Small-Cap Passive Investing: Low Costs Come with Big Risks

Only a handful of indexes existed 20 years ago. Today, there are substantially more indexes than publicly traded stocks, helping to drive demand for passive investments. Despite the growing popularity of passive small-cap equity vehicles, we believe these strategies pose unique—and often misunderstood—risks to investors that are materially different from and significantly elevated relative to those inherent in the large-cap space. These risks are both structural and temporal in nature, and are heavily influenced by central bank monetary policy. Understanding these risks will be critical to navigating a shifting market environment.

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Misperception #1: All passive investing is created equal.

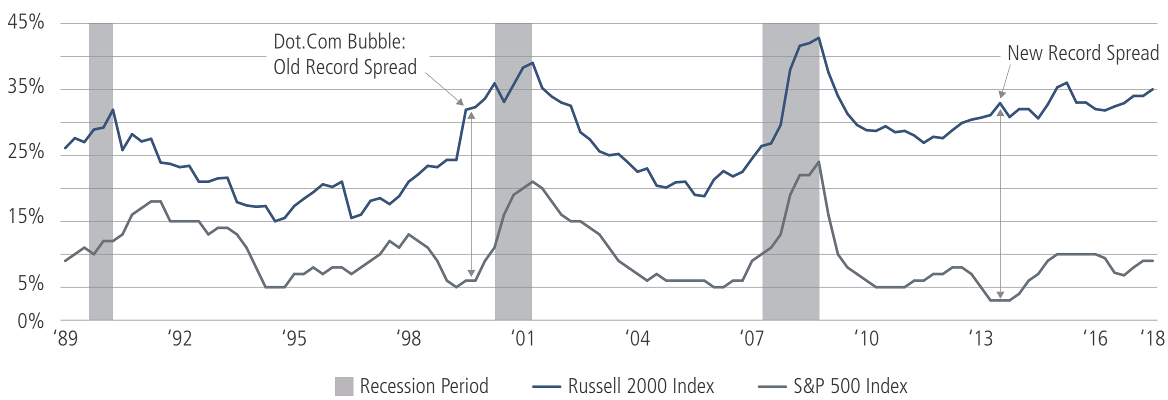
REALITY: The Russell 2000 Index has roughly four times the exposure to money-losing companies versus the S&P 500.

An investment tracking the Russell 2000 would result in over one third of an investor's money going into companies that are reporting losses versus just 10% for an investment tracking the S&P 500. The influence of the economic cycle is clearly evident across both indexes, with the number of money-losing companies increasing in periods of recession and decreasing following recessions. However, the percentage of loss-making companies within the Russell 2000 is structurally rising.

Over the long term, money-losing companies underperform profitable companies, except in periods of economic recovery, where more cyclical businesses rebound, and in speculative markets. Money-losing companies have performed surprisingly well during the post-financial crisis easing cycle, with few exceptions. The unprecedented duration and magnitude of monetary stimulus during the last decade has helped money-losing companies modestly outperform. History suggests this outperformance is not sustainable.

A Significant and Growing Amount of Companies Reporting Losses Comprise the Russell 2000

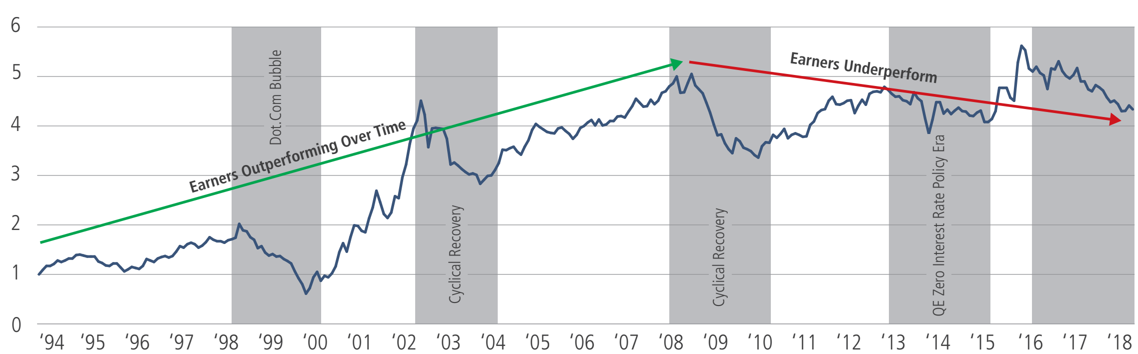
% Number of Loss-Making Companies in Index (Based on Trailing GAAP Earnings)



