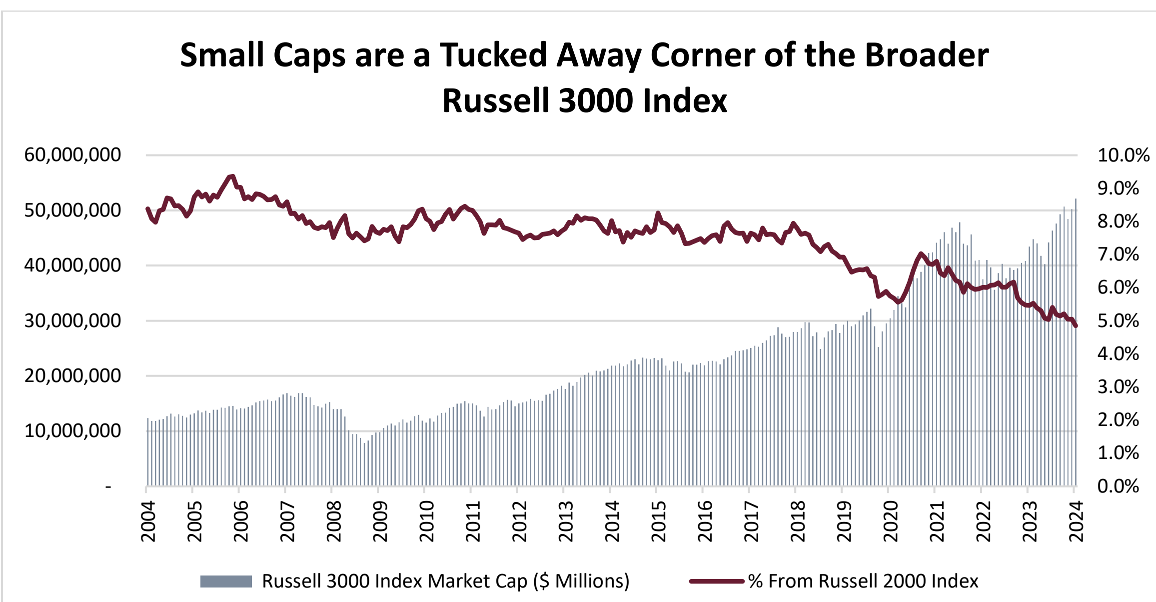
Refining Small Caps

The name Henry Bessemer is likely unfamiliar to many in the investment community, but he left an indelible mark on society. A prolific British inventor, the method he pioneered (the Bessemer Process) and the improvements from others that followed, changed steel manufacturing in the 19th Century from an expensive, artisanal process to a low-cost, mass production operation. By injecting air into molten iron, impurities (known as slag) that weaken the metal such as silicon and manganese can be separated while excess carbon is also carried off in the air. Within a few minutes, a steel casting could be ready for heating or rolling into components used in railroads, buildings, and bridges.

Similar to a mix of iron and carbon, a small cap equity portfolio should be a balance of strength and malleability. While less tangible than minerals, it can be said that an impurity is slowly weakening the Russell 2000 Index —an increasing presence of unprofitable companies. At 39% of the Russell 2000 Index as of June 30, 2024, investments in these unprofitable companies can have detrimental effects on the long-term returns of those investors who passively buy exposure.

