Russell Investments

Russell Research

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The Third Dimension of Style™

Introducing the Russell Stability Indexes™

In 1984 Russell, a multi-manager investment firm, emerged as a leader in the creation of indexes for U.S. equity markets with its introduction of the Russell 1000® (U.S. large cap) and Russell 2000® (U.S. small cap) Indexes – transparent, rules-based indexes that accurately define the dimensions of U.S. market-cap segments and serve as reliable benchmarks for the evaluation of active equity managers' performance. Three years later, Russell pioneered style indexes when it launched the Russell 1000® Growth and Value Indexes, which grew out of the insights gained in its research into additional dimensions of U.S. market segmentation and manager investment styles. Russell's expertise in manager research gave insights into equity markets and investment manager behavior that has driven the development of the Russell U.S. Indexes. Now Russell's research into markets and managers has led to the identification of another dimension of style: stability.[1]

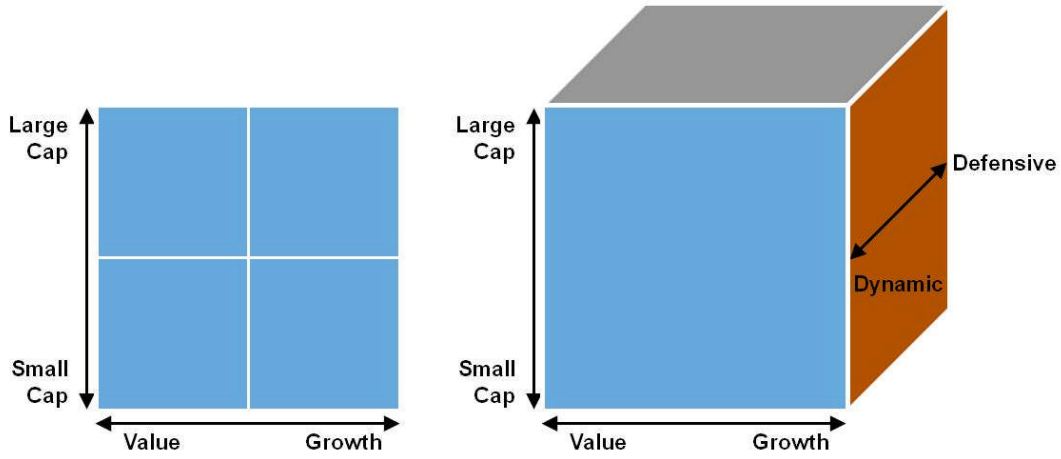
After Russell introduced its large cap, small cap, value and growth indexes in the 1980s, a visual grid called a "style box"[2] became widely accepted and utilized as an investment tool in the industry. That traditional two-dimensional grid shows market capitalization on the vertical axis, and (growth/value) style on the horizontal axis. Russell is now including a third dimension, called "stability," in its benchmarks. Stability is based on a powerful set of descriptive variables that, in certain market environments, do more to explain money manager performance than traditional style measures do. One end of the stability dimension is labeled "defensive" and the other is labeled "dynamic." With this addition to Russell's

[1] The author thanks Mary Fjelstad, Barry Feldman, David Cariño, and Sunni Christensen for their contributions to this research.

[2] Morningstar introduced the popular style box graphical representation, a nine-square grid, in 1992 to help investors determine the investment style of a fund.

suite of benchmarks, the old style box, shown at left in Figure 1, is transformed into a style cube, as we see at right.

Figure 1 / Transformation of the traditional style box to the new style cube



This paper provides an introduction to the Russell Stability Indexes. We first describe the manager research observations – derived from our study of markets, stocks and manager performance over the 20 years 1990 to 2010 – that led Russell to identify this new dimension of style investing. We highlight the important investment characteristics of the two ends of the stability spectrum: defensive and dynamic. We then provide an outline of the Russell Stability Indexes construction process and methodology.

