Research

Russell 2000 – 40+ years of insights

FTSE Russell

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Executive summary

Frank Russell Company was one of the pioneers in creating transparent, replicable indexes representing the size dimensions of the US equity market.

The existence of a small-cap premium has been documented in academic research since at least 1981.[1] But it was not until the introduction of the Russell 2000 in 1984 that investors had a practical index accurately representing smaller US stocks and that could be used as a benchmark for active strategies, as well as the basis of investable products.

Interestingly, the initial impetus for and formulation of the index was largely an outgrowth of Russell's observations of active manager behavior. The firm's research identified two distinct investing styles: some active managers specialized in selecting larger companies, while others focused on the smaller end of market capitalizations. The notion that large- and small-cap stocks have unique characteristics and performance profiles was confirmed by empirical research done by Fama and French in 1992.[2] The creation and widespread adoption of benchmarks that capture these different opportunity sets was a game-changer for the investment community.

What is small cap?

How to delineate between "large" and "small" remains problematic, despite clear differences in investing styles.

There is no universal definition for small-cap stocks. While there is an obvious difference in size between the largest and smallest stocks in the US market, fixing a definitive line that distinguishes them is problematic. There is no inherently "correct" definition to rely on. When US companies are ranked by their total market capitalization (a typical measure of size), the difference from one company to the next is relatively small, so no matter where the line is drawn, it is difficult to argue that companies on either side of the line are materially different.

Academics have attempted to delineate large companies from small companies in order to understand whether they behave differently, but their research does not necessarily prescribe a practical definition. Academic studies have generally analyzed the entire size spectrum by dividing the US equity market into specific quantiles. Fama and French divided companies trading on the New York Stock Exchange into deciles, and Banz used quintiles. Their analyses examined the different characteristics of the various quantile portfolios, but they did not declare a specific definition of small cap.

Frank Russell Company created the Russell 2000 in 1984, based on its observations of US active manager behavior. Before the creation of the Russell US Indexes, Russell had spent years analyzing active investment strategies for its consulting clients. Through this work, Russell discovered a notable dichotomy between active managers who focused primarily on smaller companies and those mainly emphasizing larger companies.

1 Banz, Rolf, "The relationship between return and market value of common stocks", Journal of Financial Economics 9, 1981.

2 Fama, E. F., and French, K.R. "The Cross-Section of Expected Stock Returns", Journal of Finance, v. 47, June 1992.

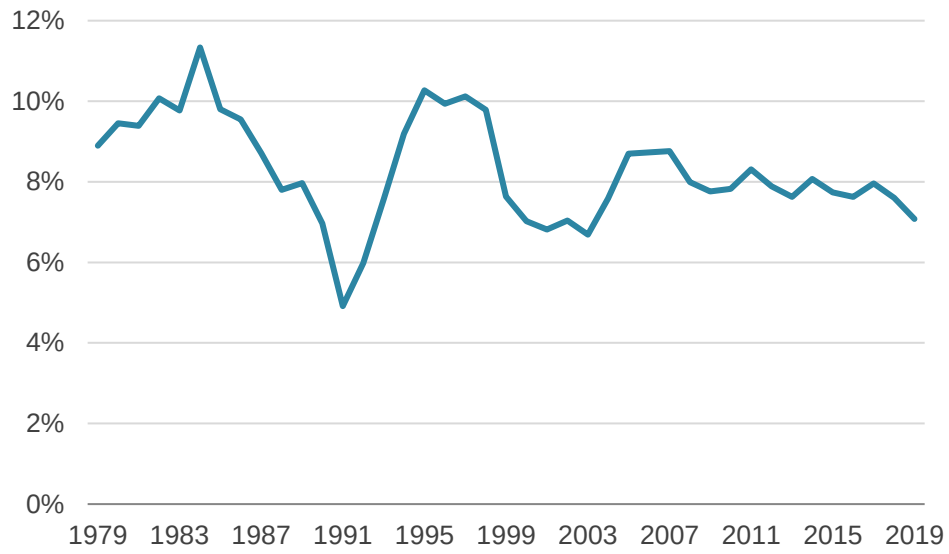
At the time, the S&P 500 was generally used as the benchmark for all active US equity managers, but Russell realized that this index did not fairly capture the opportunity set being followed by either large-cap or small-cap managers. Large-cap managers selected stocks from a universe broader than the S&P 500, and small-cap managers tended to choose from a very different universe that was on average much smaller than the S&P 500.

