



***The Value Stock Score® Strategy:
Traditional Value Investing Meets Index-Like Systematic Efficiency***

White Paper: Version 2

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Ebert Capital Management White Paper

Comparing the Value Stock Score® Strategy to Indexing and Stock Screening

Background

Investment firms have always tried to find the best method for selecting common stocks for investments. After decades of pure speculation early in the 20th century, financial analyst Benjamin Graham developed and codified a very strong, pragmatic method for selecting stocks to achieve these goals – we now call the stock selection framework he developed *value investing*. Today those that strictly follow value disciplines are often among the best performing investment managers. Most investors and money managers still have the same questions: 1) What stocks to invest in? 2) What investment strategy to use? 3) Is there a systematic process allowing a manager to consistently beat the market?

Graham didn't necessarily attempt to determine the exact values for the stocks he purchased, since so many valuation methods could result in many different values; instead, he developed a method of finding stocks that were, on the contrary, undervalued by any measure, but also *safe* according to a strict set of systematic financial tests. The result was a portfolio of stocks chosen by a mechanical process – much like an index. His average annual return of 20% over a 30-year period is all the more impressive given that he regularly held between 20%-50% of his portfolios in bonds at a given time (Reese). Graham's strategy ultimately outperformed the stock market by about 8% per year during his career (Reese).

Utilizing Graham's value discipline, Ebert Capital Management (ECM) designed a methodology that employs both a Graham-like value discipline along with features of the efficient, systematic indexing approach. It's named the Value Stock Score® process because we developed a way to score stocks on value metrics, rather than screening for them. This system allows us to immediately see the best value stocks and the process is "self-correcting" because when the stock no longer represents a quality company selling at a discount its score goes down. The result of our strategy is excellent not only for the potential returns it can provide, but also in its operational efficiency.

Indexing

Essentially, stock and bond indices are lists of securities created by institutions usually with the intent of creating a certain population of companies or investment types. About a century ago the Dow Jones company created the Dow Jones Index to track the stock prices of large publicly traded companies

(DJI). The Standard & Poor's company created the S&P 500 index to track the stock prices of the 500 largest U.S. publicly traded companies, as measured by their market capitalizations. Index funds, or index ETFs, are simply low-cost investments designed to replicate the returns of the stock or bond market indices they track (e.g. Dow Jones Industrial Average, S&P 500 Index, or the Russell 2000 Index) by buying all or most of the stocks or bonds in that particular index. Since there is no active stock selection, management expenses are drastically reduced because the fund simply allocates money to the exact stocks or bonds listed on indices. Also, since the shares of ETFs trade on exchanges like stocks, there are no sales loads or 12b-1 fees (another type of sale charge), which are paid to brokers of mutual funds. This leads to low costs and ensures that investors do at least average (i.e. their performance roughly matches that of the indices, minus minimal operating expenses).

Roughly 70% to 80% of money managers don't beat the market (the market references the index which they are compared against), which means the indexing path can often lead to comparative outperformance (Pratt). Indexing also avoids the problem of emotional and biased decisions over buying stocks. Still, financial advisers provide significant value through financial planning, goal setting, and helping clients choose the best index funds, even if they don't beat the market.

There are many reasons why most active managers don't provide better performance than index funds; chief among the reasons is cost. Investment managers must be paid for their services and active managers have other expenses, such as research, marketing, and administration. Another main cost of mutual fund investing is one we find inexcusable: sales loads. Unbeknownst to many investors, these charges are commissions earned by managers as inducement for recommending a fund. We believe the amount of underperformance is essentially due to mutual fund costs, especially the egregious sales load.

The Fallacy of Efficient Markets

Many proponents of indexing strategies promote the idea that financial markets are *efficient*: that all the necessary information is readily available and active selection of specific stocks cannot lead to long-term outperformance. Efficient market theory makes many assumptions, such as that a stock cannot be undervalued or overvalued, which we believe make the theory invalid. The fact that most managers underperform is the result of many factors, but efficient markets is not one of them – as efficient market theorists would attest. In our opinion there is too much evidence against the hardline assumptions efficient market theory presents as fact, too many “anomalies” against the theory and too much statistical evidence of money managers using the anomalies to continuously outperform over long periods of time.