Source: Furey Research Partners, FactSet. Data as of June 30, 2018. Note: The % of loss-making companies is calculated by determining the number of benchmark holdings that have negative trailing GAAP earnings and dividing that total by the total number of names in the overall benchmark. This information is calculated for both the Russell 2000 and the S&P 500 on a quarterly basis.

Earners Outperformed Prior to the Financial Crisis But Have Lagged in the Past 10 Years

Relative Performance of Russell 2000 Earners vs. Non-Earners (Based on Forward 1-Year Earnings Estimates)



Source: BofA Research, Russell Investment Group. Represents Forward 1 Year Earnings Estimates. Updated as of June 30, 2018.

Misperception #2: Risk in indexes is static.

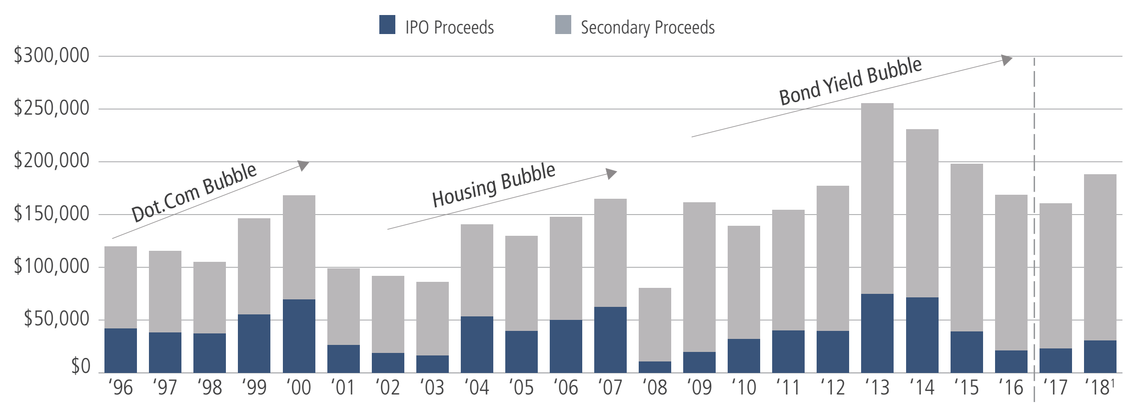
REALITY: Risk levels within the Russell 2000 fluctuate dramatically in cycles that can be tied to capital markets activity via IPOs.

Capital market cycles are tied to central bank easing cycles. Periods of low and/or falling interest rates—such as what we've seen for the last 10 years or so—benefit long-duration cash flow streams. That's why riskier businesses that hope to be profitable in the long run, even if they're losing money today, tend to go public in periods of very low interest rates. IPOs are largely the provenance of small-cap companies, thus these activities have a significant impact on the composition of indexes such as the Russell 2000.

Because active managers typically consider a stock's quality within the portfolio construction process, they are, in our opinion, less inclined to embrace the riskier components of the small-cap index and thus tend to underperform the index during easing cycles. After the cycles have reversed, however, active managers have largely outperformed passive managers. For example, during the dot.com bubble, tech and telecom stocks rose to a 40% weighting in the Russell 2000, while the average active small-cap blend manager held at maximum a 20% weighting to these stocks. This hurt active managers during the bubble, but benefited them when the bubble burst.