There was no clear delineation between these two categories of stocks—in many cases the universes used by large- and small-cap managers for stock selection overlapped. However, for purposes of creating distinct indexes, Russell determined that the largest 1,000 stocks would be a reasonable benchmark for large-cap managers and that the next smallest 2,000 stocks would be a reasonable benchmark for small-cap managers. This division had the added benefit of being non-overlapping, which allowed the indexes to also be used as proxies for US large- and small-cap asset classes in asset allocation.

There are a number of potential metrics that can be used to distinguish large- from small-cap stocks. Russell chose a fixed number of stocks for simplicity's sake, and also because it provided reasonably consistent coverage. Chart 1 shows the proportion of the Russell 3000 broad market index covered by the Russell 2000 index since 1979.

Russell choose a fixed number for its small-cap index for its simplicity, transparency and consistent coverage.

Chart 1: Russell 2000 weight in the Russell 3000 (percent of total)



Source: FTSE Russell. Data from December 31, 1978 to December 31, 2019.

The weight of the Russell 2000 as a proportion of the Russell 3000 has varied between 5-12% over the past 40 years, with an average of around 8%. This proportion was more erratic in the first 30 years of the historical data but has been fairly stable at around 8% since Russell introduced its "banding" methodology in 2007.[3]

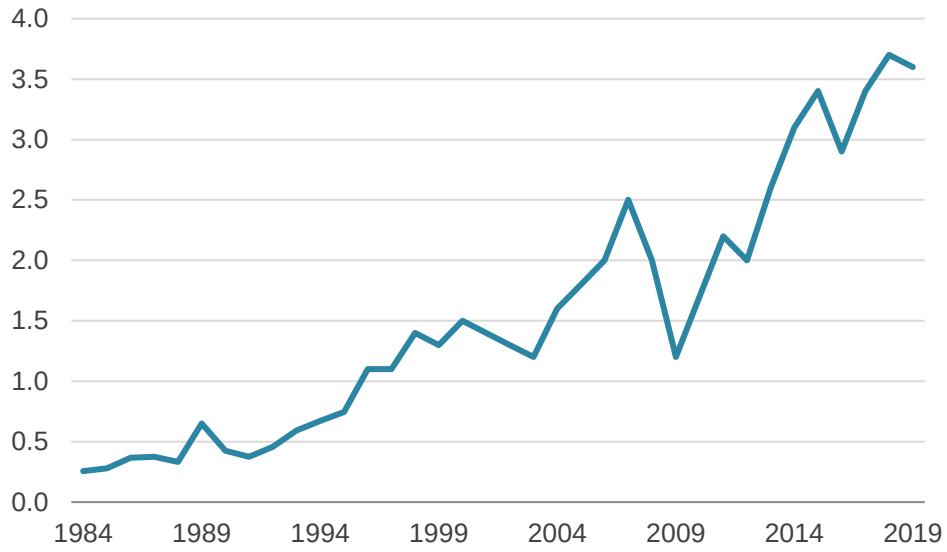
3 See "Russell US Indexes Construction and Methodology", ftserussell.com/products/indices/russell-us

Alternatively, using a percent coverage target (for example, 90% large cap/10% small cap) would ensure consistency of coverage over time, but the number of stocks included in the resulting indexes could potentially change dramatically at the time of rebalances, creating substantial turnover, especially in the small-cap index.

Market-capitalization breakpoints may work for short periods but would need to be reset over time as markets evolved. Chart 2 shows the market capitalization break at rebalancing between the Russell 1000 and Russell 2000 indexes since their inception in 1984.

Chart 2: Market-capitalization breakpoint between the Russell 1000 and Russell 2000 Index at June rebalances since 1984 (USD billions)

The capitalization breakpoint between the Russell 1000 and Russell 2000 has soared since the global financial crisis.



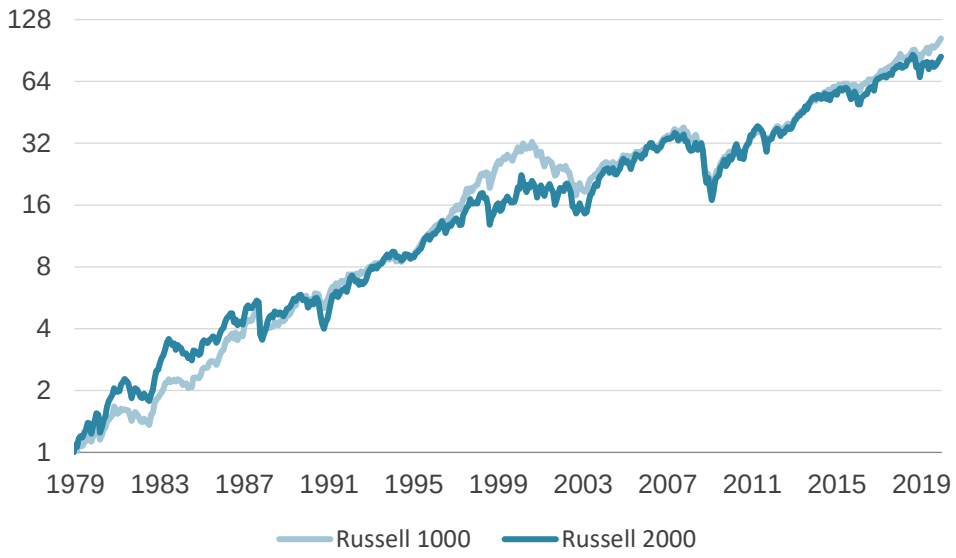
Source: FTSE Russell as of December 31, 2018.

