Insights

FTSE Russell

The Russell 2000® Index

30 years of small cap

Key points:

- Russell Investments introduced the Russell 2000 Index in 1984 as the first small cap benchmark.
- The Russell 2000 has since been widely adopted by both institutional and retail investors for measuring performance in the small cap U.S. equity market, due to its accurate, comprehensive methodology.
- A large body of research has documented the potential benefits of including small cap stocks within a diversified, global, multi-asset-class portfolio.

Russell Investments introduced the Russell 2000 Index in 1984 as the industry's first small cap benchmark. Since that time, the index has been widely adopted by both institutional and retail investors for measuring the performance of the U.S. small cap asset class and benchmarking the performance of active small cap managers. As the Russell 2000 celebrates its 30th anniversary in 2014, we think it timely to provide some historical perspective on the small cap market segment over the past three decades through the lens of the Russell 2000.

Russell was the first index provider to develop an investable broad market index that could be subdivided into size-segment indexes.

This brief paper will review:

1. The development and widespread adoption of the Russell 2000 Index.
2. How the composition of the U.S. small cap market has evolved over time.
3. Historical performance characteristics of the small cap segment.

Small cap stocks are an important part of a global, multi-asset-class portfolio

The potential long-term benefits of including small cap stocks as part of a diversified, global, multi-asset-class portfolio have been well documented by numerous academic researchers and industry practitioners. A wide body of research into what is now commonly called the "small cap risk premium" has shown that small cap stocks have distinct risk/return characteristics that may provide diversification benefits and potentially enhance returns over time.[1]

With the introduction of its U.S. index series in 1984, Russell Investments was the first index provider to develop an investable broad market index that could be subdivided into size-segment indexes.[2] Russell created the Russell 3000® Index and its size components, the Russell 1000 and Russell 2000 indexes, to overcome some of the limitations of the benchmarks most widely used in the early 1980s. The S&P 500 Index was a sampled partial representation of the U.S. equity market; the Wilshire 5000 Index was more comprehensive, yet not fully investable because of low liquidity in the microcap range.

The Russell 3000 was the first index to balance broad market representation with market accessibility by investors, and its size components more accurately represented the investment universe of professional investment managers who tended to specialize in either large cap or small cap companies. Five years after the Russell 2000 was launched, the first passive mutual fund based on the index was created in 1989.[3] Since that time, investors have overwhelmingly embraced the Russell 2000 as the small cap index of choice. As of December 31, 2013, approximately 97% of institutional U.S. small cap products were benchmarked against the Russell 2000.[4]

Small cap market composition has evolved over time

Since the introduction of the Russell 2000, the composition of the small cap market has changed dramatically. The growth in the financial services industry within the broad U.S. economy over the past three decades is reflected in the sector weightings of the Russell 2000. The size of the financial services sector within the index has more than doubled, from about 11% at the end of 1980 to nearly 24% at the end of 2013.

Another structural economic change over the past three decades has been the growth of the technology industry. This is also reflected in the Russell 2000, as the weighting of the Technology sector doubled from about 7% in 1980 to 14% in 2013. The Health Care sector more than tripled in size within the index, growing from about 4% in 1980 to 13% in 2013, and in that time saw the birth of an entire new industry, biotechnology. At the same time, a decline in manufacturing activity led the Materials & Processing sector weighting to shrink from more than 18% of the index to about 7%.