ECM's use of index ETFs for various strategies is not due to a belief in efficient markets, but a belief in low costs and the efficiency of the ETFs themselves. Mutual fund managers face tough odds in large part to a number of challenging rules they must follow. The list of reasons is long enough to warrant another paper of its own, but a few examples will highlight these challenges. For instance, managers of mutual funds must sell stocks when fund owners sell their mutual fund shares. This often happens during market downturns, forcing a manager to sell stocks to meet liquidation demands just when she would rather be buying stocks.

Mutual funds also have structural rules that don't allow managers to buy stocks in high concentrations, that have stock prices below \$5, or to buy stocks outside of "stylistic" rules (e.g. large cap, emerging market, etc.). Moreover, most mutual fund managers cannot purchase stocks of small companies, nor can they purchase more than 5% of a company's shares, or stocks of companies not listed on various exchanges or indices. These arbitrary rules leave fund managers having to choose from the same limited pool of stocks as their competition. All of these odd rules and many others leave fund managers at severe disadvantage against the comparatively plain index funds. In other words, invest like everyone else and you will get the same results -- unique returns only come from a unique process.

Value Investing Meets Systematic Efficiency

Backed by decades of research, statistical studies, and proven investor performance, value investing, when applied properly, is the best performing strategy. We also know that indexing as an alternative is outstanding because of its efficiency and low cost. ECM's Value Stock Score® strategy combines traditional value investing with the systematic efficiency of indexing to gain the advantages of both.

In the past, we would screen for stocks using various screening systems offered to investment managers and the general public. Screening allows a manager to see which stocks meet certain criteria or fall within specific ranges on common screening data points like price-to-book ratios or PE ratios. But screening could never easily show which stocks *best meet* various criteria. The screening process was also inefficient and took large amounts of research and time. And because the screening process couldn't tell us which stocks *best met* our criteria, we had no specific framework to know when to sell and when to buy. We created the Value Stock Score® strategy to score stocks on each variable we had been screening on and solve these problems.

The process of scoring stocks, in our case on value metrics, solved all the problems inherent with screening and also improved efficiency – both from an analysis and time standpoint. By scoring thousands of stocks on data points we previously used to screen for value stocks, we knew the best stocks at any given time. The best part is the self-correcting mechanism of scoring – if the scoring data gets worse, the stock score goes down and if the data improves a stock score goes up. Thousands of stocks are scored through this process each month to ensure that only the best stocks have been chosen. The process allows us to score the entire U.S. stock market in a few minutes, and gives us the advantage of not only seeing the top scoring stocks but the worst scoring stocks as well. The procedure is highly unique and our firm immediately recognized the potential, so we began using the program to manage accounts. We also decided to see how the strategy would have performed over a 10-year period using a backtest with historical data.

To illustrate the power of scoring versus screening, the table below shows 3 imaginary stocks that might show up in a value screen.

Stock	Dividend Yield	P/E Ratio
Company A	1.51%	12
Company B	3.30%	2.5
Company C	4.25%	8.2

All three companies may meet the two screening criteria of a dividend yield greater than 1.50% and a P/E ratio of 12 or less. However, the data does not specify which of the stocks has the most attractive value investing attributes.

Now if we take the same data and score each stock based on the two screening criteria, the highest scoring stock would obviously measure out to be the best value stock. Using our research we use a scoring range for each variable and decide how many scoring points each variable is worth. For this example, we give each variable a scoring range of 0 – 20, 0 being the minimum and 20 being the maximum score. For the dividend yield we use a data range of 1.50% to 5%. Additionally, we set the minimum allowable PE ratio of 0.5 and a maximum of 12.1. Therefore, a stock with a dividend yield of 5.5% and a PE ratio of 0.4 would receive the maximum score of 40. The formula used for this output is an algorithmic scoring equation we've applied to financial data.

