By: Noriyuki Oharazawa, Index Strategy Director
with Kyla Roberts, Research Analyst[1]

DECEMBER 2011

An analysis of the Russell Stability Indexes™ in Asia Pacific markets

According to the efficient market hypothesis, it is impossible for an investment strategy to consistently achieve above-market-average performance at a market-average level of risk. However, in the real-world stock market, certain investment strategies have in fact tended to consistently achieve higher-than-market returns even at lower-than-market risk levels.

One such strategy has been the low-volatility investment approach. Years of research into what has become known as "the low-volatility effect"[2] have challenged the efficient market hypothesis. Researchers such as Haugen and Heins (1975)[3]; Fama and French (1992)[4]; Ang, Hodorick, Xing and Zhang (2006[5], 2009[6]); Blitz and van Vliet (2007)[7] and Baker, Bradley and Wurgler (2011)[8] have found that over long time periods, stocks with lower volatility generated higher long-term returns – at lower levels of risk – than did stocks with higher volatility. Explanations for the phenomenon vary, but a body of research substantiates the existence of a low-volatility effect.

In the early 1990s, Russell U.S. manager research analysts recognized that some managers' returns were less correlated than others with the returns of the cyclical sectors of the market. These managers' portfolios tended to experience less volatility in returns, and some of these managers' portfolios provided more downside protection. Other portfolios tended to favor greater exposure to dynamic, volatile companies. Russell's focused research into equity markets, manager investment behavior and portfolio characteristics formed the basis for the construction of

---

[1] We would like to thank Mary Fjelstad, Pradeep Velvadapu, Catherine Yoshimoto and the many other individuals who contributed to this report.

[2] The low-volatility effect refers to the phenomenon whereby low return variability portfolios have historically outperformed high return variability portfolios.

[3] Haugen, Robert A., and A. James Heins. 1975. "Risk and the Rate of Return on Financial Assets: Some Old Wine in New Bottles." *Journal of Financial and Quantitative Analysis*, vol.10, no. 5 (December): 775–84.

[4] Fama, Eugene F., and Kenneth R. French. 1992. "The Cross-Section of Expected Stock Returns." *Journal of Finance*, vol. 47, no. 2 (June): 427–65.

[5] Ang, Andrew, Robert J. Hodrick, Yuhang Xing and Xiaoyan Zhang. 2006. "The Cross-Section of Volatility and Expected Returns." *Journal of Finance*, vol. 61, no. 1 (February): 259–99.

[6] ———. 2009. "High Idiosyncratic Volatility and Low Returns: International and Further U.S. Evidence." *Journal of Financial Economics,* vol. 91, no. 1 (January): 1–23.

[7] Biltz, David C., and Pim van Vliet. 2007. "The Volatility Effect: Lower Risk without Lower Return." *Journal of Portfolio Management*, vol. 34, no. 1 (Fall):102-113.

[8] Baker, Malcolm, Brendan Bradley and Jeffrey Wurgler. 2011. "Benchmarks as Limits to Arbitrage: Understanding the Low-Volatility Anomaly." *Financial Analysts Journal*, vol. 67, no. 1 (January/February): 40–54.

the Russell Stability (Defensive and Dynamic) Indexes, so named for their ability to capture this important dimension of markets and manager preferences.

Russell launched its U.S. Stability Indexes™ series in February 2011 and followed with its Global Stability Indexes™ series in September 2011.[9] Each index in these series combines balance sheet indicators of stability (financial leverage, return on assets and earnings variability) with market indicators of price volatility to provide a measure of a stock's sensitivity to market conditions. The Russell Stability Indexes may be used as a manager/benchmark/portfolio evaluation tool or as a basis for passive investment.[10]

In this Global Markets Exploration report we present an overview of the Russell Stability Indexes. We compare the Russell Asia Pacific Defensive (RAPDEF) and Russell Asia Pacific Dynamic (RAPDYN) indexes in terms of their regional breakdowns,[11] country distributions[12] and sector profiles.[13] Finally, we contrast RAPDEF and RAPDYN performance over time.

Results overview

- The RAPDEF and RAPDYN indexes have demonstrated historically distinct country, region and sector profiles. A longer-term performance comparison between the RAPDEF and RAPDYN shows that the relatively low-volatility RAPDEF has historically outperformed the relatively high-volatility RAPDYN on a country, regional and sector basis.
- Over shorter time horizons, however, we find that there have been periods – bull markets – wherein the RAPDYN Index has outperformed the RAPDEF.
- The Russell Stability Indexes may offer investors the opportunity to achieve short-term outperformance over the broad market during market upturns via exposure to Russell Dynamic Indexes as well as the potential for downside risk moderation via exposure to Russell Defensive Indexes.[14]
- The Russell Defensive Index is a viable choice for investors seeking to capture exposure to low volatility stocks.

---

[9] See "Russell Global Indexes Construction and Methodology," September 2011, available at www.russell.com/indexes.

[10] See "The Third Dimension of Style: Introducing the Russell Stability Indexes," by Dave Hintz, *Russell Research*, December 2010, and "Expansion of the Russell Stability Indexes: the global series," by Mark Thurston, *Russell Research*, October 2011.

[11] The focus of this analysis is the Asia Pacific region. We also analyze the Asia ex-Japan and Greater China subregions to gain further insights into the Asia Pacific region.