The market capitalization separating the largest 1,000 stocks from the smallest 2,000 stocks has increased substantially, from $255 million in 1984 to $3.6 billion in 2019. The breakpoint dropped sharply at the 2009 rebalance, reflecting the dramatic amount of market capitalization drained from the market during the global financial crisis (GFC). Since that time, the US equity market has bounced back and the breakpoint between large and small stocks is now at a near-record high.

Performance: Large cap vs. small cap

Both academic and practitioner research confirm that large-cap stocks behave differently than small-cap stocks. Chart 3 shows the performance of the Russell 1000 and Russell 2000 indexes over the past 40-plus years, starting with an index level of 1.0.

Chart 3: Cumulative performance of the Russell 1000 and Russell 2000 Indexes (log scale)



Source: FTSE Russell. Data from January 1, 1979 through December 31, 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

While there have been various sub-periods during which the Russell 1000 outperformed the Russell 2000 and vice versa, the Russell 1000 has had a modest performance advantage over its small-cap counterpart over the entire period. Rather than contradicting the extensive academic research asserting the existence of a small-cap premium, this simply indicates that the size premium is not guaranteed over any particular time period, even fairly lengthy ones. Table 1 below provides a performance summary for Russell 1000 and Russell 2000 over their entire 40-plus-year history and during four different macroeconomic regimes.

Table 1. Risk and return for the Russell 1000 and Russell 2000 Indexes

	Annualized Return		Annualized Std Deviation	
Time Period	**Russell 1000**	**Russell 2000**	**Russell 1000**	**Russell 2000**
41 years: 1979-2019	**12.0**	**11.4**	**14.9**	**19.2**
Macroeconomic Regime				
Great Moderation (December 1978 – December 1994)	14.6	14.7	15.2	19.4
Goldilocks (December 1994 – September 2000)	24.3	15.2	14.5	19.2
TMT Bust + Recovery + GFC (September 2000 – March 2009)	-4.7	-1.1	16.0	20.5
New Normal (March 2009 – Current)	16.4	15.2	12.8	17.5

Source: FTSE Russell. Data based on Russell 3000 Index universe, from December 1978 to December 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Despite underperforming the Russell 1000 over the whole period, the Russell 2000 had much higher volatility, 19.2% annualized versus 14.9% for the Russell 1000.

During the Great Moderation between 1978 and 1994, the small-cap index held a slight performance edge, registering an annualized return of 14.7% versus 14.6% for its large-cap counterpart. The Russell 2000 was much more volatile than the Russell 1000, consistent with long-term patterns.

The Russell 2000 enjoyed a slight performance edge during the Great Moderation regime from 1978 to 1994.

Large-cap stocks substantially outperformed small-cap stocks during the Goldilocks period, with the Russell 1000 outpacing the Russell 2000 by almost 10% (1,000 basis points) on an annualized basis. This was a period of widespread enthusiasm for the Internet-driven “New Economy,” which drove up valuations, particularly for technology, media and telecom (TMT) stocks, some of which had little or no earnings. This had the dual effect of creating many large companies (by virtue of inflated stock prices) with stellar performance. When the TMT bubble burst and the equity market corrected beginning in 2000, small-cap stocks that had not soared to the lofty levels accorded their large-cap peers fell far less. The Russell 2000 dropped 1.1% for the period, versus a decline of 4.7% for the Russell 1000.