Stock	Dividend Yield Score	P/E Ratio Score	Total Score
Company A	.06	.17	0.23
Company B	10.29	16.55	26.84
Company C	15.71	6.72	22.43

This scoring example shows us that Company B best meets our criteria of a high dividend, low PE ratio stock. Company C comes in a close second place, while Company A poorly meets our criteria. This information gives us a superior tool to quickly evaluate thousands of stocks at any given time. The screening process merely screened the three stocks for the separate data points, and all three stocks passed, but the scoring process actually translates and utilizes the information into a metric for choosing the most attractive stock among them.

In order to score stocks using fundamental analysis, one needs to choose which pieces of financial data to use. Graham's framework for financial analysis offers us a basis for choosing specific criterion. In an interview in 1974, Graham condensed 40 years of research and published findings to suggest that selecting stocks using a few simple variables could lead to strong results. He said, "...such an approach should have had three main characteristics: (1) a logical theoretical basis; (2) simplicity of application; and (3) a satisfactory financial result when applied over a long-term period..." (Butler 1974). Therefore, we've chosen the following three points adhere to Graham's process:

- 1) Stock price versus items such as revenues, assets and cash flows
- 2) Profitability levels and
- 3) Debt levels

For privacy reasons, we will leave the description of what information we score stocks on and the exact methods we use limited to this.

These variables show us companies that are definitely selling at low prices, are profitable and that also have low debt – which we deem as an indicator of relative safety versus companies with high levels of debt. In our past research we found that just scoring stocks on items like price to book value, for example, helped us find inexpensive stocks, but they were often of companies lower in quality. So scoring stocks on profitability levels helps find high quality companies selling at low prices, as opposed to just “cheap stocks”. Some indicators of high quality would be factors such as sustained profitability or low debt. Low quality companies in contrast, often have sporadic profitability or unsustainable debt levels.

Value investing practitioners historically have been successful in finding cheap stocks, but when the portfolio is made up of low quality companies the results often lead to a higher level of risk and volatility; although the long-term returns may still be better than average.

Backtesting Process and Methodology, Edited From Version 1

In his interview, Graham suggested portfolios include about 30 stocks (Graham 1974). Many studies have shown that the diversification benefits of portfolios larger than this are minimal, if any; moreover, it’s worked for the 30 stock Dow Jones Industrial Average since 1896 (Dow Jones Internet). With this evidence in mind, we chose a portfolio of 24 stocks, in which each stock could be replaced when the stock price of the company was no longer considered undervalued.

For the purposes of maintaining a diversified set of investments we chose a portfolio consisting of 24 stocks with a weight of 4.17% allocation for each stock purchased. Every stock is selected based upon Ebert Capital Management’s proprietary scoring process, and each stock is held until the value of that stock reaches or exceeds its Fair Market Value, or if the company does not pass a strict set of earnings tests, for example if the company reports 3 quarters in a row of negative net profit. A stock’s Fair Market Value consists of a calculation of a predicted set of cash flows that the company will likely produce in the following years, and those cash flows are discounted to the present value to determine the company’s Fair Market Value. This calculation is derived from the Discounted Cash Flow model.

Rebalancing involves replacing existing stocks when an existing stock either reaches or exceeds its fair market value, or the company fails to pass Ebert Capital Management’s earnings tests. These earnings tests ensure that only quality companies with strong earnings records and low debt are selected for the Value Stock Score® portfolio. If a stock is removed from the portfolio, the next highest scoring stock that also passes the earnings tests is selected, after a rigorous analysis, and is placed into the portfolio. This process creates a portfolio that is both diversified and systematically rebalanced. Additionally, it aims to increase tax efficiency by attempting to hold stocks for more than one year, which results in capital gains tax rates versus ordinary income tax rates. The process is also an unbiased and efficient portfolio construction method because it removes the emotional element from the stock selection process.