Stability emerges as an important style factor: 1990–2010

Russell's focus on investment manager research and capital market analysis has led to a growing awareness of the importance of stability variables in explaining market behavior and investment manager returns. These observations began in the 1990s. The economy slowed at the start of the new decade, and the market declined. Russell analysts noted that during this period, money managers who emphasized stocks of companies that were less sensitive to the economic cycle performed substantially better than the average manager did. Given the uncertainty surrounding the timing and nature of an eventual recovery, the superior relative performance of this subset of managers made sense to Russell's manager research analysts. Even among growth managers, there was a substantial difference in performance between managers who articulated a "quality growth" approach to investing and those who focused more on rapid short-term growth. Investors demonstrated a preference for low-volatility stocks at that time. The growth/value/cap dimensions of style did not fully explain differences in manager performance.

The market began to shift in 1991, and in the following two years the pendulum swung strongly to benefit U.S. equity managers whose portfolios were more exposed to dynamic companies that were sensitive to the economy, that had leveraged balance sheets and/or that demonstrated rapidly improving margins. Risk was being rewarded in the recovery. Once again, the growth/value/cap dimensions of style did not fully explain differences in manager performance. Russell's manager research analysts recognized that managers predisposed to investing in the more cyclical parts of the market had the wind at their backs.

In 1994, the shift in risk preference was stopped in its tracks by concerns about the Federal Reserve raising interest rates, but the market did not experience a major reversal at that time. Money managers became convinced that a soft landing of the U.S. economy had been achieved.

The mid- to late-1990s environment was great for stock price appreciation, and for several years most market segments participated in the broad-based rally. There were interruptions for the so-called Asian Contagion, the Long-term Capital Management crisis and the Russian debt crisis. These issues were transitory, and by the end of the decade, investor euphoria around dynamic new Internet-associated companies fueled the dot-com bubble. The IPO market was red hot. Attractive e-commerce companies did not need to demonstrate any record of consistent profits, returns on capital or financial discipline in order to attract investors. Stocks of some previously dominant companies in less-exciting industries were shunned by investors and failed to keep up with the market. By 1999, investors demonstrated a huge preference for stocks of dynamic companies over stocks that could provide a defensive return pattern.

Then the bubble burst. Concerns about economic slowing led to a bear market starting in the year 2000. During the market downturn of 2000–2002, Russell manager research analysts noted some unusual aspects of stock performance. Usually, growth stocks outperform when there is increased concern about economic slowing,[3] possibly due to a belief that true growth companies can grow without needing a boost from an economic tailwind. A slowdown in the economy often leads to a widening of valuation spreads between growth stocks and their more economically sensitive value counterparts, due to the scarcity of corporate earnings growth. When something is expected to be scarce, it usually becomes more richly valued. During this period, however, the gap in prices between growth stocks and value stocks was actually contracting.

Anomalies were noted along the capitalization dimension as well. Normally, small cap stocks lag their larger cap counterparts when investor concerns about the economy increase, but small cap stocks were outperforming large cap stocks during this period. Once again, the normal relationships among growth/value/cap dimensions of style did not fully explain differences in manager performance. Volatile stocks that had led the market up were declining quickly, and less-volatile stocks that had been seen as boring were holding up very well. Defensive stocks were winning.

As the economy rebounded in 2003, the risk trade was back on, and in conversations with Russell analysts, managers with defensive portfolios complained bitterly about the “junk rally.” They said that quality was being completely ignored by the market. It seemed that the more debt a company had on its balance sheet, the more unpredictable its earnings and the worse its returns on capital; the better was its stock price appreciation in 2003. The market was going up, and the prices of volatile stocks of less-predictable companies were going up even more. Dynamic stocks were winning.