[12] The countries covered consist of the nine major countries of the Asia Pacific region: Japan, Australia, China, Korea, Taiwan, India, Hong Kong, Singapore and Malaysia.

[13] Sectors are determined by placing stocks into the nine broad sectors of the RGS (Russell Global Sectors) classification system.

[14] See Hintz, 2010 (see footnote 10 above).

About the Russell Stability Indexes

Stability represents a new, complementary third dimension of the prior Russell style framework, which analyzed stocks on the basis of size (small cap/large cap) and valuation style (growth/value). Both the familiar valuation style indexes and the new stability indexes are constructed using a nonlinear probability that divides the broad market index in half based on the constituents' valuation style or stability probabilities.[15] For stability, the more stable half of the broad market is called "defensive," and the less stable half is called "dynamic." Large and small cap indexes are calculated separately, and regional assignments for the global series of stability indexes mirror those of the existing Russell Global Indexes.[16] The resulting stability indexes offer highly diversified, cap weighted, fully transparent, low turnover benchmarks with return patterns that are independent of the other two dimensions of style.[17]

Defensive companies have historically tended to outperform dynamic companies in weak market environments. Dynamic companies, on the other hand, may have tended to be riskier than defensive companies, but their stock prices have tended to climb faster than those of defensive companies in rapidly expanding market environments. In other words, defensive and dynamic indexes serve distinct purposes in an investor's portfolio.

It should be noted that despite their procedural similarity in construction, stability indexes do not equate to growth and value style indexes. Prior Russell research has found that price is the most important element in determining a stock's growth or value probability, but price is not an input in Russell's calculation of defensive and dynamic probabilities.[18] Rather, stability is measured in terms of potential volatility of stock returns (to indicate market perceptions of a stock's stability, including litigation or regulatory risk); earnings variability (to approximate risk related to economic, industry or product cycles); and leverage as assessed by the debt/equity ratio and return on assets (to represent the strength of the stock's business model).[19] Russell research has also found that Russell defensive and dynamic indexes have traits characteristic of growth indexes as well as traits characteristic of value indexes.[20]

Regional comparison

As shown in Figure 1, as of October 31, 2011, the Asia Pacific region – represented by the Russell Asia Pacific Defensive and Dynamic indexes – had 13 constituent countries[21] (the RAPDYN had no New Zealand securities as of October 31, 2011). As of the same date, the Asia ex-Japan region encompassed a similar set of countries, excluding only Japan, Australia and New Zealand. The Greater China region comprised China, Taiwan and Hong Kong. In this analysis we compare the defensive and dynamic segments not only of the Asia Pacific region as a whole but also of the Asia ex-Japan and Greater China regions.

[15] Approximately 70% of the broad index by float-adjusted market capitalization is classified as all-defensive or all-dynamic (all-growth vs. all-value for valuation indexes). The market value of the remaining 30% of stocks is split, due to the use of nonlinear probabilities, between the defensive and dynamic indexes (the split depends on the stock's relative distance from the median quality score). See "Russell Global Indexes Construction and Methodology," September 2011, available at www.russell.com/indexes.

[16] See "Russell Global Indexes Construction and Methodology," September 2011, available at www.russell.com/indexes.

[17] See Hintz, 2010 (see footnote 10 above).

[18] See "Defensive Equity: Is the Market Mispricing Risk?" by Bob Collie and John Osborn, *Russell Research*, June 2011.

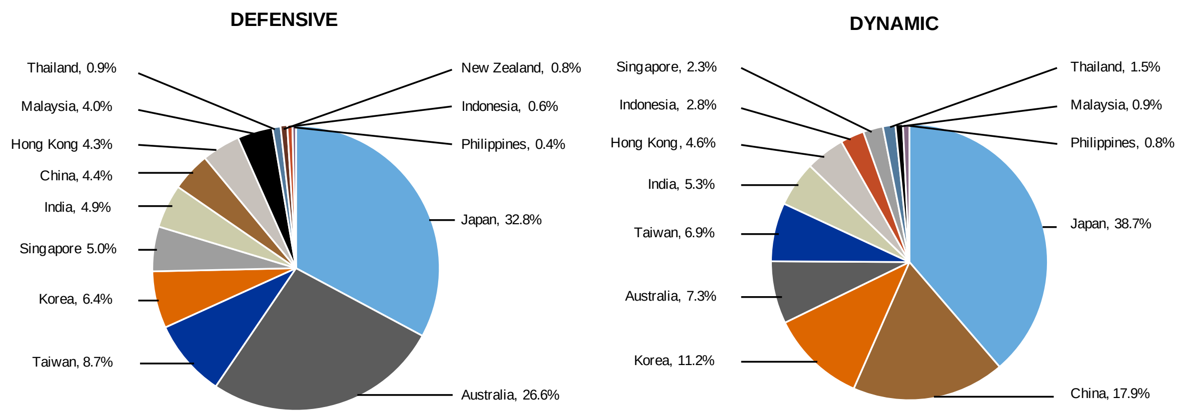
[19] See "Russell Global Indexes Construction and Methodology," September 2011, available at www.russell.com/indexes.

[20] See Collie and Osborn, 2011 (see note 18 above), and Hintz, 2010 (see footnote 10 above).

[21] These countries are: Japan, Australia, Taiwan, Korea, Singapore, India, China, Hong Kong, Malaysia, Thailand, New Zealand, Indonesia and the Philippines.