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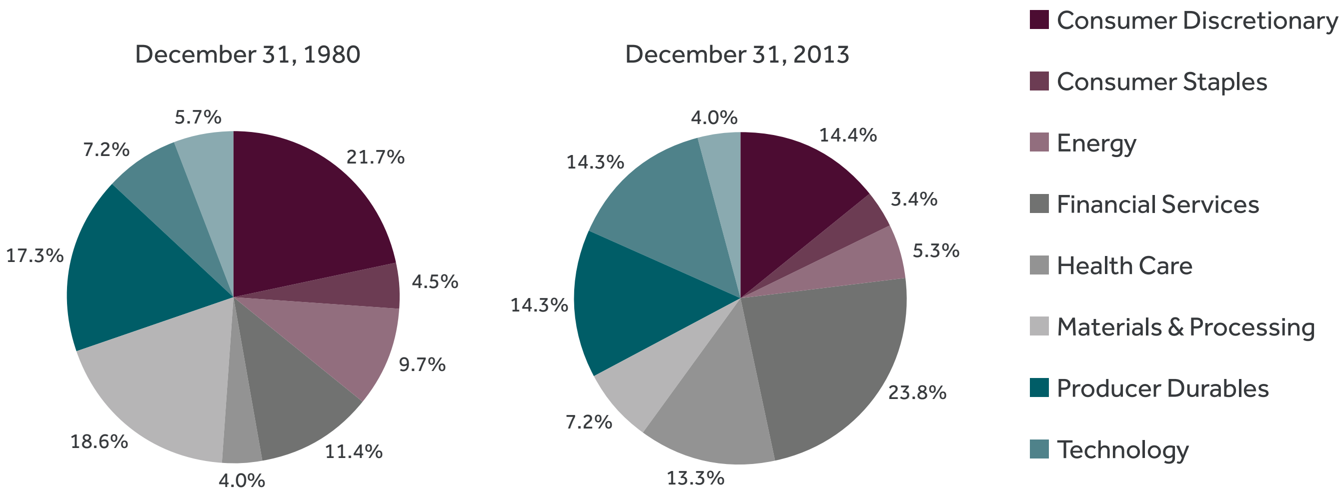
[1] Banz, R. "The Relationship Between Market Value and Return of Common Stocks," *Journal of Financial Economics*, 1981. Fama, French, "The Cross-Section of Expected Stock Returns," *Journal of Finance*, 1992; Fama, French, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics*, 1993.

[2] The creation of the Russell U.S. Indexes in 1984, including the Russell 3000, Russell 1000 and Russell 2000 indexes, is described in Christopherson, Cariño, Ferson: "Portfolio Performance Measurement and Benchmarking,",McGraw Hill, 2009 (pp. 231–33 and 329–31).

[3] Bogleheads, www.bogleheads.org. The Vanguard Small-Cap Index Fund was created in 1989 by converting the Naess & Thomas Special Fund into an index fund based on the Russell 2000 Index.

[4] Russell Indexes and Morningstar Direct, as of Dec. 31, 2013.

Figure 1. Russell 2000 sector weightings reflect industry changes within U.S. economy



Source: Russell Indexes, as of December 31, 2013.

The top 10 holdings of the Russell 2000 have changed over time as well. Many of the top 10 holdings in 1980 have grown into large cap companies, been acquired by other companies or gone bankrupt. The largest holding in the index in 1980 was SCOA Industries (Shoe Corporation of America), a shoe seller and operator of department stores. The company employed 12,000 workers in the 1970s, but filed for bankruptcy in 1999.[5] By contrast, Teradyne, an electronics test equipment company, has grown over time to a market capitalization of approximately $3.7 billion and graduated to become a constituent of the Russell 1000® Index.

The largest company in the Russell 2000 at the end of 2013 was CoStar, a leading provider of information on commercial real estate. It was followed by athenahealth, a provider of electronic health records and other services, and Acuity Brands, an electronics manufacturing company.

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Table 1. Russell 2000 top 10 holdings have changed completely over time

December 31, 1980		December 31, 2013	
Company	**Weight (%)**	**Company**	**Weight (%)**
SCOA Industries Inc.	0.16	CoStar Group	0.32
Great Atlantic & Pacific Tea Co.	0.16	athenahealth Inc.	0.30
Wallace-Murray Corp.	0.16	Acuity Brands Inc.	0.28
Teradyne Inc.	0.16	Middleby Corp.	0.27
Kentucky Utilities Co.	0.16	ISIS Pharmaceuticals	0.27
Prentice-Hall Inc.	0.16	Ultimate Software Group	0.25
Atlantic City Electric	0.16	PTC Inc.	0.25
HON Industries Inc.	0.16	Align Technology Inc.	0.25
RLC Corp.	0.16	Brunswick Corp.	0.25
Maryland Cup Corp.	0.16	CNO Financial Group	0.24

Source: Russell Indexes, as of December 31, 2013.

[5] Lovelace, C. "SCOA Industries," Columbus Business First, Oct. 2012.