Iron Ore for Building Small Cap Portfolios

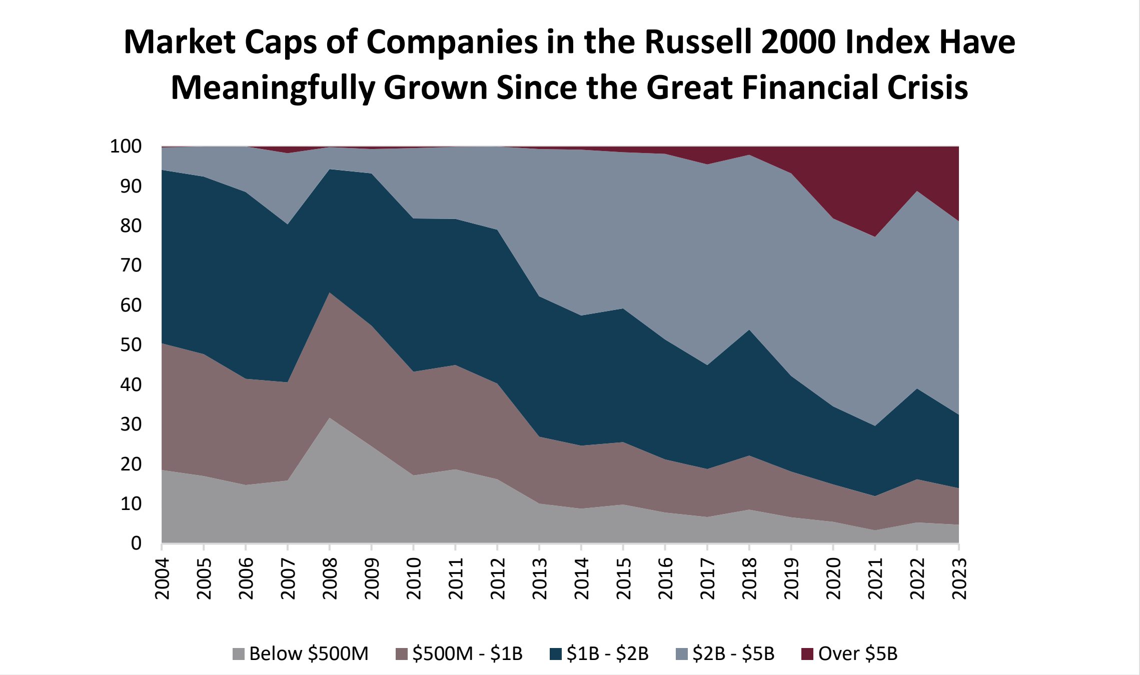
Making up about 5% of the broader US equity market, the Russell 2000 Index is composed of thousands of small companies, often with limited coverage from sell-side research analysts, which can be ripe for active investors looking for mispriced stocks. With a weighted average market capitalization of $4.46 billion at the end of June 2024, the 1,921 companies in the index pale in comparison to their large cap peers such as the S&P 500 index. Other small cap indices exist but come with nuances that do not fully represent the U.S. small cap space. There is the MSCI USA Small Cap Index, which tilts into the midcap range, and the S&P 600 Index, which has a quality screen and only includes companies with positive earnings over the last four quarters.



Source: FactSet June 2004 - June 2024

Common Misunderstandings About the Index

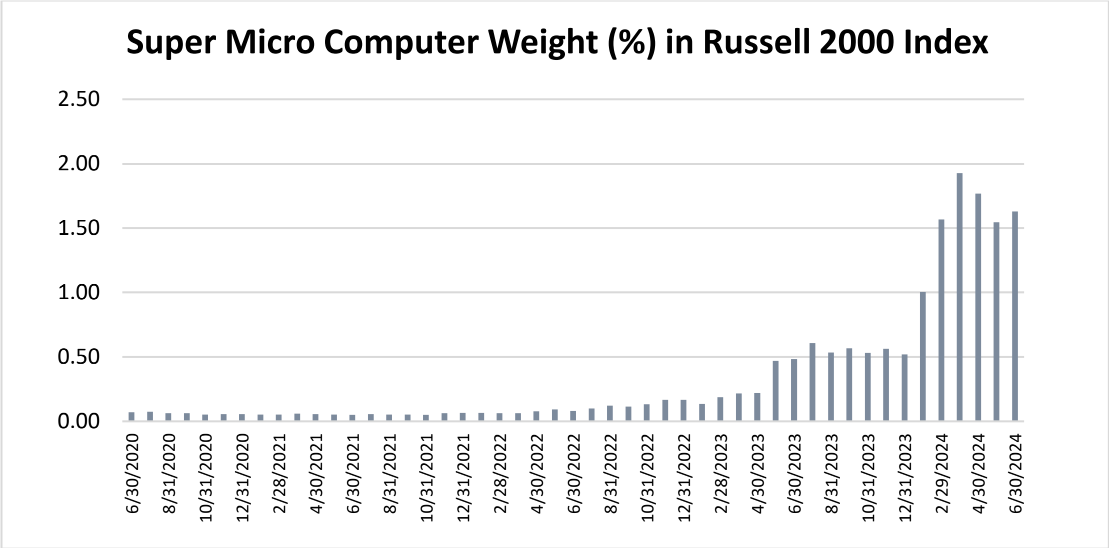
Investors have historically viewed the Russell 2000 index as a universe of companies with market capitalizations (caps) between $500 million and $2 billion, but that no longer aligns with reality. As noted in the chart below, the share of companies with market caps between $2-$5 billion and greater than $5 billion has steadily grown since the Great Financial Crisis and now is the majority of exposure in aggregate. This may be due to a host of factors including market appreciation, the availability of private financing, and a lack of initial public offerings. Taking a look at the last potential explanation, U.S. equity initial public offering issuance witnessed declining compound annual growth rates of -16.6% and -10.3% for the 5 and 10-year periods that ended the calendar year 2023[1]. With fewer small companies for inclusion, it is reasonable to suggest that the Russell 2000 represents more mature companies than in the past.