Figure 1 highlights the country breakdown of the Russell Asia Pacific Defensive Index and the Russell Asia Pacific Dynamic Index by weight. We see that the RAPDEF and RAPDYN country exposures can vary widely due to differences in their proportions of defensive and dynamic stocks. For example, as of October 31, 2011, Australia had a relatively high proportion of defensive stocks, while China had a relatively high exposure to dynamic stocks. Thus, the RAPDEF appears to be overweight Australia relative to the RAPDYN, and the RAPDYN appears to be overweight China relative to the RAPDEF. We note again that the RAPDEF includes New Zealand, but the RAPDYN does not. These differences in country profiles can contribute to differences in index performance.

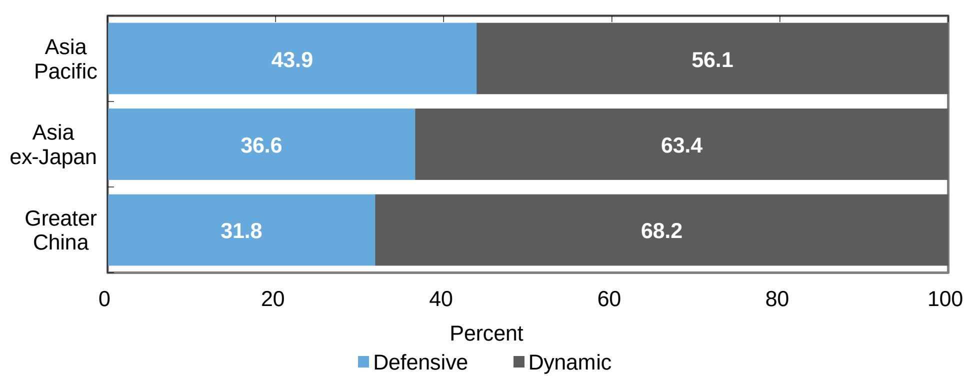
Figure 1 / RAPDEF and RAPDYN country distributions as of October 31, 2011



Source: Russell Indexes

Highlighted in Figure 2 are the defensive/dynamic ratios for the three regions: Asia Pacific, Asia ex-Japan and Greater China.[22] As of October 31, 2011, the defensive/dynamic ratio for the Russell Global Stability Index was more or less 50:50. For the Asia Pacific region overall, however, the defensive/dynamic ratio was approximately 44:56, indicating that Asia Pacific was moderately slanted toward dynamic stocks. Asia ex-Japan was tilted more toward dynamic stocks with a defensive/dynamic ratio of approximately 37:63, and Greater China had an even higher dynamic slant (approximately 68% dynamic). This increasingly dynamic tilt is attributable to the high proportion of dynamic stocks in China; as China's weight in the regional indexes increases, the slant toward dynamic stocks also increases.

Figure 2 / Defensive/dynamic ratio in Asia Pacific regions as of October 31, 2011



Source: Russell Indexes

[22] Ratios are calculated by aggregating the defensive and dynamic shares of the three regions.

Next we compare defensive and dynamic performance in these three regions. Table 1 illustrates the past five-, 10- and 15-year average annual returns for each of the three regions. We find that each defensive index outperformed its respective dynamic index by 4 percentage points (pp) or more on an annual basis over the last five, 10 and 15 years. Over the last five years, each defensive index outperformed its corresponding dynamic index by 5pp or more.

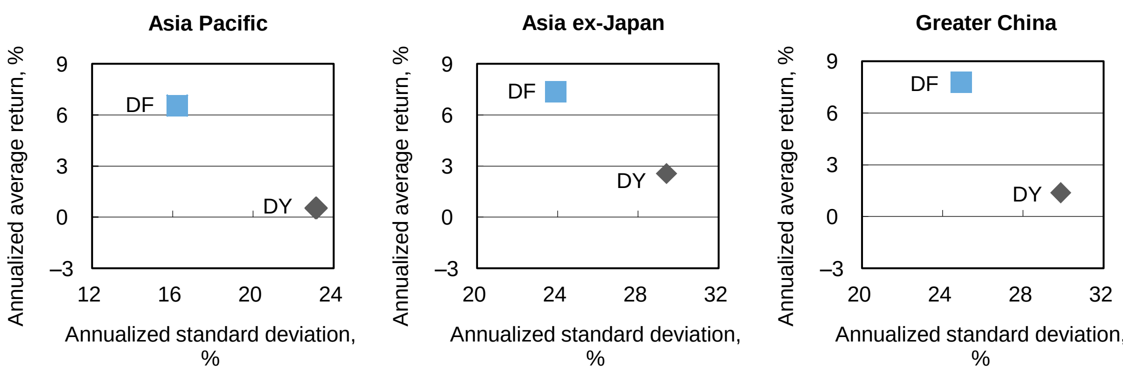
Table 1 / Annualized return of regional Russell Stability (Defensive and Dynamic) Indexes in the Asia Pacific (% in USD), as of October 31, 2011

	Asia Pacific		Asia ex-Japan		Greater China	
	DF[23]	DY	DF	DY	DF	DY
Past 5 years	6.0	–1.6	10.5	4.7	9.5	4.5
Past 10 years	11.9	7.1	17.6	13.2	15.5	10.1
Past 15 years	6.6	0.5	7.4	2.6	7.8	1.4

Source: Russell Indexes

In Figure 3 we analyze the three regions' risk/return profiles over the past 15 years. We see that for all three regions, the defensive index has had both substantially higher return and substantially lower risk. For each of the regions, the defensive index's average risk was 5pp (or more) lower than the dynamic index's risk (on average) for the past 15 years. We find that for the Greater China, Asia ex-Japan and Asia Pacific regions, the defensive indexes have had better 15-year risk/return profiles than their counterpart dynamic indexes.