Small cap and large cap leadership has historically been cyclical

While much of the academic research has focused on small cap stocks as having a compensated risk premium, small cap and large cap stocks have historically passed the leadership baton back and forth. As Figure 2 illustrates, leadership was split fairly evenly over the 35 year period from 1979 through 2013. Small cap indexes led in 18 years, while large cap indexes led in 17 years. Small cap indexes exhibited a string of consecutive years of leadership, from 1979 through 1983. That was followed by a seven-year period, from 1984 through 1990, when large cap indexes led in all but one year. In recent years, that cyclicality has been less persistent, though still somewhat evident.

Small cap and large cap stocks have historically tended to move in the same direction, indicating relatively high correlation. However, correlations are unstable and can vary significantly over time.[6] Correlation between the Russell 1000 and the Russell 2000 was 0.95 over the five year period ended December 31, 2013, but 0.85 when extended to a 15-year period. Furthermore, simply examining correlation fails to tell the whole story. Although small and large stocks may move similarly in direction, they have historically tended to move at meaningfully different magnitudes.

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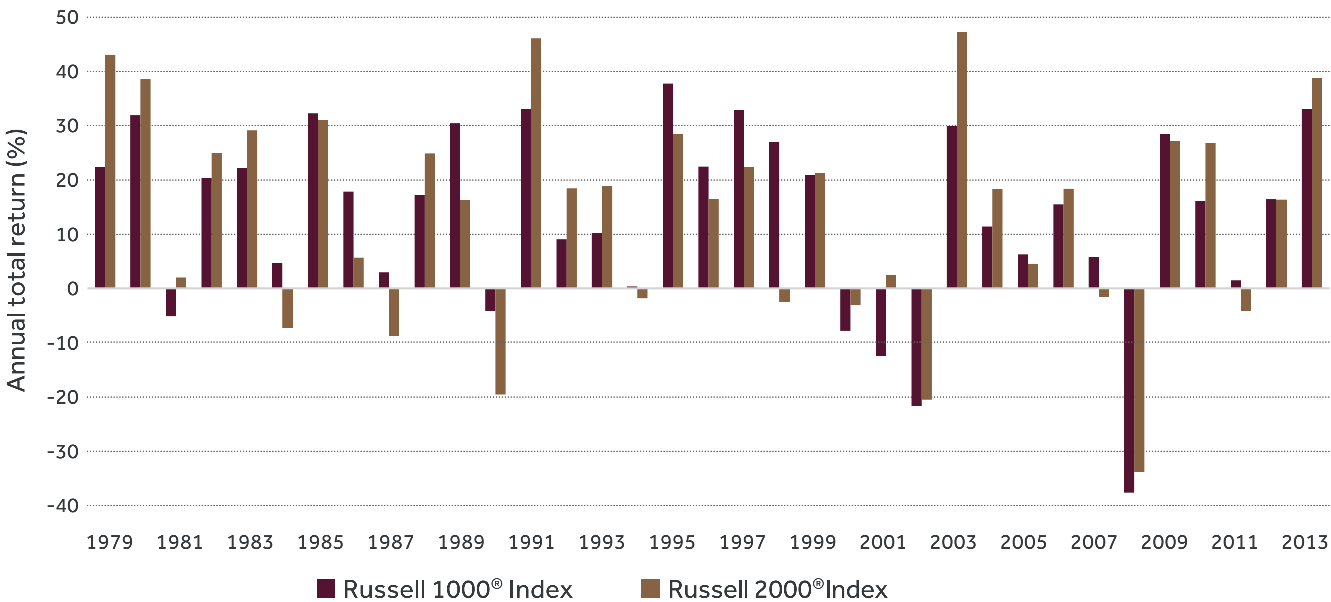
Figure 2. Annual leadership by small cap or large cap indexes has been fairly evenly split



Source: Russell Indexes, as of December 31, 2013. Index performance is for illustrative purposes only. One cannot invest directly in an index. Past performance is not a guarantee of future results. Returns shown may reflect hypothetical historical performance. Please see the final page for important legal disclosures.

[6] Collie, R. "Correlations have fat tails, too," *Russell Research*, 2011; Ankrim, E. "Correlation's importance to the long-term investor is overrated," *Russell Research*, 2002.

Leadership cycles between large cap and small cap indexes are further illustrated in Figure 3, which shows the rolling 12-month total returns of the Russell 2000, minus the Russell 1000, from 1979 through 2013. Small cap indexes led in the early 1980s; large caps led for most of the rest of the decade. Small caps led in the early 1990s, until large caps again assumed leadership through the end of the 1990s. In the wake of the technology boom of the late 1990s, which was propelled largely by large cap growth indexes, small caps again assumed leadership for most of the first half of the next decade.