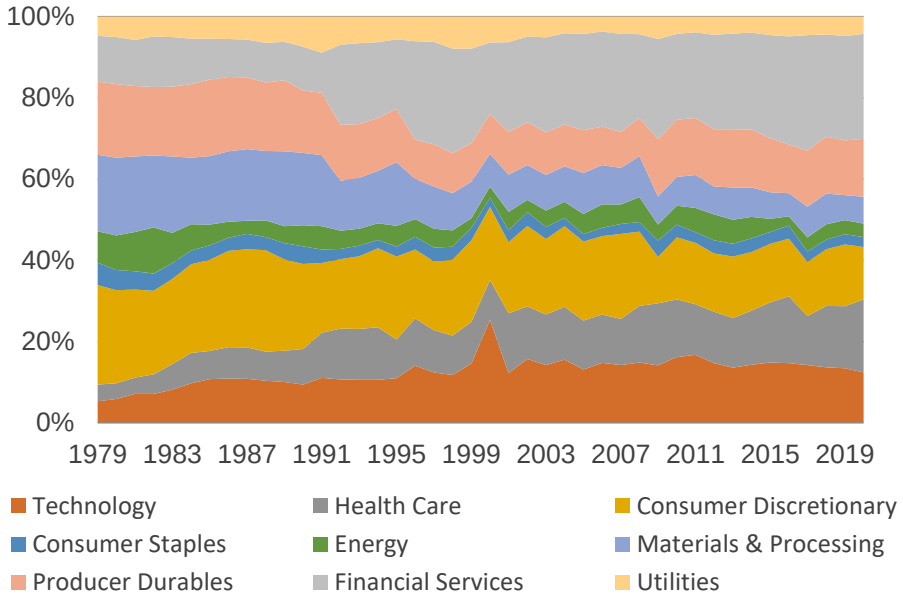
More recently, in the New Normal period that began at the trough of the GFC in March 2009, large-cap stocks have once again outpaced small-cap stocks, posting an annualized return of 16.4% for the period versus 15.5% for the Russell 2000. Much of the large-cap outperformance reflects the extraordinary outperformance of the so-called “FAANG” stocks (Facebook, Amazon, Apple, Netflix and Google), which represent almost 10% of the Russell 1000 when combined.

Small-cap sector composition

The US economy has experienced massive structural changes over the last half century. The US had traditionally been a manufacturing economy, supplying a variety of raw materials, consumer and industrial products domestically and abroad.

Over the past 40+ years, however, there has been a marked shift from the manufacturing of physical products to more information-driven and service-oriented businesses. Changes in the sector weights in the Russell 2000 provide tangible evidence of this evolution. Chart 4 shows the historical year-end Russell 2000 sector weights for nine broad sectors of the US market since 1979.

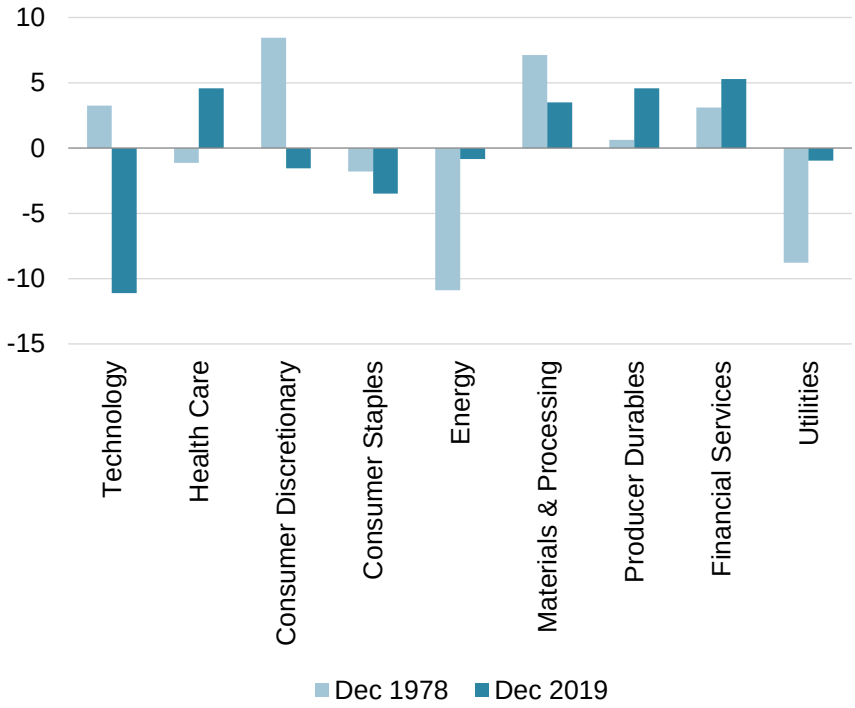
Chart 4: Year-end Russell 2000 economic sector weights (%)



Source: FTSE Russell. Data from January 1, 1979 through December 31, 2019.

Chart 5 summarizes the relative sector-weight differences between the Russell 1000 and Russell 2000 at December 31, 1978, and at December 31, 2019.