Figure 3 / Regional risk/return over the last 15 years (% in USD) calculated from monthly index returns, as of October 31, 2011



Source: Russell Indexes

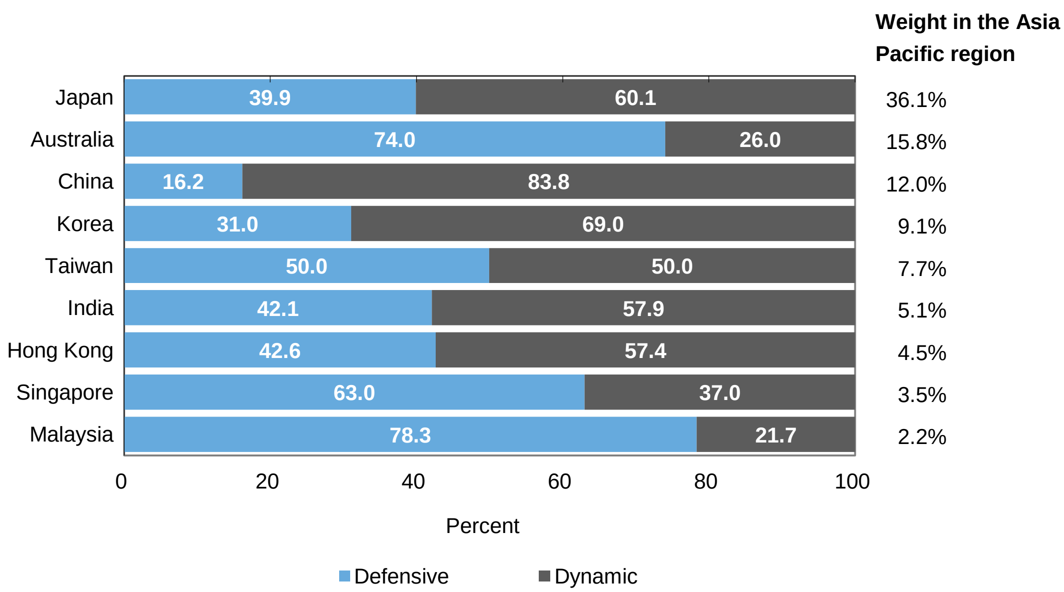
23 Throughout our exhibits we use "DF" to indicate "defensive" and "DY" to indicate "dynamic."

Country-level comparison

Thus far we have determined that the low-volatility defensive index has outperformed the dynamic index over the past 15 years, both in the Asia Pacific subregions and in the Asia Pacific region overall. Next we look at the nine countries in the Russell Asia Pacific Index that have relatively large[24] float-adjusted market caps – Japan, Australia, China, Korea, Taiwan, India, Hong Kong, Singapore and Malaysia – to determine whether they have a stability (defensive or dynamic) slant, and whether the country-level defensive indexes in the Asia Pacific region have also historically outperformed the relevant dynamic indexes.

In Figure 4 we see that despite the fact that the Asia Pacific region as a whole was slanted toward dynamic stocks, as of October 31, 2011, some countries were substantially slanted toward defensive stocks. We see that China and Korea were heavily overweight dynamic stocks, while Australia, Singapore and Malaysia were all more than 50% defensive. Taiwan was exactly 50% defensive, 50% dynamic. At 16.2% defensive, China was the Asia Pacific country that deviated most from the global norm of 50:50.

Figure 4 / Defensive/dynamic ratio in major Asia Pacific countries as of October 31, 2011



Source: Russell Indexes

[24] "Relatively large" is defined as having a market value of over 150 billion in USD as of 10/31/2011.

Table 2 shows the past five-, 10- and 15-year annual returns[25] for each of the nine Asia Pacific countries with the largest market caps. We find in this country-by-country examination far greater differences between defensive and dynamic returns than we saw in the regional comparison. Whereas on a regional level defensive indexes outperformed dynamic indexes by between approximately 4pp and 7pp, on a country level defensive indexes outperformed dynamic indexes by as little as 0.2pp or as much as 9pp. In Table 2, defensive outperformed dynamic over every time period for every index with the exception of Korea over the past 15 years, during which period dynamic outperformed defensive by 0.2pp.