Once we designed how stocks would be selected and maintained for our current portfolios, we backtested them to see how they would do over a long-term hypothetical timeframe. Backtesting involves

using ECM's proprietary strategies to determine how these strategies have performed historically. We decided to build one portfolio: the Value Stock Score® Model which is comprised of U.S. stocks only. This portfolio will select stocks of any size market capitalization which meet our criteria. We chose a minimum market capitalization of \$50 million for the Value Stock Score® Model to remove the possibility of trading errors or unreliable data. This effectively eliminates the smallest companies (Micro Caps) from consideration.

Next, we gathered data on more than 12,000 stocks dating back to 2009 using software that show how our portfolios would have hypothetically performed versus various indices. The stock data we gathered included stocks of “dead” companies that had gone bankrupt, stocks that had been bought out, stocks that had merged with other companies, and “live” companies that still exist in the same form in the historical database we use. This was very important to avoid data errors such as “survivor bias”: wherein a hypothetical portfolio's results are considered erroneous or invalid because only companies that are still “alive” in the present were included in the historical backtest. Ultimately, we often found that companies in the hypothetical portfolio were merged with others, bought out, went private, or changed form in some way at some point in the recent past.

We ran *scoring scans* for each quarter from January 2009 through March 2015, which scored all stocks in the database to determine the highest scoring stocks. Afterward, we did additional analysis of our hypothetical portfolio for each quarter to ensure that the stocks in the backtests also met our earnings tests. Any stocks that failed the tests during the hypothetical ownership period were removed from the portfolio and replaced with other qualifying high scoring stocks during the quarterly rebalancing periods.

Once this “Backtest Ticker List” was created, we used our backtesting software program to test how the hypothetical portfolio would have performed. The backtesting program tracked the price increase or decrease of each stock and included the effect of dividends. Lastly, for the Value Stock Score® Model we compared the hypothetical performance results to the performance of the Russell 2000 Value index over the same period. We chose not to rerun the Global Stock Score from the earlier version of this whitepaper due to, 1) ECM's rebalancing procedures are the same for VSS as they are for GSS and 2) we believe that the original backtest of the GSS portfolio was consistent with the expectations of how that portfolio would perform during the time the test was conducted, and therefore the process did not need to be duplicated.

Performance

The Psychology of Chasing Performance

Before we discuss the performance results of our backtests, it's important to discuss the psychology of investors' search for performance. Even the investment managers with the best long-term performance can trail the market averages for long periods of time (Greenblatt, pg76). However, investment managers who underperform for more than two years stand a good chance of losing many of their investors. It's difficult for most investors to know whether their investment manager is underperforming due to bad timing, bad luck, or because of a bad process and poor strategy. It's the fear of underperforming that causes so many managers to follow the herd; at least in the worst case they won't underperform their peers by very much.

Because most investors don't know how or why managers select stocks, investors can only look at the performance records of prospective and current managers. They'll analyze whether the manager has beaten an index or similar funds. Therefore, it could be assumed that investors select managers based heavily on recent past performance. The problem with chasing recent performance, by switching mutual funds or managers often based on recent performance, is that it usually leads to much worse results for investors than simply "staying put", i.e. sticking with the fund or manager they have already.

The problem with hiring managers with a recent good performance and firing managers with recent bad performance is that many of the best performing managers spend significant amounts of time underperforming. Joel Greenblatt covers this phenomenon in his book *The Little Book That Beats The Market*, and Baird Wealth Management, a well-respected investment firm, confirmed in a recent study that the investment managers with the best long-term performance records also spend significant amounts of time underperforming the indices (Baird). Baird's study also found that top-performing managers tended to outperform the market significantly after the relatively short-term periods where they underperformed. This further cements the idea that investors would be well served to examine long-term records versus short-term records and remain patient.