Chart 5: Relative sector weights – Russell 2000 vs Russell 1000 indexes (% difference)



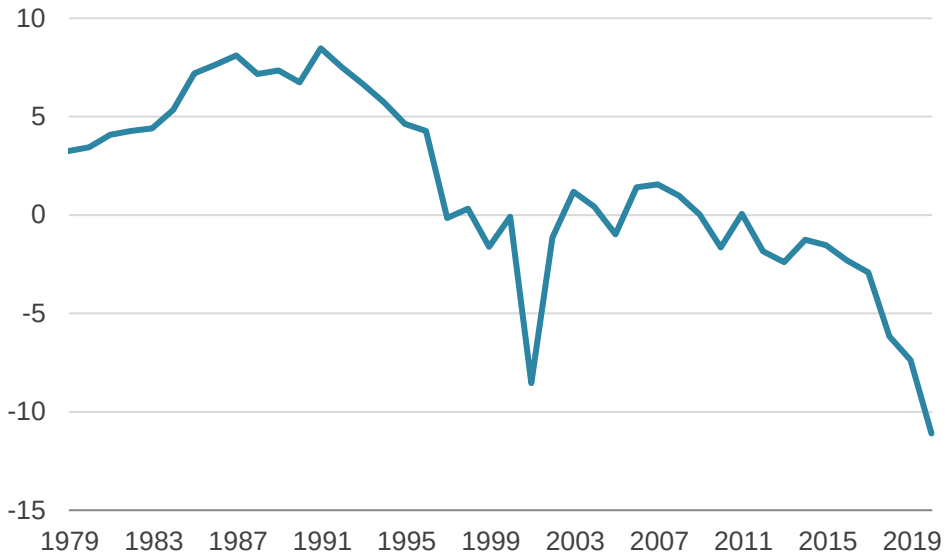
Source: FTSE Russell. Data based on Russell 3000 Index universe, at December 31,1978 and December 31, 2019.

For the most part, the differences in sector weights between the two indexes are less extreme now than they were four decades ago. Large Russell 2000 underweights in energy and utilities and overweights in consumer discretionary and materials & processing in December 1978 have narrowed substantially and are now much closer to their counterparts in the Russell 1000.

Perhaps most dramatic is the shift in the relative weight of the technology sector. At year-end 1978, the Russell 2000 was roughly 3% overweight in technology versus the Russell 1000; that gap had shifted to an 11% underweight by the end of 2019 as such large technology stocks as Microsoft, Apple and Alphabet (parent company of Google) accrued substantial market capitalizations. Chart 6 highlights this trend specifically for the technology sector over the past 41 years.

The technology sector has become a dramatically smaller weight in the Russell 2000 since the early 1990s.

Chart 6: Technology sector weights – Russell 2000 relative to the Russell 1000 (% difference)

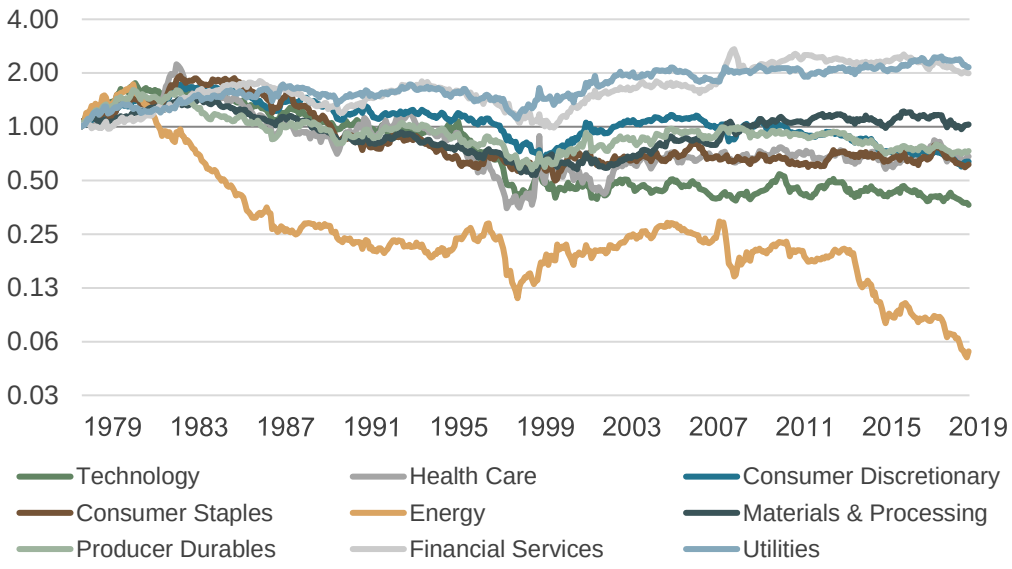


Source: FTSE Russell. Data based on Russell 3000 Index universe, from January 1, 1979 to December 31, 2019.