Table 2 / Large Asia Pacific countries[26] performance – returns annualized in percent in local currencies as of October 31, 2011

	Japan		Australia		China	
	DF	DY	DF	DY	DF	DY
Past 5 years	–7.6	–14.8	4.2	0.2	8.6	4.9
Past 10 years	1.1	–2.5	9.5	8.6	19.3	12.5
Past 15 years	0.3	–4.5	10.8	8.1	13.0	3.5

	Korea		Taiwan		India	
	DF	DY	DF	DY	DF	DY
Past 5 years	12.6	7.0	7.2	–1.9	11.0	2.8
Past 10 years	16.3	12.8	13.4	5.7	24.1	20.5
Past 15 years	6.5	6.7	7.8	–0.9	15.7	14.6

	Hong Kong		Singapore		Malaysia	
	DF	DY	DF	DY	DF	DY
Past 5 years	7.7	1.7	6.0	2.3	15.1	8.2
Past 10 years	11.9	8.8	11.1	9.2	15.4	11.3
Past 15 years	6.7	2.9	5.3	5.1	5.5	1.2

Source: Russell Indexes

In Figure 5 we examine Asia Pacific risk/return profiles over the last 15 years on a country-by-country basis. While in the regional analysis we found that the relevant defensive index always had higher returns and lower risk (as measured by the standard deviation of returns) than the respective dynamic index, in Figure 5 we see that the pattern holds for the majority of countries, but not for China or Korea. We see that the standard deviation in China was slightly (0.04pp) higher for the defensive index, while in Korea the dynamic index slightly outperformed (by 0.2pp) the defensive index. China and Korea are only exceptions to the pattern, however, when measured over the last 15 years. Although the chart is not included here, we found that over the past five and 10 years, China's and Korea's defensive indexes outperformed their dynamic indexes – and at a lower level of risk.

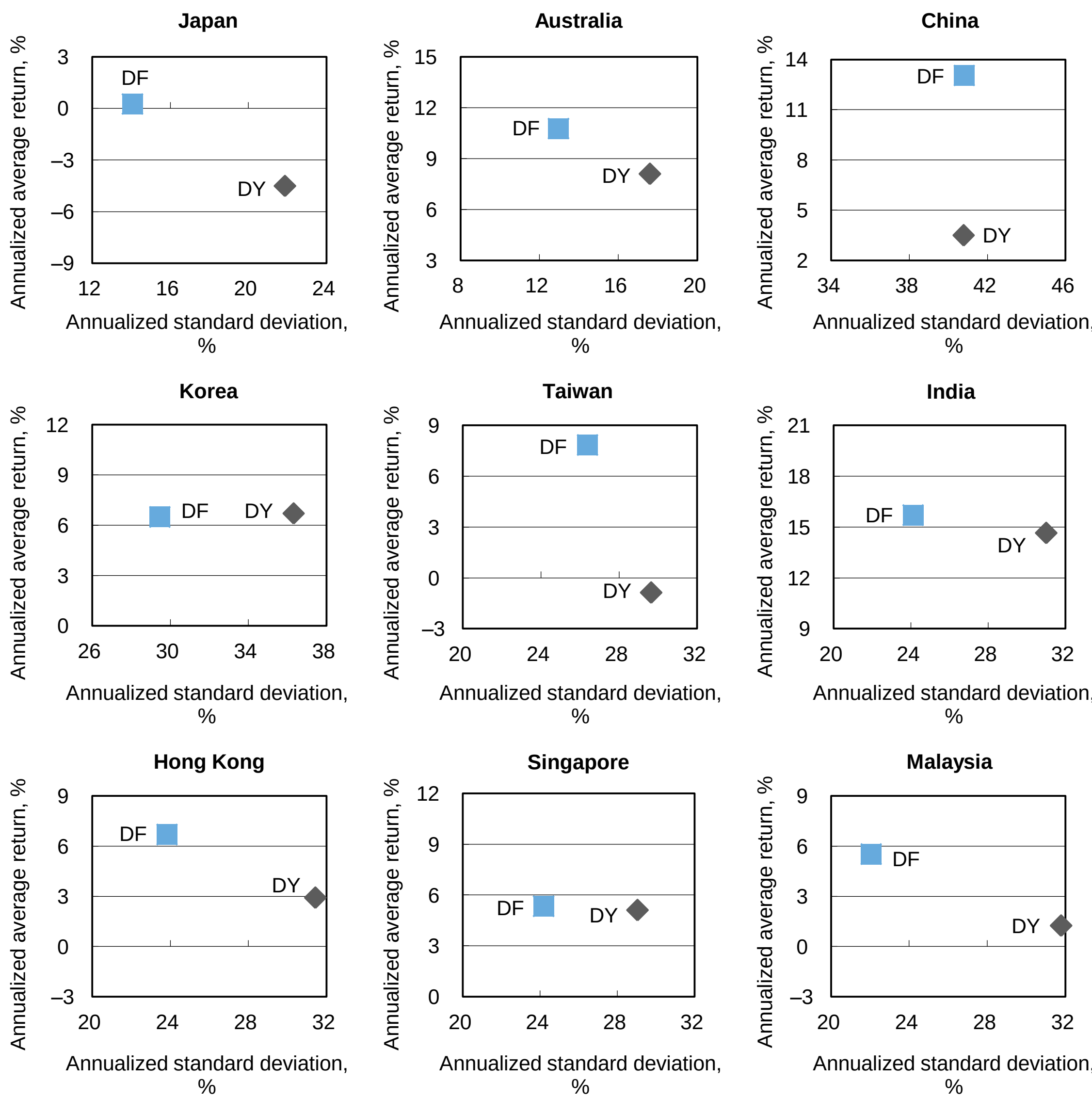
In Figure 3 we saw that for each of the three Asia Pacific regions, the defensive index outperformed the dynamic index by 5pp or more. In Figure 5 we find that even though in many cases the country-level defensive index outperformed the related country-level dynamic index, in a number of countries the performance differentials were much smaller than they were in the regional indexes. In Figure 5 we see that the country-level defensive index outperformed the

[25] In computing country-by-country returns, this edition of the Global Markets Exploration report used local currency base indexes, a type of index calculated based on the assumption that no currency change has occurred during the period of measurement. In the case of a country where the prices of all its constituent stocks are denominated in one single currency, this index corresponds fully to the country's local currency-denominated indexes.