Since 2007, however, these leadership cycles by capitalization have been less persistent, as the financial crisis and ongoing macro and political uncertainties have fostered several years of "risk on/risk off" behavior by investors. Amid the uncertainty, leadership has shifted more rapidly between large cap indexes and small cap indexes – with the latter generally being viewed as higher risk.

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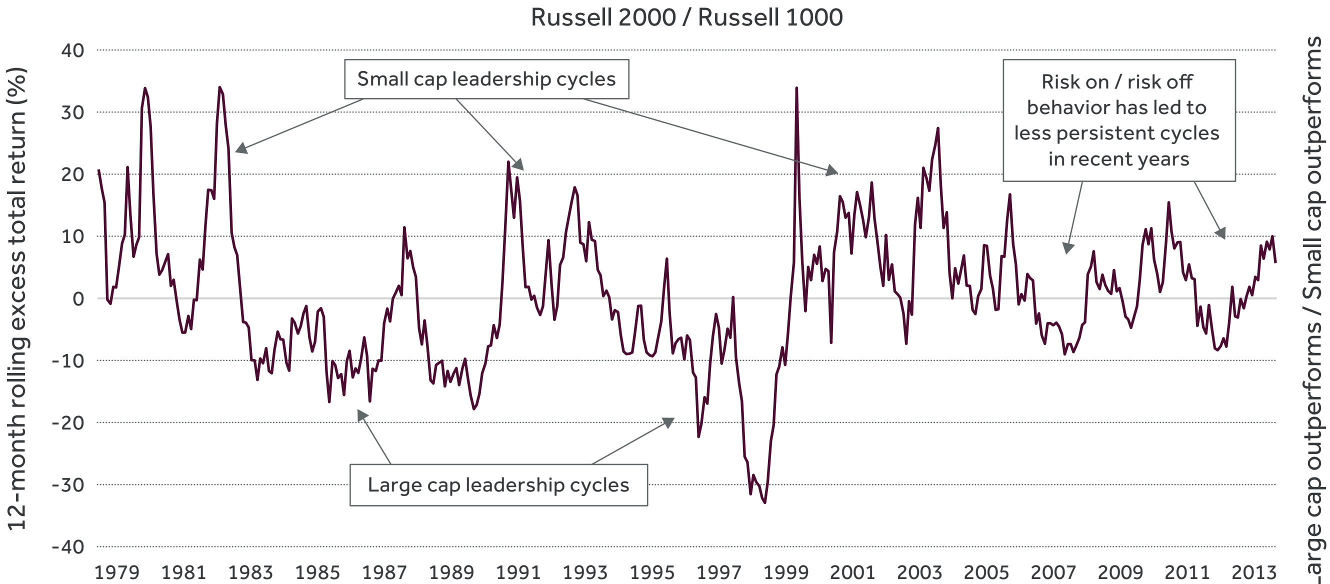
Figure 3. Leadership by size has historically been cyclical, with more variability occurring in recent years



Source:Russell Indexes, as of December 31, 2013. Returns are rolling 12-month total returns using monthly data. Index performance is for illustrative purposes only. One cannot invest directly in an index. Past performance is not a guarantee of future results. Returns shown may reflect hypothetical historical performance. Please see the final page for important legal disclosures.

Small cap performance has come with higher volatility than large cap

While market leadership of small cap and large cap stocks has historically been cyclical, small cap stocks have exhibited higher volatility than large cap stocks relatively consistently, as shown in Figure 4. Volatility has historically tended to spike more for the Russell 2000 than for the Russell 1000 in times of market stress, such as the 1987 market crash and the economic contractions in 1990–1991, 2000–2001 and 2007–2009. Volatility typically declines rapidly when market stress dissipates, however, and small cap and large cap volatility has converged at times, as in 1986 and 1989.

Average rolling 24-month volatility over the period 1979 through 2013 has been approximately 18.6% for the Russell 2000 vs. 14.4% for the Russell 1000. After spiking to all time highs during the financial crisis of 2008–2009, volatility declined meaningfully but remained above long-term averages for most of the period 2010–2012. However, in 2013, volatility declined dramatically, with volatility for both the Russell 1000 and the Russell 2000 falling meaningfully below long-term averages.