In the 1980s and for most of the 1990s, the Russell 2000 had a consistently larger weight in technology than the Russell 1000. However, as technology companies commanded increasingly higher (and unrealistic) valuations in the mid- to late-1990s, the weight of technology stocks in the Russell 1000 began to exceed that of similar companies in the Russell 2000, representing a small-cap underweight of more than 8%. This underweight abruptly vanished as the market corrected and large technology stocks fell in value. Despite this reversal, the dominance of technology stocks in the US small-cap arena never returned to the levels of decades past. Since the early 2000s, the technology sector is far more strongly represented in the large-cap segment of the US market.

In addition to some of the dramatic shifts in relative sector dominance between the Russell 1000 and Russell 2000, the historical performance of certain sectors has also differed, and in some cases significantly. Chart 7 shows the cumulative performance of the Russell 2000 economic sectors relative to that of their Russell 1000 counterparts since 1979.

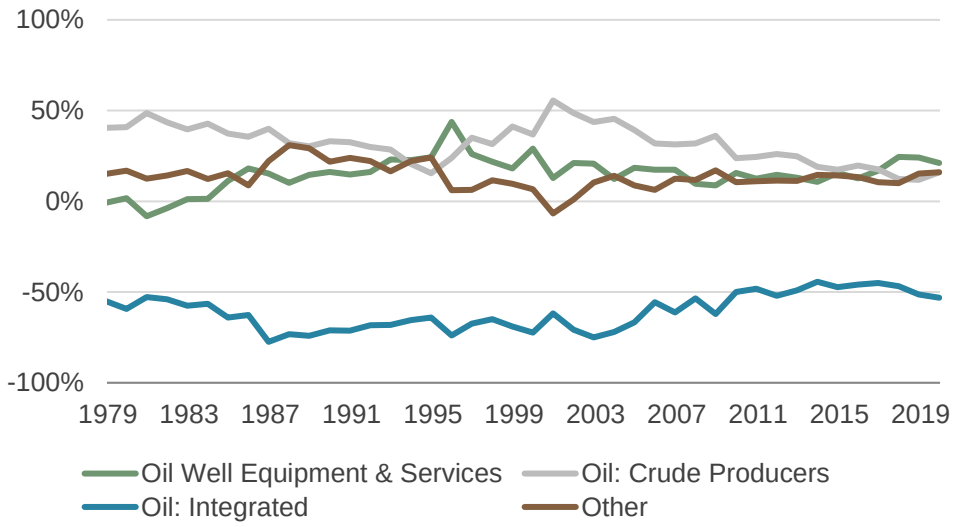
Chart 7. Excess cumulative returns – Russell 2000 / Russell 1000 (log scale, rebased)



Source: FTSE Russell. Data based on Russell 3000 Index universe, from December 31, 1978 to December 31, 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Energy and technology companies in the Russell 2000 have significantly underperformed their Russell 1000 peers, and Russell 2000 financial services and utilities have significantly outperformed. These performance differences largely reflect the distinct composition of the underlying industries within the broader sectors of the two indexes. As an example, Chart 8 highlights the relative historical weights for some of the key industries that make up the energy sector for the both the Russell 1000 and Russell 2000.

Chart 8: Energy weights – Russell 2000 vs Russell 1000 (% difference)



Source: FTSE Russell. Data based on Russell 3000 Index universe, from January 1, 1979 to December 31, 2019.

The Russell 1000 energy sector is dominated by large integrated oil companies like Exxon and Chevron (vertically integrated companies involved in exploration, production, and distribution), whereas the Russell 2000 energy sector is diversified across more specialized industries, including oil well equipment & services, crude oil producers, and alternative energy.

