

Russell Investments

US Defensive factor tilts



	Russell 3000 Defensive Index		
	7/1/85-12/31/10	1st Half	2nd Half
Alpha*12	0.9%	0.8%	0.6%
Market beta	0.85	0.89	0.80
Size beta	-0.21	-0.22	-0.20
Value beta	0.06	-0.11	0.13
Momentum beta	0.04	0.03	0.06

Data based on the Russell 1000[®] Index and the Russell 3000[®] Index. Source: Russell Indexes
Indexes are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

- Value and momentum tilts are small and vary over time
- Persistent tilt to large cap (generally associated with lower factor returns)
- Defensive has had positive alpha and higher geometric returns since inception, and in each half period

33

Russell Investments

Statistical tests CAPM and Fama-French factor models

Russell Global Defensive Index			
	7/1/96-10/30/11	1st Half	2nd Half
Alpha*12	1.9%	2.0%	1.8%
Beta	0.78	0.75	0.81

Russell Developed ex-US LC Defensive Index			
	7/1/96-8/31/11	1st Half	2nd Half
Alpha*12	2.3%	1.5%	3.1%
Beta	0.83	0.80	0.86

Russell 3000 Defensive Index			
	7/1/85-12/31/10	1st Half	2nd Half
Alpha*12	1.2%	1.1%	0.3%
Beta	0.81	0.91	0.74

	Russell 3000 Defensive Index		
	7/1/85-12/31/10	1st Half	2nd Half
Alpha*12	0.9%	0.8%	0.6%
Market beta	0.85	0.89	0.80
Size beta	-0.21	-0.22	-0.20
Value beta	0.06	-0.11	0.13
Momentum beta	0.04	0.03	0.06

Bold numbers are statistically significant

In the charts above, 1st half is the data from 7/1/96 – 2/28/04, 2nd half is from 3/31/04 – 10/30/11.
Data based on the Russell 1000[®] Index and the Russell 3000[®] Index. Source: Russell Indexes
Indexes are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

- Defensive has outperformed the market over all periods on a *risk-adjusted* basis
 - Statistically significant for Global and ex-US from inception
 - Outperformance has been modest in the US since late '90s
- US Defensive outperforms even after adjusting for size, value and momentum

34

Russell Investments

Volatility is the most important factor And Defensive/Dynamic is more important than Value/Growth

Volatility of Axioma factor exposures*

Annualized Volatility	Australia	Canada	Emerging	Europe	UK	Japan	US	World
Exchange Rate Sensitivity			2.3%	4.4%	2.6%	2.2%	2.1%	1.8%
Growth	3.2%	3.2%	2.4%	2.4%	1.7%	2.1%	1.5%	2.5%
Leverage	3.3%	2.6%	2.7%	2.5%	2.6%	3.2%	2.8%	2.0%
Liquidity	3.2%	2.7%	3.4%	4.5%	2.2%	3.5%	2.9%	2.4%
Market Sensitivity	5.6%	6.5%			5.2%	4.1%	4.8%	
Medium-Term Momentum	5.2%	5.0%	3.4%	5.2%	4.0%	4.0%	4.6%	3.8%
Short-Term Momentum	5.4%	5.2%	4.1%	4.5%	4.0%	5.9%	5.3%	4.3%
Size	5.4%	4.6%	5.1%	6.0%	6.4%	5.8%	4.3%	5.0%
Value	3.8%	3.4%	2.7%	3.0%	2.5%	2.8%	1.8%	3.0%
Volatility	8.4%	5.9%	5.2%	4.9%	4.0%	3.3%	6.7%	5.7%

	Global Defensive-Dynamic	Developed-Emerging	US - Global Ex-US	Global LC-SC
Monthly stdev	3.0%	4.5%	2.6%	2.3%