Source: FactSet, Russell 2000 Calendar Year End Market Caps and Index Weights, 2004 – 2023

The addition and removal of companies from small cap indices have different cadences based on the index provider, with the Russell 2000 rebalancing annually and the MSCI and S&P small cap indices rebalancing quarterly. While each approach has its rationale, it is worth discussing a potential knock-on effect. An unintended result of annual rebalancing by the Russell 2000 Index can be seen when a single company exerts an outsized impact on the benchmark. This was recently witnessed with the remarkable growth of the information technology company, Super Micro Computer. Entering the index in June 2020 with a market cap of $1.47 billion and a weight of 0.07%, the company benefited from rising interest in artificial intelligence to grow to a peak market capitalization of $59 billion and index weight of 1.93% in March 2024, the largest company in the benchmark and over 12 times the weighted average market value of the Russell 2000.

[1] *SIFMA 2024 Capital Markets Fact Book, IPO Dollar Value*



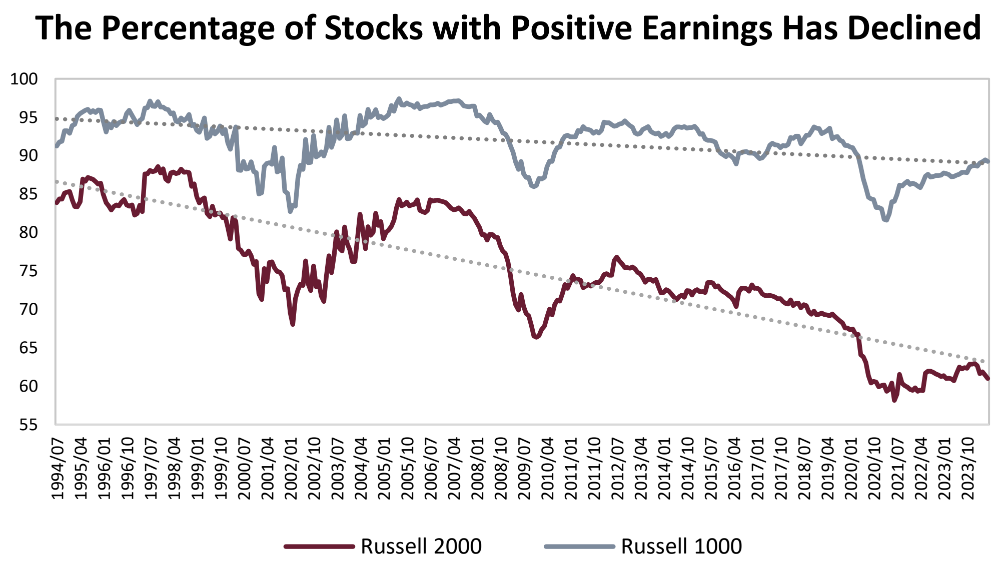
Source: FactSet, June 2020 - June 2024

The run-up in Super Micro Computers was so pronounced that when it joined the Russell 1000 and the Russell 1000 Growth index after the close on June 28, 2024, its weight in the latter large cap index was already 0.17%. Though it left the small cap index, the wake of its meteoric rise can still be felt, having accounted for 28% of the 5.18% return of the Russell 2000 Index in the first quarter of 2024.

Complexion of the Index

There are multiple ways to analyze the gradual decline in quality of the Russell 2000 Index but let's dial in on three metrics: positive earnings, return on assets, and Altman's Z score.