One of the best mutual fund managers of all-time is Peter Lynch who ran Fidelity's Magellan fund. From 1977 to 1990 his fund earned a 29.2% return versus the 16.2% for the S&P; however, investors in the fund only earned 13.4% during that time due to poor timing (Carlson). Investors were buying the fund after periods of outperformance and selling during periods of underperformance. There are many other examples wherein investors drastically underperform while the funds they sometimes own outperform the market. Investment managers are also not immune to this behavior, and often do the same thing when selecting other managers to work with or when selecting stocks by hunting for recent strong performance and selling stocks with recent poor performance – highlighting the futility of timing based on recent performance.

Patience versus timing is even more critical considering that over the past decade, of the 25% best performing investment managers, "96% spent at least one 3-year period during that decade in the bottom 50% of the performance rankings. Even more telling, 79% spent at least 3 years in the bottom 25% of investment managers" (Greenblatt pg82). Even the best performing managers go through long periods of underperformance, which is why we can't necessarily equate volatility with risk. Furthermore, if investment managers want to beat the market, they must not be afraid to deviate from the market; while investors must be patient to reap the benefits of unconventional, but legitimate investment strategies.

Performance Analysis of Hypothetical Backtests

An analysis of the backtests of the Value Stock Score shows promising results. It should be noted clearly up front that the backtested results shown here do not represent the actual performance of client accounts, but a hypothetical representation of the performance of our mechanical strategies. For a full review of the performance of ECM's actual client accounts, with GIPS® (Global Investment Performance Standards) compliant reporting, please visit www.ebertcapital.com. The results quoted here do not include any prospective management and custodial fees so readers can assess how the hypothetical performance would compare to raw index data – knowing that ECM's management fees and average custodial fees would have subtracted from the Gross-of-Fees performance.

The Value Stock Score® strategy backtest produced hypothetical annual returns of 20.29% per year, versus 14.98% for the Russell 2000 Value index from January 2009 through March 2015. The table below provides a breakdown of the annual returns of the hypothetical backtest for more details.

	2009	2010	2011	2012	2013	2014	2015*	Cumulative	Annualized
VSS	62.80%	21.20%	9.90%	17.40%	32.80%	-5.20%	1.50%	140.40%	20.29%
Russell 2000 Value	24.69%	24.50%	-1.55%	17.47%	30.99%	4.98%	1.92%	103.00%	14.98%

*- Indicates that information does not represent a full year

The backtest results reveal that our hypothetical portfolio outperformed the Russell 2000 Value index by more than 5 percentage points per year. The graphical analysis below tells another interesting story, showing the hypothetical growth of a \$100,000 investment starting in January 2009 with the Value Stock Score® Strategy versus the Russell 2000 Value index.



*All returns presented in this white paper are hypothetical and back-tested. Hypothetical returns do not include advisory fees or transaction costs. Investors cannot invest directly in an index. Actual returns from live portfolios may differ from hypothetical returns. Although the graph illustrates possible returns based on the historic risks involved in investing in a hypothetical portfolio, past performance is not a guarantee of future returns. To read our GIPS® verified and compliant performance reports, please visit <http://www.ebertcapital.com/model-portfolios/>.

In summary, we feel strongly that the outperformance we saw in the hypothetical backtests suggests the stock selection process we use, results in both outperformance of the unmanaged index, and is a repeatable process so that the strategy can be utilized throughout the future. It is very interesting to see that the strategy “separated itself” from the index it was compared to during the stock market recovery of 2009. The focus of the strategy is to select quality companies selling at very low prices and during the period following the 2008 market crash, there were a huge number of fantastic companies selling at what we feel were ridiculously cheap prices. Because our system will only allow stocks which are the most undervalued to enter into the portfolio, that particular time represented a unique period where some of the

best companies were as low priced as they may ever be. We will continue to study this phenomenon to see what more can be learned.