[26] The indexes in Table 2 are country-level indexes of the Russell Global Defensive and Dynamic Indexes; for example, "Japan" indicates the Russell Japan Defensive and Russell Japan Dynamic Indexes.

respective dynamic index by 5pp or more in only two countries: China and Taiwan. In Korea, India and Singapore, performance differentials were 1.1pp or less. Risk differentials, however, tended to be more dispersed on the country level than on the regional level. In Figure 3 risk differentials ranged between 4.9pp and 6.9pp, but in Figure 5 they ranged from 0.04pp to 9.7pp, with only four of the nine countries' risk differentials falling within the regional 4.9pp to 6.9pp range.

Figure 5 / Country risk/return over the last 15 years in local currencies, calculated from monthly index returns as of October 31, 2011



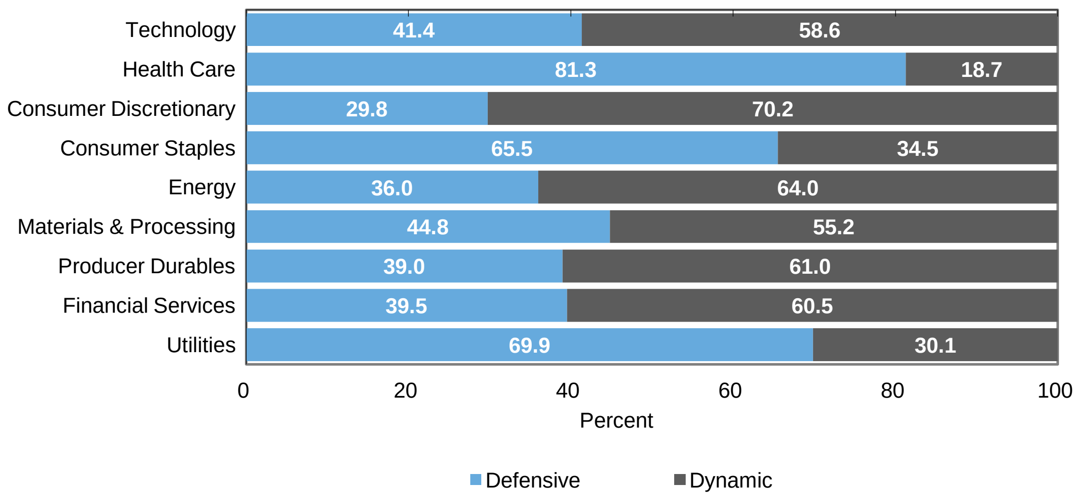
Source: Russell Indexes

Sector comparison

In this section we examine the stability indexes in the Asia Pacific region on the sector level.

Figure 6 shows the defensive/dynamic ratios by Asia Pacific sector as of October 31, 2011. Health Care, Utilities and Consumer Staples were noticeably slanted toward defensive stocks, while Consumer Discretionary, Energy and Financial Services were strongly slanted toward dynamic stocks. This finding makes sense in that Health Care, Utilities and Consumer Staples are typically regarded as “defensive” sectors, sectors whose returns tend to be relatively independent of the business cycle; Consumer Discretionary, Energy and Financial Services tend to be considered “cyclical” sectors – sectors whose performance tends to be linked to the business cycle.

Figure 6 / Defensive/dynamic ratio in Asia Pacific sectors as of October 31, 2011



Source: Russell Indexes

A look at the past five-, 10- and 15-year annual returns presented in Table 3 shows that all of the RAPDEF sectors, with the exception of Health Care, outperformed the corresponding RAPDYN sectors over the past five- and 10-year periods. Interestingly, over the past 15 years all the sectors of the defensive Asia Pacific index (RAPDEF) outperformed those of the dynamic Asia Pacific index (RAPDYN).

Table 3 / Annualized return of Russell Asia Pacific Defensive Index and Russell Asia Pacific Dynamic Index sectors (% in USD) as of October 31, 2011

	Technology		Health Care		Consumer Discretionary	
	DF	DY	DF	DY	DF	DY
Past 5 years	2.9	–5.0	0.5	4.3	5.8	2.4
Past 10 years	7.3	1.1	5.5	7.8	10.1	9.8
Past 15 years	3.5	–0.3	7.1	5.7	6.5	2.1