By the latter part of the decade the economy had expanded substantially, and a housing bubble, inflated by financial leverage and loose lending standards, had formed. Market leadership began to take a more defensive stance as concerns about credit quality and sustainability of earnings came to the forefront. The concerns eventually turned to panic as 2008 progressed and some of the most leveraged businesses failed and had to be bailed out by the U.S. government. The economy was in free fall; the credit markets had dried up. Value stocks had historically been considered safer than growth stocks, but now cheap stocks kept getting cheaper, and some went to zero. In many cases it was clear that accounting-based valuation measures – which theoretically should provide a foundation or a

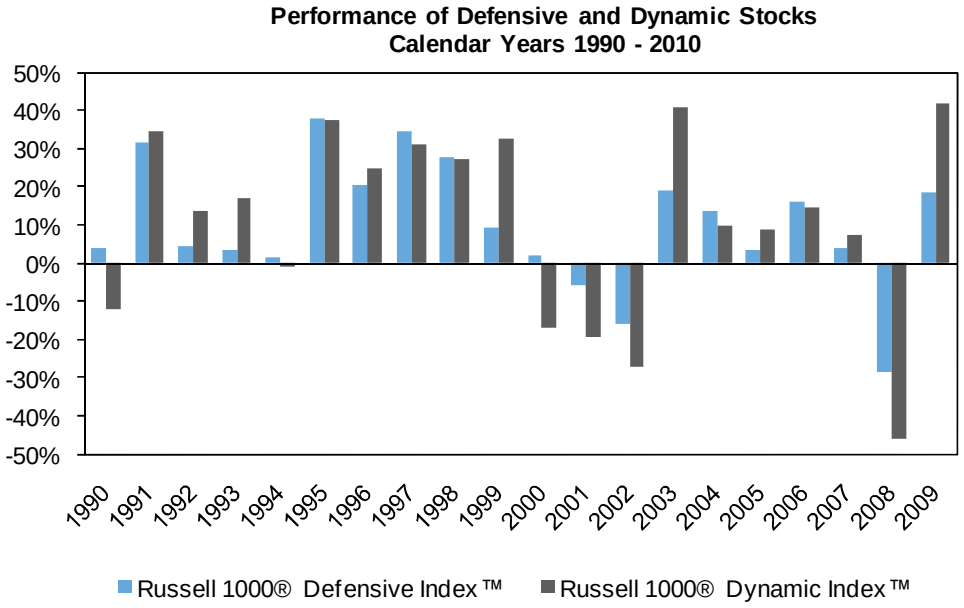
[3] See M. Fjelstad, and D. Hintz (2009). “Surviving U.S. Recessions with Style.” *Russell Research*, May.

floor – could not be relied upon. The recession affected all companies, but defensive stocks fared far better than their more dynamic counterparts on a relative basis.

In early 2009, equity markets turned. A powerful market rally, led by companies that were leveraged financially and/or sensitive to the economy, ensued. As is usually the case, value stocks rebounded more strongly than growth stocks near the trough of the recession, but the differences in returns among managers within the same style were huge.[4] Russell analysts noted that whether a manager had a growth style or a value style seemed to matter less than whether that manager was positioned in defensive stocks or dynamic stocks. Dynamic stocks, and the managers who bought them, were winning.

All of the above market events from the last 20 years point to important forces that explain differences in performance between equity managers, but these forces are not fully captured by traditional style benchmarks. Figure 2 reflects annual differences in returns between the Russell 1000 Defensive[5] and the Russell 1000 Dynamic Indexes. This demonstrates the power of the stability variables that drove returns during many major market shifts of the past 20 years.

Figure 2 / Annual defensive premium (defensive-dynamic return) in U.S. large cap markets, 1990–2009, based on the Russell 1000 Index.



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 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.

[4] Fjelstad and Hintz (2009).

[5] Performance and characteristics of Russell Stability Indexes reported in this paper are based upon a Russell Research data set.

Investment properties of the Russell Stability Indexes

On the basis of insights gained through its manager research and capital markets analyses, Russell has developed the Russell Stability Indexes to measure this third dimension of style. These indexes are designed to be highly diversified, cap-weighted, fully transparent, low-turnover benchmarks that will be useful tools to help active and passive managers meet client needs and demonstrate that they are doing so effectively. The indexes offer return patterns that are quite independent of other definitions of style.