Active Managers Have Fallen Short as Bubbles Formed

Capital Market Cycle: Small-Cap Annual IPO and Secondary Proceeds



Time Period	1/96 – 2/00 Dot.Com Bubble	3/00 – 9/02 Bubble Burst	10/02 – 5/07 Housing Bubble	6/07 – 2/09 Bubble Burst	3/09 – 12/16 Bond Yield Bubble	1/17 – 6/18[2]
Russell 2000 Performance	+93.1%	-35.1%	+147.3%	-52.9%	+289%	+23.4%
% of Active Small Cap Blend Managers that Outperformed the Russell 2000	24%	88%	18%	53%	21%	11%

Source: Jefferies, Bloomberg and Morningstar. Data as of June 30, 2018. 2018 data is annualized based on seven months of data through July 31, 2018. Note: analysis was performed using all actively manged funds within Morningstar's Small Cap Blend Category.

[1] Annualized.

[2] % of active small cap blend managers that outperform for the period between 1/1/17 and 6/30/18 was calculated using Morningstar fund classifications as of 8/31/18. Funds that have merged or went out of existence were included in the analysis to minimize the potential for survivorship bias.

Misperception #3: Index performance is driven by fundamentally strong companies.

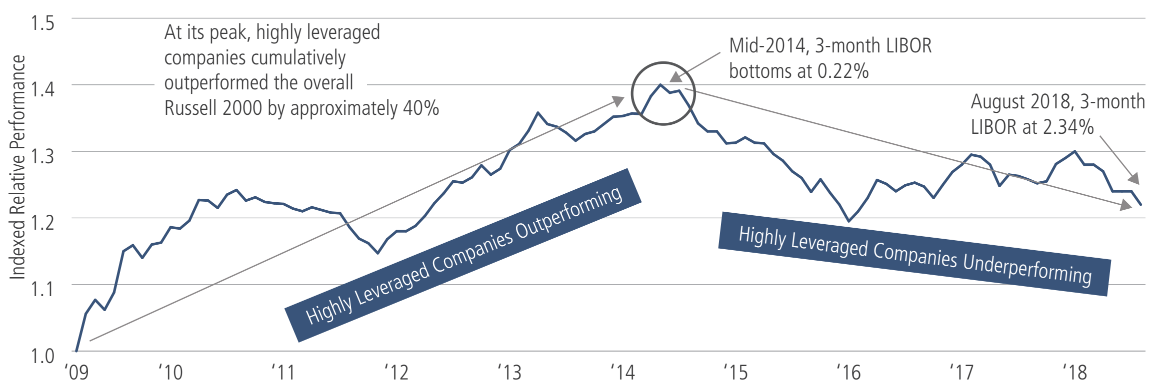
REALITY: Highly levered stocks have outperformed since the financial crisis, but this may be changing...

Extended periods of extremely low interest rates benefit higher-risk balance sheets. Leveraged companies experience declining interest expense through short-term borrowing and/or refinancing long-term debt, while corporations with unlevered, cash-rich balance sheets experience declining interest income. Consequently, in the latest period of central bank policy easing, leadership within small-cap indexes has been skewed toward companies with business models predicated on high levels of debt rather than those with strong balance sheets.

With interest rates so low today, and gradually rising, we believe the benefits of leverage likely have peaked. Underleveraged and particularly cash-rich balance sheets, however, could have untapped earnings power going forward.

Leveraged Business Models Outperformed in a Low-Rate Environment, but This Outperformance May Have Peaked with the Trough in Short-Term Rates

Monthly Relative Performance of Highest Debt-to-Capital Companies (by Quintile) vs. Russell 2000 Index Excluding Financials



Source: Bloomberg, Russell Investment Group. Data as of August 31, 2018. Russell 2000 excluding any company classified as Financials under GICS classification.

Misperception #4: Small-cap companies have access to long-term financing.