Statistical Analysis of Performance

To examine the returns of the hypothetical backtest of the Value Stock Score® we compared the returns to the comparable benchmark index and examined the strategy's risk adjusted returns. This was done to evaluate the strength of the returns compared to the "general market", as represented by the benchmark indices, and to understand whether the strategy may provide investors enough return for the risk taken.

We are not using the CAPM (capital asset pricing model) formula for measuring our hypothetical portfolio's required return and overall risk because in this calculation beta, or the beta coefficient, is used to measure risk. Beta is a systematic risk measurement that measures the volatility of a portfolio versus a comparative benchmark index. For example a beta of 1.0 means a portfolio is just as volatile as its benchmark index, while a beta of 1.2 means that a portfolio is 20% more volatile than its benchmark index (like the S&P 500 for instance). As we will go over, beta can only be used if there is a strong correlation between a particular fund or portfolio and its comparative benchmark index, and the strategies we are examining here have a low correlation with their benchmark indices.

Because beta represents the volatility of a portfolio versus a certain index, if a portfolio being examined is not highly correlated with that index, meaning the stock price movements of the portfolio are not explained by a strong correlation with the index, beta becomes unreliable as risk indicator. The correlation coefficient, or the R-squared value, is then used instead to determine how much of a portfolio's performance can be explained by stock price movements in the benchmark index and standard deviation is used as the risk indicator instead of beta.

If an R-squared (correlation coefficient) value is found to be high, this means that much of the price movements in a particular portfolio can be explained by the price movements of the benchmark index. In this case, when the index is up we would expect the portfolio to be up in a similar fashion. However, if the R-squared value is low, this indicates that there is very little correlation between a portfolio and its benchmark – meaning that the stock price movements in the portfolio are not reliant on the stock price movements of the index, but something else instead, such as a unique stock selection strategy. For context, an R-squared value of 90% would indicate that the strategy correlates very strongly with an index. An R-squared value of 40% would indicate very little correlation with an index.

The following table shows the R-squared values for the Value Stock Score® compared to the S&P 500 Index. We are also showing the R-squared of the SPDR S&P 500 Index ETF, an index fund designed to match the returns of the S&P 500.

Fund / Strategy	R-Squared Value	Index Comparison
Value Stock Score® Strategy	54.15%	Russell 2000 Value Index
iShares Russell 2000 Value ETF	100%	Russell 2000 Value Index

The R-squared value for the Value Stock Score® model versus the S&P 500 index was 54.15%. The Russell 2000 Value ETF however has a R-squared value of 100% because 100% of the stock movements of the ETF can be explained by the movements of the index they are designed to track. This helps us see that our strategies are operating quite independently of the benchmark indices. It is not uncommon for actively managed mutual funds, the antithesis of index funds, to still have R-squared values of 90% or more – suggesting that these funds may actually be index funds in disguise, but with higher fees. (Morningstar.com)

Because only 54.15% of the Value Stock Score® strategy stock movements can be attributed to the index they are compared to, we must conclude that the rest of the stock price movements are due to something unique with the strategy itself. This could be the stock selection method, the rebalancing method, level of diversification or a combination of these factors.

Because the R-squared results show us that there is not a strong relationship between the stock scoring strategies and their comparative indices, we have used the Sharpe ratio to measure the risk-adjusted performance. The Sharpe ratio is used to measure risk-adjusted returns, where risk is represented by the standard deviation of the portfolio returns rather than beta. The Sharpe ratio subtracts the risk-free rate from the portfolio return, then divides the result by the standard deviation of the portfolio. The risk-free rate is the theoretical rate of return of an investment with zero risk, which is most often represented by the interest rate on a 3-month U.S. Treasury bill. The purpose of this measure is to determine whether a portfolio is providing enough excess return to warrant an investment. If not, an investor would instead take the risk free return of a U.S. Treasury bill. (Investopedia)

Since our backtests span a 10-year period during which the U.S. Treasury interest rate changed often, we will use the rate of 3% - a good proxy for the risk-free rate based on historical Treasury bill yields. (Treasury)

The Sharpe ratio is shown in equation form here:

$$\text{(Portfolio Return – Risk-Free Rate) / Standard Deviation}$$

Here we see the calculations of the Sharpe Ratio for our strategy versus the comparative index for the time period tested in the hypothetical backtests.