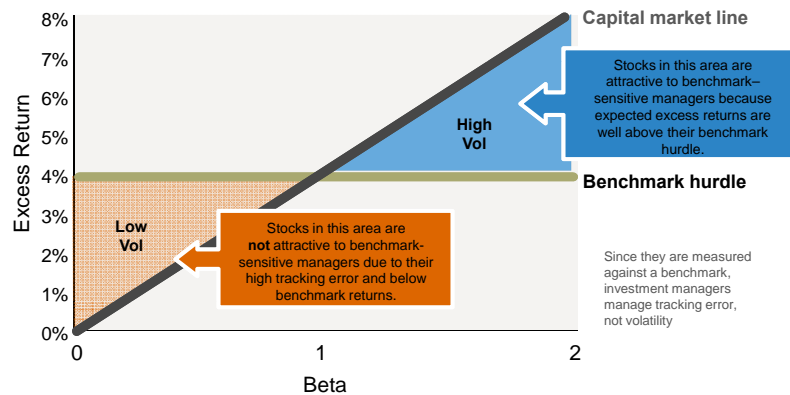
- In most cases globally, the Axioma Volatility factor has the highest volatility of all factors, so a Volatility tilt has greater impact on returns than any other factor (consistent with Barra)
- The monthly return differences between Defensive and Dynamic are almost twice as large as Value vs Growth, and larger than Global Large vs Small
- Managing these tilts are critical, especially because Defensive has higher absolute volatility, and because Defensive returns have had similar or better returns than Dynamic over long periods

Axioma and Russell Investments are the source and joint owners of trademarks, service marks and copyrights related to the Russell-Axioma Factor Indexes.
*Source: Russell, Axioma; monthly data 2/1995 - 1/2011 for US and 2/1999 - 1/2011 for World and non-US countries
Indexes are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment.
Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

35

Russell Investments

Why this anomaly exists and may persist Low volatility stocks are unattractive to benchmarked managers

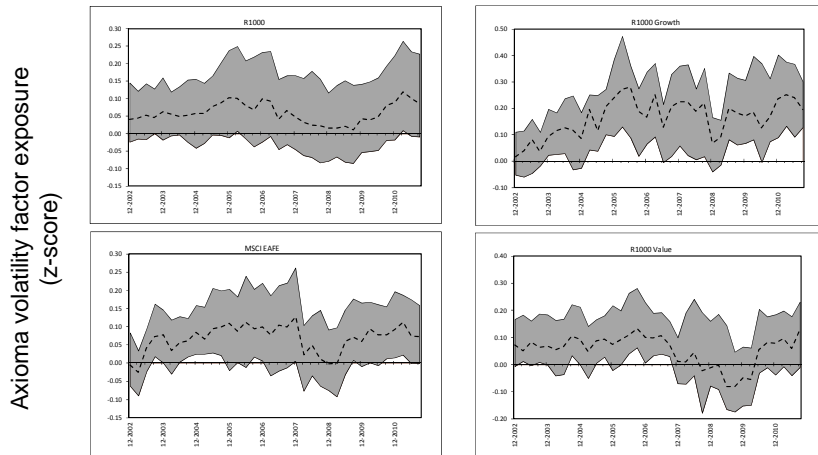


This hypothetical example is for illustration only and is not intended to reflect the return of any actual investment. Investments do not typically grow at an even rate of return and may experience negative growth

36

Russell Investments

Managers have a high volatility tilt



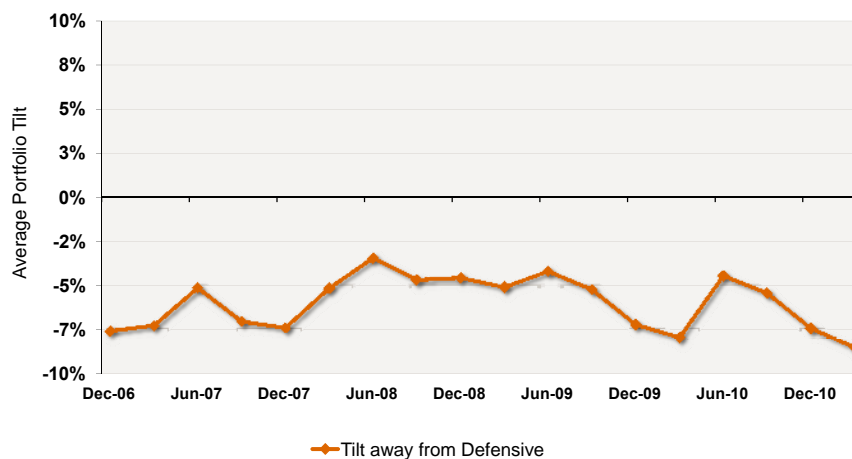
25th / median / 75th percentile ranges for all manager products tracked by Russell and benchmarked against stated index