Defensive as a low-volatility strategy

Low-volatility equity strategies in risk management are currently a hot topic in the industry. The reduction in total return volatility (standard deviation) available from some of these strategies, relative to traditional equity indexes, can help plan sponsors and other investors achieve their objectives while offering greater downside protection. Russell's Defensive Indexes are tools designed to help active and/or passive managers meet client needs in this regard. By providing a consistent and objective reference point that reflects the actual performance of the more stable half of the market, the Russell Defensive Indexes™ are an important piece in the evolution of low-volatility equity strategies as an approach to money management.

The dynamic side of stability

Although low-volatility strategies have recently generated significant attention to the more stable parts of the market, the less stable (more dynamic) parts of the market have been largely ignored by investors studying stability-like descriptive variables. However, many active managers seek to produce excess returns by betting on positive changes in companies. Such positive changes are easier to find in dynamic companies, whether a manager is selecting from among deep-value stocks, where companies may have new management and restructurings, or from among stocks of rapidly growing companies that are launching innovative new products. Such changes tend to be accompanied by stock price volatility. The payoff for being right about a volatile stock is potentially greater than the payoff for being right about a stable stock. As a result, the Russell Dynamic Indexes™ will be better than traditional indexes in terms of reflecting the true habitat of some active money managers. A benchmark that focuses on stocks of dynamic companies may also provide significant alpha opportunity for an active limited long/short manager, and this mandate could complement a passive Russell 1000 Defensive mandate. Despite all of the attention that the industry is giving to strategies that emphasize stable stocks, we believe the less-stable half of the market should also be represented as part of a comprehensive family of benchmarks.

Construction of the Russell Stability Indexes

Each Dynamic and Defensive index is created by splitting an existing Russell Index in half on the basis of the stability style probability of each stock within the benchmark. There are four major steps in the construction of the Russell Stability Indexes: identifying the stability descriptive variables; combining the descriptive variables into the quality and volatility components; computing the quality and volatility scores for each stock; and performing the final construction of the Dynamic and Defensive indexes.

Identifying the descriptive variables

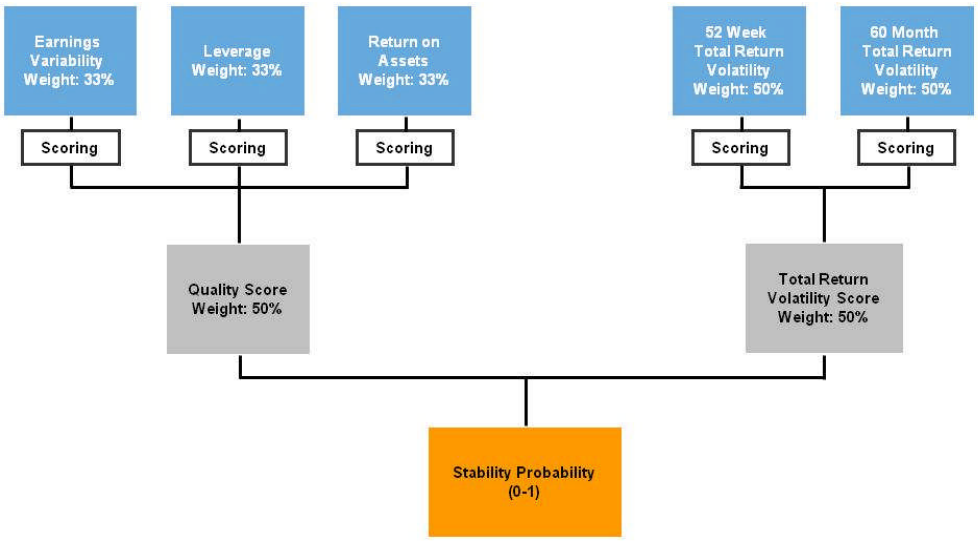
Russell's Stability Indexes are defined by a combination of the following descriptive variables: leverage, earnings variability, return on assets, and price volatility. Russell is aware that active managers recognize the potential benefits (in terms of stock price appreciation) as well as the potential negatives associated with the risks companies take. For the purposes of the Stability Indexes, companies with greater than average exposures to certain risks are labeled as dynamic, and companies with less than average exposures to these risks are labeled as defensive. Dynamic companies are riskier, but their stock prices tend to go up faster than those of lower-risk (defensive) companies during periods of rapidly rising markets. The stocks of lower-risk (defensive) companies tend to outperform higher-risk (dynamic) companies during weak market environments.