In 2013, Russell and the Chicago Board Options Exchange worked together to introduce the CBOE Russell 2000 Volatility Index (RVX), as well as options and futures based on the index. The CBOE RVX measures expected 30-day volatility of the Russell 2000 Index and gives investors a new tool for monitoring volatility expectations in the U.S. small cap market.

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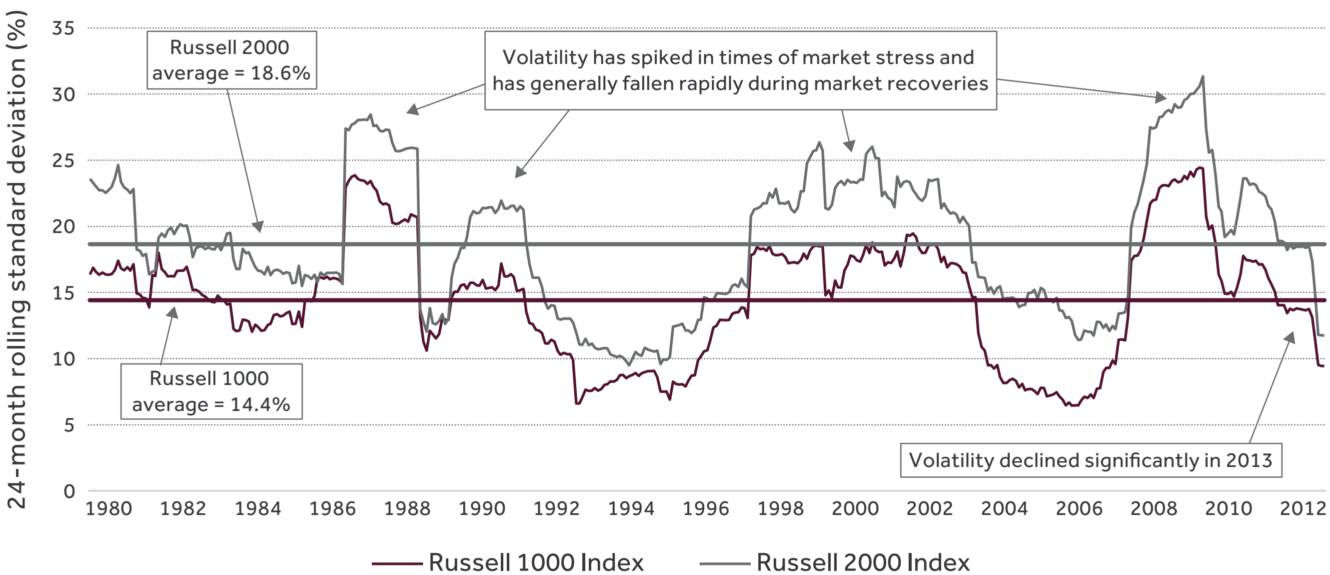
Figure 4. Volatility fell meaningfully below long-term averages in 2013



Source: Russell Indexes, as of December 31, 2013. Standard deviation is calculated over rolling 24-month periods using monthly data. Averages are calculated as geometric averages over the period 1979–2013. Index performance is for illustrative purposes only. One cannot invest directly in an index. Past performance is not a guarantee of future results. Returns shown may reflect hypothetical historical performance. Please see the final page for important legal disclosures.

Average valuation for the Russell 2000 has risen over time

As illustrated in Figure 5, small cap and large cap valuations moved steadily higher during the 1980s and most of the 1990s, in relative synchronicity, based on price-to-earnings using analysts' one-year forecasted earnings. Over that time, the forecasted P/E ratio rose from high-single-digit to approximately 20 for both the Russell 1000 and the Russell 2000. In 1998, however, valuations decoupled, and there has been a gap for most of the period since.

In the late 1990s and early 2000s, large cap valuations rose above those for small cap until both fell back in subsequent years. Since about 2003, small cap valuations have been consistently higher than large cap valuations, varying from a difference of as little as 0.1 point in early 2009 to as much as 3.7 points in early 2011.

Average valuations have also been higher in the 2000s than in the 1980s and 1990s. The average forecast P/E of the Russell 2000 since 1998 has been approximately 17.0, vs. 13.5 during the period before 1998. Likewise, the average P/E of the Russell 1000 has risen to approximately 16.8, vs. 12.9 in the earlier period.