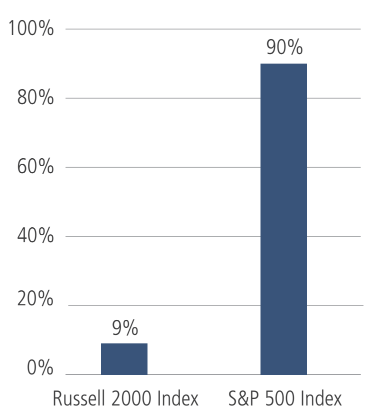
REALITY: The Russell 2000 is concentrated in shorter debt maturities.

Even at the historically low interest rates of the past several years, small-cap companies tend to have a higher cost of capital and a shorter maturity profile than larger ones. With only 9% of the small-cap Russell 2000 Index boasting an investment grade rating (by weight), which is required to access 30-year credit, the vast majority of these companies are denied access to the low-rate, long-maturity paper enjoyed by 90% of the S&P 500 Index (by weight). In turn, many small companies utilize high yield bonds and bank loans for their debt-financing needs. While highly leveraged companies thrived in the very low interest rate environment of the past 10 years, small-cap companies find themselves more exposed to rising interest rates than large-cap companies as central bank policy normalizes.

Small-Cap Companies....

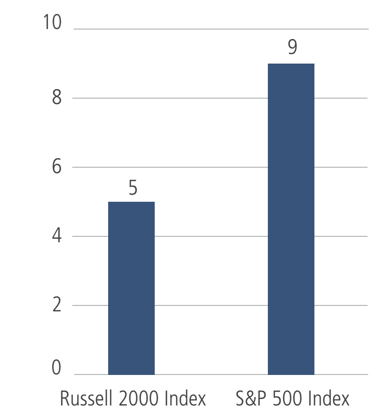
Have Less Access to Long-Dated Debt

% Weighting of Investment-Grade Companies in the Index



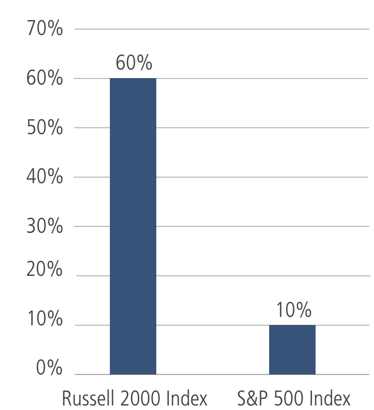
Are More Exposed to Rising Interest Rates

Weighted Average Debt Maturity (in years)



Have Riskier Debt Ratings

% Weight Below Investment-Grade Companies in Index



Source: Bloomberg, Neuberger Berman. "Investment grade rating" defined as at least one Investment Grade issuer/long-term rating from Moody's, S&P, and Fitch. 67.4% of the Russell 2000 and 5.6% of the S&P 500 are not rated (this info is weighted by market cap). Data as of May 24, 2018.

Misperception #5: Interest rates can stay low forever.

REALITY: Abnormally low interest rates create significant economic problems.

In a persistent low interest rate environment:

- The creative destruction hallmark of capitalism doesn't work. Instead of more efficient businesses destroying weaker ones, all companies have access to capital on extremely easy terms. That leads to excess supply within the marketplace, lowering the pricing structure or returns available to deserving businesses in the process and effectively depressing overall economic growth.
- Long-term financial commitments—such as pension obligations, certain life insurance contracts, etc.—cannot be kept.
- Banks can't earn sufficient spreads to justify the risk of lending to the private sector and tend to prefer to lend to "lower risk" government bonds (which they have been doing for some time), crowding out more efficient uses of capital.
- Savers tend to save more during periods of very low rates as interest and dividend income streams contract (look to spikes in home safe purchases in countries with negative interest rates for evidence), which in turn depresses overall demand.
- Persistently low interest rates lead to asset inflations. The uneven ownership of these assets can result in income inequality and social instability.