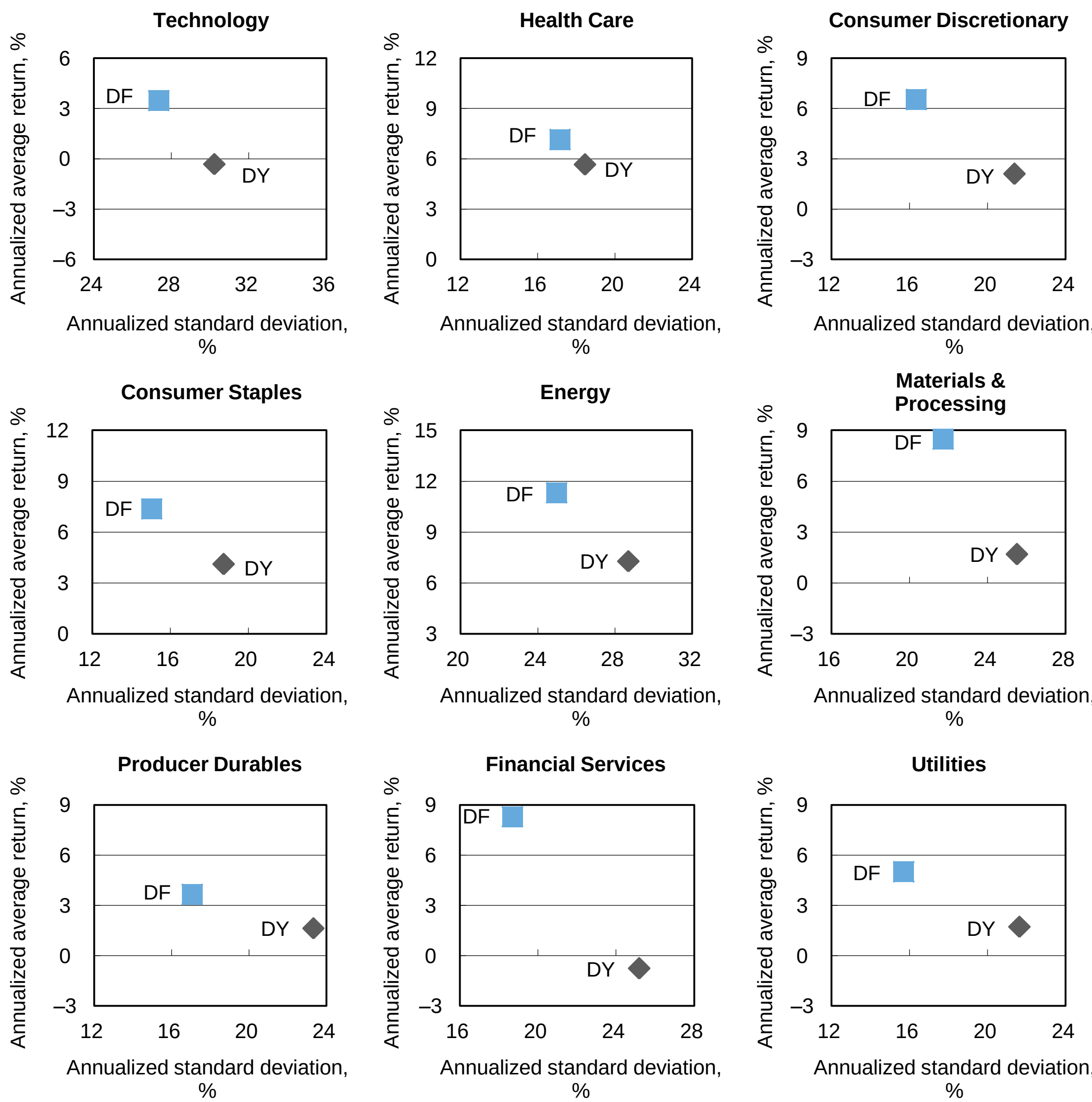
	Consumer Staples		Energy		Materials & Processing	
	DF	DY	DF	DY	DF	DY
Past 5 years	9.9	6.9	12.0	6.9	10.6	–0.2
Past 10 years	13.5	13.5	22.2	18.8	18.7	11.7
Past 15 years	7.4	4.1	11.3	7.3	8.5	1.7

	Producer Durables		Financial Services		Utilities	
	DF	DY	DF	DY	DF	DY
Past 5 years	2.6	–1.0	6.5	–4.8	4.6	0.8
Past 10 years	9.3	7.2	13.5	6.6	8.6	4.8
Past 15 years	3.7	1.6	8.3	–0.8	5.0	1.7

Source: Russell Indexes

In Figure 7 we see that in addition to the fact that all RAPDEF sectors outperformed all RAPDYN sectors over the past 15 years, all RAPDEF sectors also had lower risk than their RAPDYN counterpart sectors. The differential was smallest for Health Care; RAPDEF Health Care outperformed RAPDYN Health Care by 1.5pp but had 1.3pp less risk (as measured by standard deviation of returns). The differential for both risk and return was the largest for Financial Services; RAPDEF Financial Services outperformed RAPDYN Financial Services by 9.1pp with 6.5pp less risk.

Figure 7 / Russell Asia Pacific Defensive and Dynamic sector risk/return over the last 15 years in USD, calculated from monthly index returns as of October 31, 2011