Indexes are unmanaged and cannot be invested in directly. Data is historical, is not indicative of future results, and are not indicative of any specific investment.

37

Russell Investments

Institutional portfolios are underweight Defensive



Source: Russell

Based on quarterly holdings data for all large Russell institutional consulting clients, for which 12/31/2006 to 3/31/2011 data is available (sample size, 20)

Average client data is used for illustrative purposes only. Actual results will vary by individual client and results shown are not meant to imply this is the average outcome for any portfolio. Data is historical and is not indicative of future results.

38

Russell Investments

Implementation opportunities

Portfolio construction

Control any unintended tilt to higher volatility stocks
Reduces risk at the total portfolio level – both absolute volatility and tracking error

Investment strategy

Capture effect with an intentional defensive tilt
Should result in more favorable total risk/return profile from equity investments

Asset allocation

Opportunity to de-risk without reducing equities

Please remember that all investments carry some level of risk. Although steps can be taken to help reduce risk it cannot be completely removed.

39

 Russell Investments

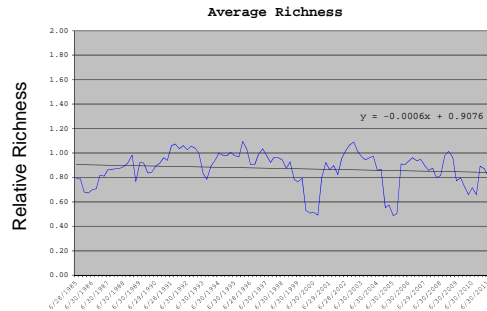
Implementation challenges

- **Defensive has extended periods of underperformance**
 - Magnitude and duration similar to growth or value
 - Defensive generally underperforms in strong markets, outperforms in weak markets
- **Defensive has high tracking error to broad benchmarks**
 - Similar to value or growth against broad benchmarks
 - A defensive strategy should be benchmarked to a defensive index
- **Governance, asset allocation, objective setting and monitoring need to be managed appropriately**
 - Manage expectations and consider using a defensive index

40

 Russell Investments

Russell 1000 Defensive Average richness



- Relative richness:
 - Ratio of a Russell 1000 Defensive characteristic to the same characteristic value for the Russell 1000 Index
 - Characteristics: Price/book, price/sales, price/cash flow and price/earnings
- Trend is downward over time
- Average is almost always smaller than one

Indexes are unmanaged and cannot be invested in directly. Data is historical, is not indicative of future results, and are not indicative of any specific investment.

41

Russell Investments

Summary

- **Defensive has had below market risk**
- **Defensive has had similar or higher than market return**
 - Globally, regionally, by country
 - Arithmetic, geometric, alpha (single and 4-factor)
 - Over most periods
 - Superior alpha versus low volatility alone, and less of a value bias
- **Risk pattern is expected to persist**
- **Return pattern will likely persist**
 - Managers and institutional investors have a natural bias away from Defensive
 - Benchmarking is an important cause, and will not change in the foreseeable future
- **Opportunity to reduce risk without reducing expected return**
 - Historic evidence is strong, thus no reduction in expected return
 - Effective globally with 45% improvement in Sharpe ratio historically
 - No evidence of Defensive become rich
- **Implementation**
 - Ensure no unintended tilts away from Defensive in US and non-US structures
 - Consider a stand-alone allocation to Global Defensive benchmarked separately from broad market equities