That said, interest rates don't need to rise in order to stem the outperformance of leveraged business models; they just need to stop falling. As can be seen in Misperception #3, highly leveraged small cap companies have begun to lag, consistent with the bottom in short-term rates. The refinancing tailwind to leveraged companies likely is ending just as the headwind to unleveraged companies is ending. The company with no debt and net cash is earning close to zero on that cash—virtually any redeployment of cash will be, by definition, accretive to earnings, suggesting substantial untapped earnings power versus maxed-out earnings power for highly leveraged companies.

Given the fact that more than 90% of passive small-cap vehicles take a market-cap weighted approach to portfolio construction, money flows—and not business fundamentals—have been the primary driver of asset pricing in recent years. This is not capitalism, however, and we believe that ultimately the most deserving business models will again attract capital at the expense of the less deserving ones. We'd caution against trying to time this transition back to higher-quality investments. History—notably the dot.com mania of the late 1990s and the housing downturn more recently—has shown these shifts, often prompted by adjustments to monetary policy, can be abrupt and forceful. We have found that very few investors negotiate such changes well.

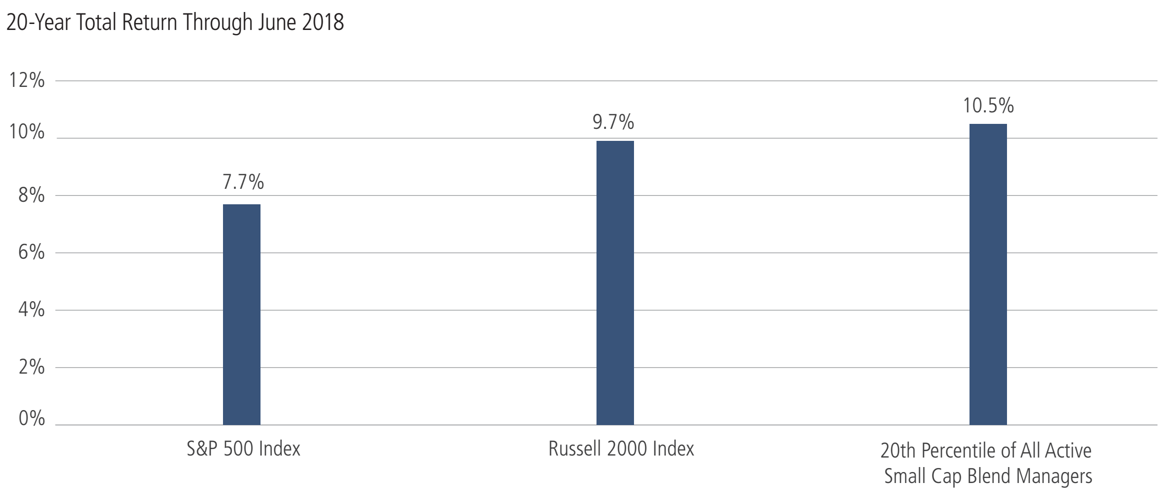
> "...money flows—and not business fundamentals—have been the primary driver of asset pricing in recent years."

Misperception #6: Small-cap investing should be a tactical decision.

REALITY: Active small-cap strategies have a strategic, long-term place in a diversified portfolio.

We believe the risks we've presented previously are somewhat unique to passive small-cap strategies. Active small-cap managers that focus on higher-quality companies with balance sheet strength, free cash flow generation, high barriers to entry and above-average business models are not only well positioned if the market cycle shifts, but provide strong performance potential over the long run. Small-cap equities continue to receive less analyst coverage than their large-cap counterparts and continue to have inherent inefficiencies—inefficiencies that have increased due to passive investments driving the price up of potentially undeserving stocks—that active managers may be able to exploit.

Active Small-Cap Managers Have Outperformed the S&P 500 and Russell 2000, Despite Recent Lag



Source: Morningstar. Information based on active managers currently categorized in Morningstar's Small Blend Category.

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