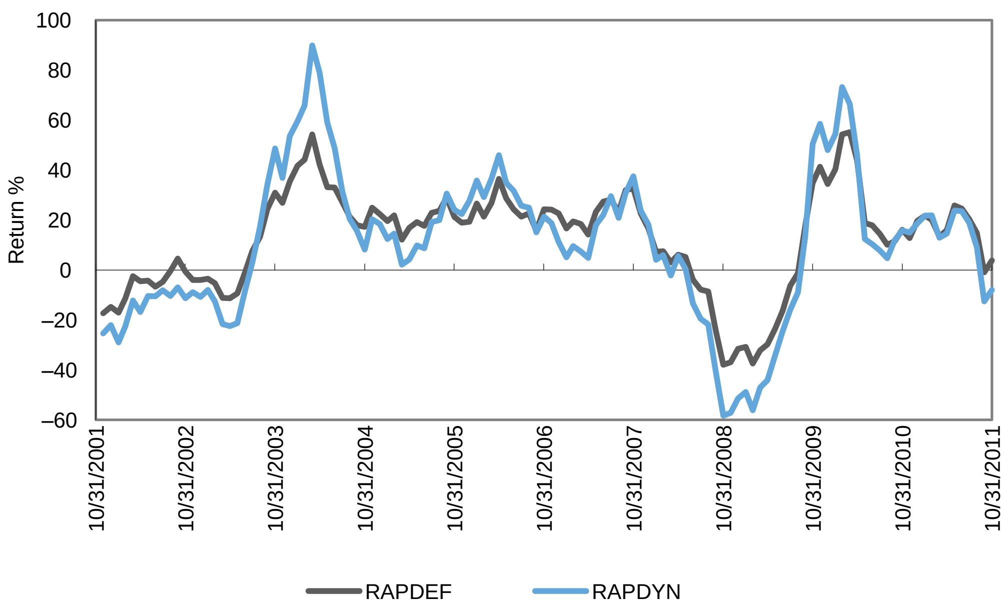
Source: Russell Indexes

Performance comparison over a shorter time horizon

Thus far, we have seen that the defensive index for each of the three regions – Asia Pacific, Asia ex-Japan and Greater China – has consistently outperformed the respective dynamic index on average over the last five, 10 and 15 years on a regional, country and sector basis. Nevertheless, it may be overly optimistic to expect defensive stocks to outperform dynamic stocks during all market conditions. In Figure 8 we see that the dynamic segment of the market has, at times, outperformed the defensive segment over shorter time horizons. To demonstrate short-term defensive and dynamic performance, Figure 8 charts historical RAPDEF and RAPDYN rolling 12-month returns. We see that the RAPDEF has tended to exhibit lower volatility of returns relative to the RAPDYN. The Russell Defensive Indexes have tended to outperform the Russell Dynamic Indexes during down markets, tending to experience less-negative returns than either the Russell Dynamic Indexes or the broader market in weak market environments. Conversely, Russell Dynamic Indexes have tended to outperform Russell Defensive Indexes during up markets.

Although defensive indexes in the Asia Pacific region have outperformed dynamic indexes over the past 10 years, in Figure 8 we see that there have been notable periods when the dynamic RAPDYN has outperformed the defensive RAPDEF – for example, between August 2003 and July 2004, and between October 2009 and April 2010. In April 2004, for instance, the RAPDYN's monthly return exceeded the RAPDEF's monthly return by almost 37pp. Thus, we see that even during a 10-year (or other) period when the defensive index outperformed the dynamic index on average, there may still be opportunities for investors to seek above-market short-term returns by anticipating a market upturn and picking stocks in the dynamic half of the market.

Figure 8 / Rolling 12-month performance of the RAPDEF and RAPDYN (% in USD), October 2001–October 2011. Data as of October 31, 2011.



Source: Russell Indexes

Conclusion

In this Global Markets Exploration report, we have compared the relatively low-volatility Russell Asia Pacific Defensive Index to the relatively higher-volatility Russell Asia Pacific Dynamic Index. We have found that the defensive half of the market has tended to outperform the dynamic half on a regional, country and sector basis over the past five, 10 and 15 years. Our findings have been consistent with what has become known as "the low-volatility effect"; in this analysis we found that the RAPDEF outperformed the RAPDYN over the last 15 years and with consistently lower risk.

We also found noteworthy instances of the higher-beta RAPDYN outperforming the RAPDEF during up markets, highlighting dynamic indexes' potential usefulness in capitalizing on rapid price growth under strong market conditions.

Taken holistically, our research indicates that the Russell Stability Indexes have a number of potentially useful applications, including possible downside risk moderation through exposure to Russell Defensive Indexes and possible up-market short-term outperformance over the broad market through exposure to Russell Dynamic Indexes.

Will this pattern last? As always, past performance does not guarantee future outcomes. Many theories have recently been developed in attempts to explain this performance anomaly: why have more stable stocks outperformed higher-risk, more variable companies over longer investment horizons in defiance of the CAPM (capital asset pricing model)? Summarizing the most prevalent of these theories, Collie and Osborn (2011) deem most persuasive the hypothesis that the performance anomaly is due to the widespread under-allocation (primarily by active managers) to defensive stocks. They caution that the potential rewards of investing in defensive stocks may become diluted if more investors adopt the strategy. Research documenting the low-volatility effect has been available for many years, however, and at this date the anomaly does not appear to have been priced out of the market.

About Russell Indexes

Russell's global indexes comprehensively represent the investable global equity market and its segments. Consistent with the design of Russell's U.S. equity indexes, the Russell Global Index series represents 98% of the global equity market. A modular design approach supports a broad spectrum of sub-indexes – based on country, region, sector and capitalization size – covering more than 10,000 securities in approximately 50 countries.[27]

For more information about Russell Indexes, call us or visit www.russell.com/indexes.
Americas: +1-877-503-6437; APAC: +65-6880-5003; EMEA: +44-20-7024-6600

Important information

First use: December 2011.

CORP-7263

[27] See "Russell Global Indexes Construction and Methodology," September 2011, available at www.russell.com/indexes.