As of the end of 2013, due to strong price gains during the year, both large cap and small cap valuations had risen meaningfully, with a difference of 3.3 points between the two; but both remained below the peaks reached in the late 1990s and early 2000s. Although the Russell 2000's valuation has risen above its average, small cap stocks remain an important part of a diversified, global, multi-asset-class portfolio.

Russell Indexes believes that opportunities remain in small cap stocks for active managers to add value through individual security selection, despite the higher valuations for the asset class as a whole.

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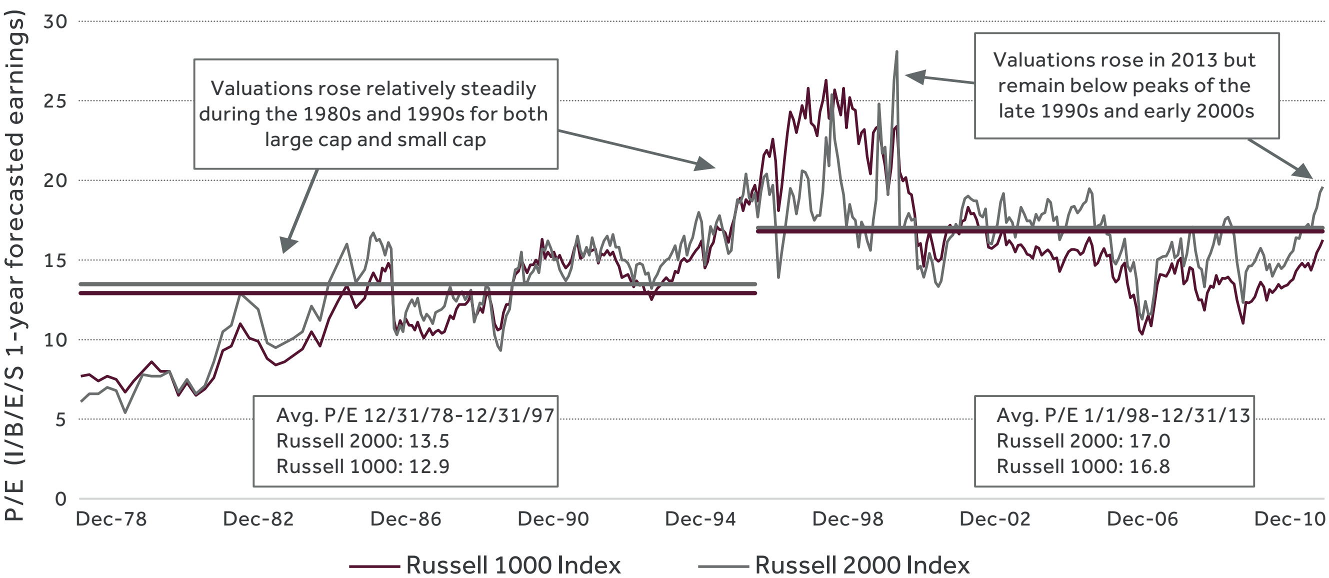
Figure 5. Small cap valuations rose above average in 2013, but remain below their historic peaks



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Conclusion

Since Russell Investments introduced the Russell 2000 Index as the first small cap benchmark in 1984, the index has been widely adopted as the standard for measuring the performance of the U.S. small cap market segment and benchmarking small cap managers. For 30 years, the Russell 2000 has provided an accurate lens for assessing the small cap market. Research has shown that small cap stocks have distinct risk/return characteristics and have historically provided diversification benefits as part of a global, multi-asset-class portfolio.

For more information about our indexes, please visit ftserussell.com.

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About FTSE Russell

FTSE Russell is a leading global provider of benchmarking, analytics and data solutions for investors, giving them a precise view of the market relevant to their investment process. A comprehensive range of reliable and accurate indexes provides investors worldwide with the tools they require to measure and benchmark markets across asset classes, styles or strategies.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create ETFs, structured products and index-based derivatives.

FTSE Russell is focused on applying the highest industry standards in index design and governance, employing transparent rules-based methodology informed by independent committees of leading market participants. FTSE Russell fully embraces the IOSCO Principles and its Statement of Compliance has received independent assurance. Index innovation is driven by client needs and customer partnerships, allowing FTSE Russell to continually enhance the breadth, depth and reach of its offering.

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