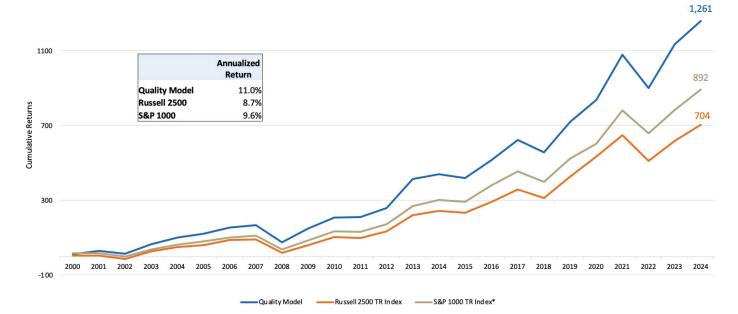


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Where Quality Helps the Most

- We created a quantitative quality model to test whether focusing on quality metrics can improve performance in the small and mid-cap space. We backtested the model using Bloomberg's equity screening tool.
- Our universe was the Russell 2500 Index, which includes small and mid-cap stocks. We screened for stocks with the following characteristics:
 - Positive earnings over the past 12 months
 - Net debt-to-EBITDA ratio below 4x
 - Return on equity (ROE) above 10%
- Our chart shows performance from a backtest that equal-weighted the stocks passing our screen, an approach we think better reflects how an active manager might allocate across a small or mid cap portfolio. However, we note that the results were similar to a market cap-weighted version: the market-weighted version returned 10.9% annualized.
- We also included results for the S&P 1000 Index, another small and mid-cap benchmark that already excludes companies with negative earnings. This let us isolate the added value of our other two quality metrics: balance sheet strength and profitability.
- For simplicity and to reduce turnover, we rebalanced annually, which is also how Bloomberg reports returns. This limits our ability to analyze volatility using higher-frequency data, but the results still support the idea that quality can provide downside protection.
- Over the last 25 years, the Russell 2500 Index had 6 down years. The model outperformed in five of them, with the only exception being slight underperformance in 2015. Of the 19 up years, the model outperformed in 11, and even when isolating only the up years, the model outperformed the indexes.
- We ran the model in the large cap space and found it to be less impactful. Having a quality bias clearly helped in down years, but the model underperformed in up markets. We also found that the weighting methodology in large caps mattered: in the first half of our 25-year test period, through the Great Financial Crisis, an equal-weighted approach added value. Since then, market weighting had been more effective.



The Importance of Quality in Mid and Small-Caps

Source: Bloomberg. 25 years of annual total returns through 2024. Past performance is no guarantee of future results.

*Combines the S&P 600 and 400 small and mid-cap indexes. S&P indexes exclude non-earners.

Word About Risk

Fixed-income securities can experience reduced liquidity during certain market events, lose their value as interest rates rise and are subject to credit risk which is the risk of deterioration in the financial condition of an issuer and/ or general economic conditions that can cause the issuer to not make timely payments of principal and interest also causing the securities to decline in value and an investor can lose principal. When interest rates rise, the price of debt securities generally falls. Longer term securities are generally more volatile. Investment grade debt securities may be downgraded by a Nationally Recognized Statistical Rating Organization to below investment grade status. Non-investment grade debt securities are considered speculative with respect to the issuers' ability to make timely payments of interest and principal, may lack liquidity and has had more frequent and larger price changes than other debt securities. Equities are subject to market volatility and loss. Growth stocks may be more volatile than investing in other stocks and may underperform when value investing is in favor. Value stocks may not appreciate in value as anticipated or may experience a decline in value. Stocks of large-cap companies may be unable to respond guickly to new competitive challenges. Stocks of small- and mid-cap companies may be subject to more erratic market movements than stocks of larger, more established companies. Investments in foreign, and emerging market securities carry the associated risks of economic and political instability, market liquidity, currency volatility and accounting standards that differ from those of U.S. markets and may offer less protection to investors. The risks associated with investing in foreign markets are magnified in emerging markets, due to their smaller and less developed economies.

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For Index Definitions see: TouchstoneInvestments.com/insights/investment-terms-and-index-definitions

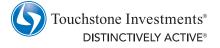
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