A company has risks related to balance sheet leverage, risks due to economic cycles and industry/product cycles, and risks related to the durability of its business model. We use the following descriptive variables:

- Debt/equity ratios are used as proxies for balance sheet leverage.
- Earnings variability is used as the proxy for risks related to economic cycles and industry/product cycles.
- Return on assets (ROA) is the proxy for the strength of a company's business model.
- The volatility of its stock returns is a final component used to indicate potential market uncertainty about a company. The volatility measure captures market perceptions of the level of a company's stability, including issues such as litigation risk and regulatory risk, that may not be fully captured by accounting-based descriptive variables.

Combining the descriptive variables into quality and volatility components

We have assigned the label "quality" to the combination of the three accounting-based descriptive variables (earnings variability, debt/equity ratios, and return on assets). These three together comprise 50% of the final stability probability score. The "volatility" component comprises the other half of the final stability probability score and is based on a combination of the past 52 weeks of a stock's volatility and the past five years of its monthly volatility.



Computation of the quality and volatility scores

Quality Score (comprises 50% of the final stability probability):

A company's debt/equity ratio and pre-tax ROA each comprise one third of the quality score. The remaining third of the quality score consists of earnings variability. Earnings variability is computed on the basis of the standard error of the linear EPS (earnings per share) trend regression line, using each company's earnings data from the past five years. This measure of earnings variability is scaled by dividing each company's standard error by its median EPS (this scaling is done to make each company directly comparable to other companies, regardless of the relative level of EPS). The rationale for using the standard error is that if there is a trend in the EPS over time, then the trend itself should not contribute to EPS variability.

Volatility Score (comprises 50% of the final stability probability):

Total return volatility (standard deviation) is measured over two horizons – the last year, and the last five years. Trailing one-year volatility is measured on a weekly basis, using the Friday close as the normal weekly close. Trailing five-year volatility is based on monthly returns. Thus for a score based on May 31, 2010 data, the five-year volatility is based on the 60 monthly returns for the period that starts May 31, 2005 and ends May 31, 2010. The one-year volatility is based on the 52 weekly returns that end on the last Friday on or before May 31, 2010.

Computing the stability probability

The first stage of the Russell non-linear style algorithm yields a score between zero and 1 for each component measure. All measures are scored so that higher values indicate more stability. Since high leverage, high earnings variability and high volatility are indicative of low stability, the scores for these descriptive variables are transformed by using a value equal to 1 minus the initial score.

If the input value to the stage-one nonlinear algorithm for a measure is not available, the company receives a score of 0.25 for that measure. Since zero is the lowest possible stability score and 1 is the highest stability score, this conservative assumption mandates that missing data will result in a lower-than-average stability score. Any negative debt/equity ratios are treated as being indicative of instability. Similarly, situations of negative median earnings per share are treated as being indicative of instability. IPOs are likely to have some missing values initially, and those that come into the Russell Indexes between reconstitution dates will be treated as if their stability scores were zero. At the next reconstitution, a score will be assigned on the basis of the information available at that time.

The final stage of the Russell non-linear style agorithm utilizes all of the above information to assign a stability probability between zero and 1 to each stock.

Constructing the Stability Indexes

Companies with high stability probabilities are included in the Defensive Index. Companies with low stability probabilities are included in the Dynamic Index. The methodology is based on the same Russell non-linear style algorithm historically used to construct the Russell Growth and Value indexes.[6]

[6] Russell Indexes (2010). *Russell U. S. Equity Indexes Construction and Methodology*, October.

Defensive and Dynamic indexes may be constructed for any equity universe. Initially, these Stability Indexes will be launched as part of the Russell 1000, Russell 2000 and Russell 3000® Indexes.