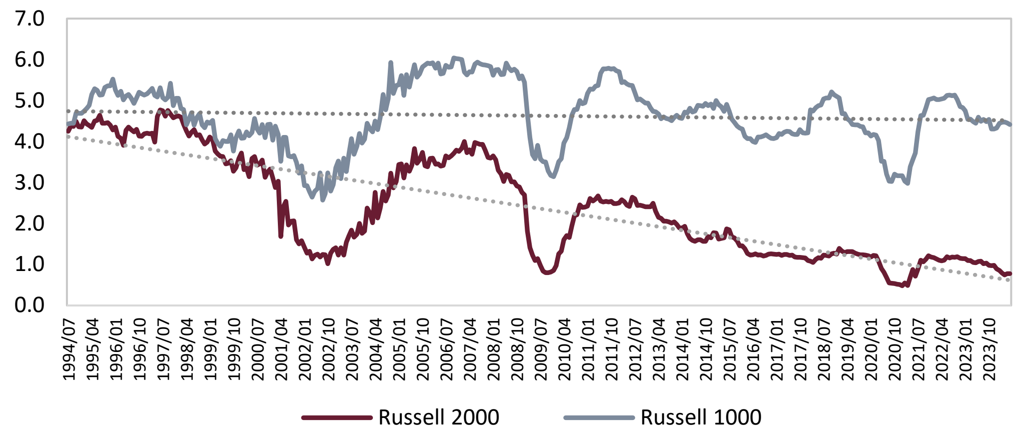
The first metric to gauge the quality of an index can be evaluated based on the number of companies within it that report positive earnings. The chart below is the percentage of stocks in the Russell 2000 and Russell 1000 with positive earnings over the 30 years ending June 2024. The dotted lines show the trend line in positive earnings over time with the Russell 2000 having a much steeper decline. Thirty years ago in July 1994, almost 85% of the stocks in the Russell 2000 had positive earnings. Today that percentage stands at 61%. In comparison, 30 years ago 91% of large-cap stocks had positive earnings, largely in line today at 89%.



Source: Aristotle Boston analysis with data from Bloomberg and Russell Investments ®, July 1994 - June 2024

Another metric for looking at the quality is the typical Return on Assets (ROA) of the stocks that comprise the index. ROA provides insight into how effectively a company utilizes its assets to generate profits. The chart below shows the median ROA of the stocks in the Russell 2000 and 1000 over the past 30 years, with dotted lines showing the trend. The trend has been a much faster decline in ROA in small-cap stocks. Median ROA in small-caps has declined from 4.25% in 1994 to 0.77% today, less than one-fifth of its level 30 years ago.

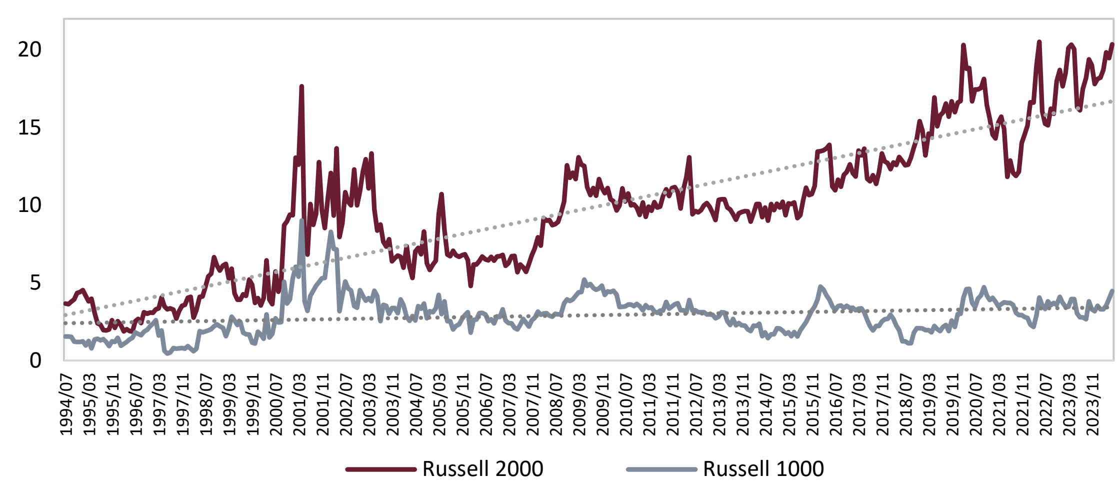
Median Return on Assets (ROA) Has Declined



Source: Aristotle Boston analysis with data from Bloomberg and Russell Investments ®, July 1994 - June 2024

Our third metric for measuring the quality of stocks in an index is Altman's Z-score[2], which was developed by Edward Altman to predict the likelihood of bankruptcy distress. Stocks with Altman's Z-scores close to 3 are in better financial health and not likely to go bankrupt. Stocks with Altman Z-scores close to zero are more likely to experience financial distress in the future. The chart below details the percentage of stocks in each index with Z-scores of 0.5 or less. The trend has been upward for the Russell 2000, with a more than fourfold increase in the percentage of stocks in the small-cap index with Altman's Z-scores close to zero. This increase in the number of stocks likely to experience financial distress is further evidence of the deterioration of quality in the Russell 2000 Index over the past 30 years.