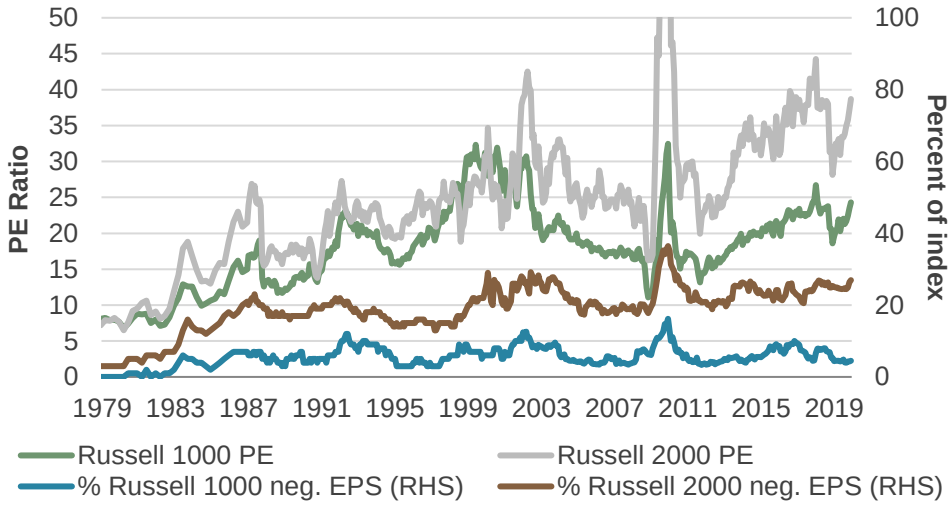
Similarly, the financial services sector of the Russell 2000 is dominated by regional banks, while the Russell 1000 is more diversified across large national banks, insurance companies and real estate investment trusts (REITs). In many cases, the different industry makeup within the large-cap and small-cap sectors can lead to significant variances in a sector's performance between the two indexes.

Valuations: Large cap vs. small cap

Small-cap stocks have historically traded at a premium to large-cap stocks, on average. However, much of this premium is driven by the higher proportion of companies with negative earnings in the Russell 2000. An increase in the number of companies with negative earnings decreases the denominator, which in turn increases the index's PE ratio and, in some cases, can even produce extreme results. Chart 9 shows historical PE ratios and the percentage of companies with negative earnings for the Russell 1000 and Russell 2000 since 1979.

The Russell 2000's historical premium to the Russell 1000 largely reflects its larger number of companies with negative earnings.

Chart 9: Trailing index PE ratios (LHS) and percent of companies with negative earnings (RHS)



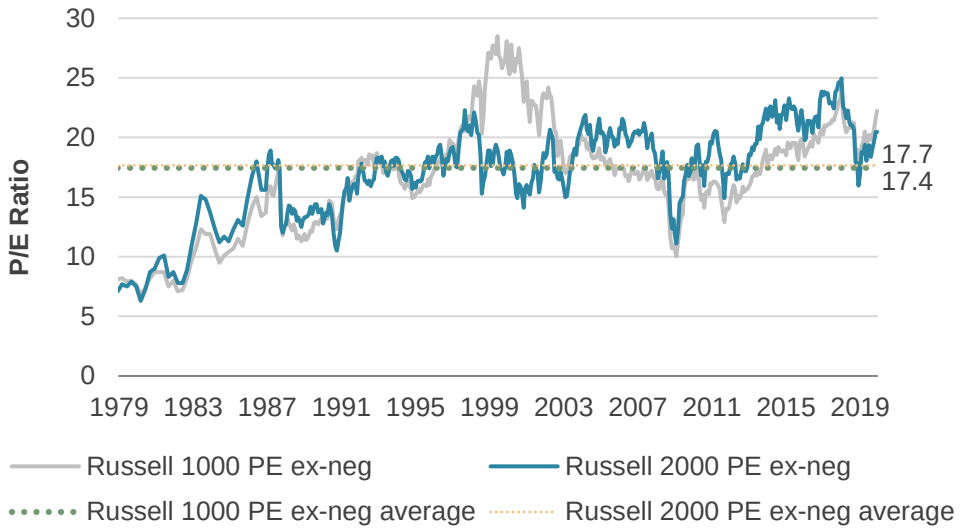
Source: FTSE Russell. Data based on Russell 3000 Index universe, from January 1, 1979 to December 31, 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

As this chart shows, the average PE ratio for the Russell 2000 is consistently higher than the Russell 1000, except for a brief period in the late 1990s, when large TMT stocks in the Russell 1000 were trading at much higher valuations than the average small-cap company.

Because the Russell 2000 has a greater preponderance of companies with negative earnings than its large-cap counterpart, its average PE ratio has tended to be higher. In late 2009, more than one-third of Russell 2000 constituents reported negative earnings, causing the average PE ratio to spike above 300×.

Removing negative-earnings companies provides an alternative view of relative valuations between large and small companies, as illustrated in Chart 10. When negative earners are removed, the long-term historical PE ratio for the Russell 1000 averaged 17.4×, versus 17.7× for the Russell 2000.