Profile of the Russell Stability Indexes

Favorable attributes of the Russell Stability benchmarks for use by investors include low turnover, full transparency, infrequent rebalancing, high diversification and high capacity.

Table 1 / Key characteristics of the Russell 1000® Dynamic Index™, Russell 1000® Index and Russell 1000® Defensive Index™ as of June 30, 2010

	Russell 1000 Dynamic Index	Russell 1000 Index	Russell 1000 Defensive Index
25-Year Annualized Turnover	18.4	5.6	14.2
25-Year Annualized Standard Deviation	19.5	15.8	13.3
Price-to-Book Ratio	1.7	1.9	2.3
Market Cap ($Weighted Average, in billions)	46.0	66.3	81.7
Long-Term Growth Forecast	11.2%	11.0%	11.0%
Dividend Yield	1.8%	2.1%	2.5%
Top Sector Overweight vs. Parent Index	Financial Services +7.8		Health Care +4.5
2nd Sector Overweight vs. Parent Index	Materials +1.4		Consumer Staples +3.9

The data in Table 1 indicates that the Russell 1000 Dynamic Index has both growth and value characteristics as of June 30, 2010. For example, its price-to-book ratio is below that of the Russell 1000 Index, but its long-term growth forecast is slightly above that of the Russell 1000 Index. Conversely, the Russell 1000 Defensive Index has an above-market price-to-book ratio but a slightly below-market long-term growth forecast. These are examples of characteristics that which demonstrate that the stability dimension is largely independent of growth and value style descriptive variables.

Table 2 / Key characteristics of the Russell 2000® Dynamic Index™, Russell 2000® Index and Russell 2000® Defensive Index™ as of June 30, 2010

	Russell 2000 Dynamic Index	Russell 2000 Index	Russell 2000 Defensive Index
25-Year Annualized Turnover	33.1	27.1	23.5
25-Year Annualized Standard Deviation	25.6	19.8	15.4
Price-to-Book Ratio	1.6	1.6	1.6
Market Cap ($Weighted Average, in billions)	0.8	0.9	1.0
Long-Term Growth Forecast	13.5%	12.9%	12.5%
Dividend Yield	1.0%	1.3%	1.7%
Top Sector Overweight vs. Parent Index	Technology +2.1		Financial Services +3.0
2nd Sector Overweight vs. Parent Index	Cons Discretionary +2.1		Producer Durables +2.4

Table 3 / Key characteristics of the Russell 3000® Dynamic Index™, Russell 3000® Index and Russell 3000® Defensive Index™ as of June 30, 2010

	Russell 3000 Dynamic Index	Russell 3000 Index	Russell 3000 Defensive Index
Annual Turnover	18.3	5.4	14.4
25-Year Annualized Standard Deviation	19.8	15.9	13.2
Price-to-Book Ratio	1.7	1.9	2.2
Market Cap ($Weighted Average, in billions)	42.4	61.0	75.3
Long-Term Growth Forecast	11.4%	11.1%	11.1%
Dividend Yield	1.7%	2.0%	2.5%
Top Sector Overweight vs. Parent Index	Financial Services +7.1		Health Care +4.0
2nd Sector Overweight vs. Parent Index	Materials +1.4		Consumer Staples +3.5

The Russell 3000 Stability Indexes are built from the Russell 1000 and Russell 2000 Stability Indexes. For example, the Russell 3000 Defensive Index includes both the Russell 1000 Defensive Index and the Russell 2000 Defensive Index. This is the same approach used with the Russell Growth and Value Indexes.

Conclusion

A third dimension of style – stability – has emerged as a powerful factor that explains performance differences among equity managers, especially at pivotal moments in the market. The stability dimension we depicted in the style cube in Figure 1, above, labeled “defensive” at one end and “dynamic” at the other, is quite independent of other dimensions of style, such as market capitalization and growth/value. Russell has built new benchmarks based on the stability dimension of style. These are low-turnover, highly transparent, diversified building blocks that add up to the overall market. We believe they will help active and passive managers meet client needs.

For more information about Russell Indexes call us or visit www.russell.com/indexes.
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