Percentage of Stocks with Altman-Z Below 0.5 Has Increased



Source: Aristotle Boston analysis with data from Bloomberg and Russell Investments ®, July 1994 - June 2024.

[2] *Edward Altman authored the seminal paper on the Z-score to predict the likelihood of a company going bankrupt within two years. It combines multiple financial ratios into a single score, to assess the financial health and risk profile of a business. The Z-score considers factors such as profitability, leverage, liquidity, solvency, and activity to provide a snapshot of a company's stability. A Z-score near zero indicates a higher risk of financial distress.*
Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. Journal of Finance, 23(4), 589-609.

So why does quality matter? As seen in the table below, 30 years of history suggests investing in quality companies has historically led to better excess returns.

Stocks With Negative Net Income Underperform Stocks With Positive Net Income on Average

Annualized Excess Returns	
	Russell 2000
Positive Net Income	2.14
Negative Net Income	-5.76

Annualized excess returns of companies in Russell 2000 Index, July 1994 - June 2024.
Source: Aristotle Boston analysis with data from Bloomberg and Russell Investments ®

Active Management as Quality Control

We have touched on the deteriorating quality and challenges that come with passively buying the Russell 2000 index. One pushback to active management that we sometimes hear is "Why don't I employ a quant factor model for choosing small caps stocks rather than the active approach of a fundamental manager?" While this is a fair question, we believe a blind spot of quant factor-based models is the potential to miss out of favor companies whose metrics may be at an inflection point or companies that are restructuring their business models. One such company is Itron, a provider of equipment and services for managing, measuring and analyzing natural resources such as energy and water. The company is a leader in the Industrial Internet of Things (IIoT), enabling utilities and cities to deliver critical infrastructure solutions safely, securely, and reliably for electric, natural gas, and water utilities. The Aristotle Boston team has followed this company for many years, having first invested in 2013. Our research suggests the company is well positioned to benefit from power grid modernization and material increases in U.S. Infrastructure spending at the national and state levels. The company faced a challenging environment during COVID as supply chain constraints resulted in delayed product deliveries but through our analysis, we were able to discern that the order backlog was pushed out rather than cancelled. If we look at Itron from a quant lens, a firm may have held exposure fairly steady from Q1 2020 – Q1 2022 but subsequently increased their exposure only after the inflection point when the company started to report earnings above consensus. This data-dependent approach seems to miss the bigger picture, with the potential to purchase shares at rising prices as valuations improve rather than understanding the company fundamentals driving the change.

Addition by Subtraction

By removing the impurities present in metal and the small cap universe, we believe it is possible to craft the ideal balance of strength and malleability. Starting with a small cap index of almost 2,000 companies, Aristotle Boston's patient, valuation disciplined, and quality-oriented approach refines the inputs to build a small cap core portfolio of around 100 companies. While investing can be a challenging and complex pursuit, we believe an active focus on quality and valuation leads to durable portfolios for the market environments that lay ahead.

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The Russell 2000® Index measures the performance of the small cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 3000® Index measures the performance of 3,000 large U.S. companies. The Index is market capitalization-weighted, comprised of stocks in the Russell 1000 and Russell 2000 indices and represents approximately 97% of the U.S. equity market. The Russell 1000® Index measures the performance of the large cap segment of the U.S. equity universe. The Russell 1000 Index is a subset of the Russell 3000® Index, representing approximately 93% of the total market capitalization of that index. It includes approximately 1,000 of the largest securities based on a combination of their market capitalization and current index membership. The Russell 1000® Growth Index measures the performance of the large cap growth segment of the US equity universe. It includes those Russell 1000 companies with relatively higher price-to-book ratios, higher I/B/E/S forecast medium term (2 year) growth and higher sales per share historical growth (5 years). The S&P Small Cap 600® Index measures the small cap segment of the U.S. equity market. The index is designed to track companies that meet specific inclusion criteria to ensure that they are liquid and financially viable. The S&P 500 Index is the Standard & Poor's Composite Index and is a widely recognized, unmanaged index of common stock prices. The MSCI USA Small Cap Index is designed to measure the performance of the small cap segment of the US equity market. With 1,722 constituents, the index represents approximately 14% of the free float-adjusted market capitalization in the US. It is market cap weighted and includes 500 leading companies, capturing approximately 80% coverage of available market capitalization. The volatility (beta) of the composite may be greater or less than the benchmarks. It is not possible to invest directly in these indices.

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