42

Russell Investments

Appendix

Appendix: Russell Global Index background

FEATURES

- Represents the global opportunity set
- Russell and GICS sector classification schemes
- Price, total, hedged and net returns
- Multiple currencies (USD, EUR, JPY, CAD, AUD, CHF, GBP)

DESIGN

- Global-relative approach
- Objective and transparent
- Consistently applied market cap breaks
- Modular index design

Global relative design

Distinctively, Russell uses a single market cap break to determine which global companies are considered large cap and which are considered small cap. Now global investors and plan sponsors have access to a set of indexes that better reflect the actual performance of the global investment universe.

Objective, consistent, reliable and accurate:

- » 98% coverage of investable global equity market
- » 26 developed market countries
- » 22 emerging market countries
- » Core index choices include growth, value, defensive, dynamic, mega, all, large, mid and small cap, developed and emerging markets.

Russell indexes represent over 98% of the investable universe of equity securities globally, including over 10,000 global companies in 48 countries.

Completely objective. Russell indexes are constructed using a rules-based, transparent methodology for creating ideal benchmarks and trading vehicles. There is no sampling. The Russell index membership reflects the actual market.

Modular and accurate. Russell indexes are modular in their design with a consistently applied methodology. Using a global relative approach, the indexes have consistent break points to determine which companies are large cap and small cap globally. Similarly, growth and value style weights are a result of the security characteristics within each country.

Rigorously maintained. Daily corporate actions, monthly share adjustments, quarterly IPO inclusions and annual total reconstitution ensure that the indexes accurately represent the true global opportunity set.

Selected Statistics

US: July 1985 – June 2011

- The Russell 1000 Defensive Index had the best risk-adjusted return among the core, growth, value, and dynamic indexes over the long-term.
- Over the long-term, the Russell 1000 Defensive Index had the lowest beta among these indexes as well.

Russell 1000 Index, All figures annualized

Index	Total Return	Volatility (Standard Deviation)	Sharpe Ratio	Beta vs. Russell 1000 Index	Tracking Error vs. Russell 1000 Index
Russell 1000® Index	10.3%	15.7%	0.40	1.0	--
Russell 1000® Defensive Index™	10.7%	13.3%	0.50	0.8	5.0
Russell 1000® Value Index	10.6%	15.1%	0.43	0.9	5.2
Russell 1000® Growth Index	9.7%	17.8%	0.31	1.1	4.9
Russell 1000® Dynamic Index™	9.5%	19.4%	0.28	1.2	5.3

Data based on the Russell 1000 Index. Source: Russell Indexes. Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

45

Russell Investments

Up/down market capture

US: July 1985 – June 2011

- The four large cap style indexes behave differently in up and down markets
- The difference in returns increases in order of Defensive, Value, Growth, and Dynamic

		Down months	Up months	
Russell 1000 Defensive Index	mean return	-2.8%	3.0%	Historically lowest downside risk
	% of market return	75%	85%	
Russell 1000 Value Index	mean return	-3.3%	3.3%	
	% of market return	90%	94%	
Russell 1000 Index	Number of months	112	200	
	mean return	-3.7%	3.5%	
	% of market return	100%	100%	
Russell 1000 Growth Index	mean return	-4.1%	3.7%	Historically highest upside potential
	% of market return	111%	105%	
Russell 1000 Dynamic Index	mean return	-4.7%	4.1%	
	% of market return	127%	116%	