Chart 10: Index PE ratios excluding companies with negative earnings – Russell 1000 and Russell 2000



Source: FTSE Russell. Data based on Russell 3000 Index universe, from January 1, 1979 to December 31, 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Valuations for large- and small-cap companies have steadily marched upwards from their low points set at the bottom of the GFC in early 2009. In December 2017, the average PE ratio for the Russell 2000 (excluding companies with negative earnings) hit a historical record of 25.0×, but then it abruptly contracted during the market correction in late 2018. At the end of 2019, the average PE ratio of 20.5× for the Russell 2000 was lower than the 22.2× for the Russell 1000, a rare occurrence versus history.

The high incidence of negative earnings in the Russell 2000, together with the observations that the business lines of Russell 2000 companies tend to be more specialized than those of the more diversified Russell 1000 constituents, suggests that Russell 2000 companies are less resilient to economic or industry-specific shocks. That riskiness has likely contributed to the historically higher volatility of Russell 2000 returns.

The Russell 2000 has tended to be more sensitive than its large-cap counterpart to economic or industry-specific shocks over the past 40 years.

The Russell 2000 investment ecosystem

There are substantial assets tracking the Russell 2000, both actively and passively. Table 2 highlights active AUM tracking the Russell 2000 index and its variants (Russell 2000 Growth, Russell 2000 Value, etc.) as benchmarks, as well as the AUM tracking the Russell 2000 in various index-linked investment products.

Table 2: Active and passive AUM following the Russell 2000

	AUM ($)
Active AUM benchmarked to Russell 2000	**1.4 T**
Passive AUM linked to Russell 2000	190.8 B
ETFs	65.9 B
Other vehicles	124.9 B

Source: FTSE Russell. Data as of December 31, 2019. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Although considerably less than that of the US large-cap market, the active and passive AUM following the Russell 2000 has created an "ecosystem" very similar to that of the large-cap space – one that provides investors with a variety of index-linked investment products to manage their small-cap allocations. Table 3 summarizes some of the features of the various index-linked products available to investors.

Table 3: Investment vehicles linked to the Russell 2000 Index and comparative features

Physical portfolio

- Direct ownership
- Maintain voting rights
- Dividends
- Tax benefits
- More complex implementation – number of holdings
- Operational risk – tracking error
- Less capital efficient than derivatives

Fund
Including mutual funds, commingled funds, etc.

- Investor's exposure provided with a single holding
- Professional management
- Higher management fees
- Less capital efficient than derivatives

ETF

- Investor's exposure provided with a single holding
- Product choice
- More precise exposures (e.g., sectors)
- Tax benefits
- Higher management fees
- Less capital efficient than derivatives

Index futures

- Highly capital efficient
- Liquid and transparent
- Limited product choice
- Calendar roll required

Index options

- Highly capital efficient
- Liquid and transparent
- Lower direct market impact than physical portfolios
- Limited product choice
- Additional risk management required

Swap

- Can be highly tailored to transaction needs/requirements
- Counterparty risk
- Regulatory uncertainty

Many vehicles such as ETFs, futures, and options are available on exchanges, but there are also a number of vehicles available off-exchange. Index-linked swaps, insurance accounts, structured products and collective investment trusts are additional examples of over-the-counter (OTC) products available from a number of providers. While there is considerable transparency in the amount of assets invested in exchange-based products, the same transparency does not exist for OTC products but is assumed to be significant.

Summary

The Russell 2000 has become the preeminent representative of the US small-cap stock domain since its inception in 1984. More than 40 years of data provides insights into the relative performance and distinct characteristics of small-cap stocks. While there has been no clear performance advantage of small-cap stocks over large-cap stocks over the past four decades, there have been material differences over shorter periods, primarily driven by the underlying industry composition and economic sensitivities that distinguish large companies from their smaller peers. Although average price/earnings multiples for Russell 2000 companies have been consistently above those of Russell 1000 companies over the 1979-2019 period, valuations were almost identical on average when companies with negative earnings are excluded from consideration.

The substantial amount of AUM both actively and passively following the Russell 2000 index has created an investment ecosystem whereby investors now have a multitude of investment products offering exposure to the US small-cap market, including mutual funds and ETFS, as well as a range of derivative and OTC products such as futures, options, and swaps to tactically manage their exposures effectively.

Whether or not US small-cap stocks make sense in investor portfolios is dependent on investor objectives and preferences, but clearly it represents a distinct opportunity set with a variety of available investment vehicles from which to choose.

About FTSE Russell

FTSE Russell is a leading global provider of benchmarks, analytics and data solutions with multi-asset capabilities, offering a precise view of the markets relevant to any investment process. 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 investment funds, ETFs, structured products and index-based derivatives. FTSE Russell indexes also provide clients with tools for performance benchmarking, asset allocation, investment strategy analysis and risk management.

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