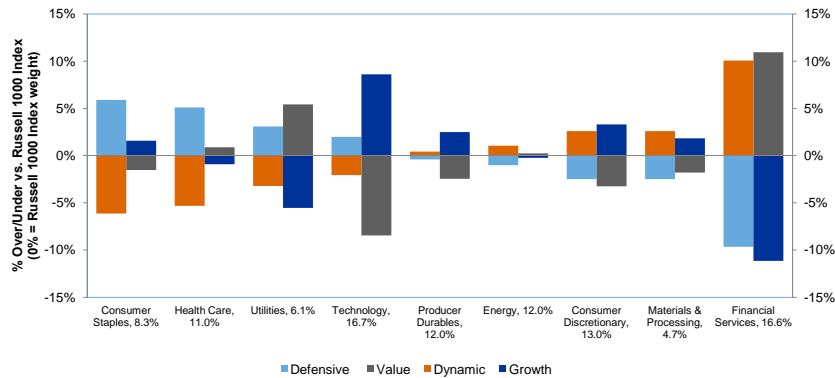
Data based on the Russell 1000 Index. Source: Russell Indexes. Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

46

Russell Investments

Sector Over/Under vs. Russell 1000 Index As of 6/30/2011

- Russell 1000 Defensive Index was overweight consumer staples, health care and utilities relative to the Russell 1000 Index as of 6/30/2011
- In contrast, Russell 1000 Dynamic Index was overweight financial services, materials and processing and consumer discretionary relative to the Russell 1000 Index as of 6/30/2011



As of 6/30/2011 Data based on the Russell 1000 Index. Source: Russell Indexes. Indexes are unmanaged and cannot be invested in directly. Data is as of the specified date. Current data may be different.

47

Russell Investments

Risk and return by country and region

		Standard Deviation	Annualized Average Return	Annualized Geometric Return	Sharpe Ratio	SR Defensive vs. Market
Russell 1000	Defensive	13.4%	7.3%	6.6%	.32	24%
	Market	16.6%	7.3%	6.1%	.26	
	Dynamic	21.4%	7.4%	5.2%	.21	
Switzerland	Defensive	15.9%	10.8%	10.0%	.50	41%
	Market	17.7%	9.3%	8.0%	.36	
	Dynamic	26.1%	7.9%	4.5%	.19	
UK	Defensive	14.5%	8.1%	7.3%	.35	27%
	Market	16.5%	7.6%	6.4%	.28	
	Dynamic	22.2%	7.0%	4.5%	.18	
France	Defensive	19.1%	8.9%	7.3%	.31	6%
	Market	21.3%	9.2%	7.1%	.29	
	Dynamic	26.9%	8.9%	5.3%	.22	
Germany	Defensive	22.0%	10.8%	8.7%	.36	35%
	Market	24.4%	9.4%	6.5%	.26	
	Dynamic	27.2%	8.4%	4.7%	.20	
Australia	Defensive	20.9%	14.4%	12.9%	.55	10%
	Market	21.9%	13.9%	12.1%	.50	
	Dynamic	25.1%	13.5%	10.8%	.42	
Canada	Defensive	19.1%	15.6%	14.7%	.66	48%
	Market	22.4%	13.0%	11.0%	.45	
	Dynamic	27.8%	12.3%	8.6%	.34	
Japan	Defensive	15.7%	3.0%	1.8%	.00	NA
	Market	19.0%	0.8%	-1.0%	-.11	
	Dynamic	23.1%	-0.4%	-3.0%	-.15	
Developed ex-US	Defensive	15.1%	8.6%	7.7%	.37	65%
	Market	17.6%	7.0%	5.5%	.23	
	Dynamic	21.6%	5.1%	2.8%	.10	
Emerging Markets	Defensive	23.7%	14.4%	12.1%	.48	60%
	Market	25.8%	10.7%	7.5%	.30	
	Dynamic	27.1%	9.0%	5.3%	.22	
Global LC+SC	Defensive	13.7%	8.3%	7.6%	.39	46%
	Market	16.8%	7.5%	6.2%	.27	
	Dynamic	21.2%	6.7%	4.5%	.18	

Source: Russell Indexes. Russell Global Large Cap Indexes, July 1996 - August 2011. Indexes are unmanaged and can not be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Returns for the Stability Indexes prior to July 2006 were constructed for research purposes. Historical returns were calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

48

Russell Investments