Strategy/ Index	Annual Return	Portfolio/ Index Standard deviation	Sharpe Ratio
Value stock Score©	20.29%	13.95%	1.23
Russell 2000 Value	14.98%	10.52%	1.14

Since the Sharpe ratio indicates how well the return of an investment portfolio compensates investors for the risk taken, a higher ratio is better. When comparing the Value Stock Score® strategy to its benchmark index, the strategy with the higher Sharpe ratio provides a better return for the same risk or the same return for a lower risk (Sharpe, Retrieved June 12, 2013). The Sharpe ratios of our strategies are higher than that of the benchmark indices they are being compared to. This suggests that the risk adjusted

returns of our strategies are higher than that of the benchmark indices. Although these comparisons are not perfect because our strategies correlate only moderately with the indices they’re being compared to, we believe the conclusion here is valid and that is this – *our stock scoring strategies, according to our research, suggest that they provide a better return for the risk taken than the strategy’s benchmark index.*

The backtest also demonstrated the low turnover rate created by ECM’s stock selection process. Turnover is when a stock is sold and replaced by another investment. If every stock in a portfolio is replaced during the course of a year, the turnover rate would be equal to 100%. High turnover results in excessive trading fees, which detrimentally impact the performance of a portfolio. Below is a table summarizing the turnover rate throughout the backtest time frame.

Turnover Rate of VSS						
2009	2010	2011	2012	2013	2014	2015 *
4.17%	8.33%	25.00%	0.00%	12.50%	0.00%	0.00%

*- Indicates that information does not represent a full year

The last measure assessed to evaluate our backtests was the strategies’ “batting average”, borrowing from the baseball term. This statistic tells us how often, on a quarterly basis, our strategies “beat the market”. Over the 6.25-year backtest period, which encompassed 25 quarters, the Value Stock Score® strategy had a batting average of 52.0%. We consider these to be strong results since, according to our backtests, we outperformed the Russell 2000 Value Index by over 5% per year. Not only did we outperform on a cumulative basis and annual basis, but the VSS strategy also beat the market 52% of the time. It’s possible for a strategy to outperform with a low batting average if there are large one-time gains and if the outperformance during the “winning” quarters is very high, but it is likely most investors would rather have a strategy that consistently outperforms rather than patiently wait for a home run.

Conclusions

In creating, backtesting and using the Value Stock Score® strategy we have learned several valuable lessons and come to some significant conclusions. First, it appears that our mechanical, systematic stock selection process is very much like the process employed by the Russell 2000 Value ETF and Dow Jones to create their stock indices, but with different stock selection procedures. Indexing as an investment approach has proved to be very successful because of its emotionless, efficient process and low costs, however with a stock market’s tendency to lie flat for over a decade, it is clear that a human touch is necessary to truly deliver performance that beats the market. After comparing the different “portfolio construction” methodologies, we strongly feel that our stock selection processes are equally unemotional and efficient and deliver the correct management process to provide consistent returns over time.

Another takeaway from this study is that the strong risk-adjusted returns, lack of correlation with benchmark indices and overall efficiency in finding what we feel are safe, undervalued companies, suggests that scoring stocks on various metrics, as opposed to screening for them, is a superior stock selection process. We have used the stock scoring process to create a sort of “value index” and we feel the scoring process itself could be used in many different ways to achieve a variety of investment goals. Scoring stocks, funds or ETFs could potentially be used to pursue a variety of investment strategies. All

the investor or adviser must do is select the appropriate variables to score and the scoring range to find the stocks or funds that best meet the selected criteria.

Lastly, from this study, after carefully measuring the return and risk metrics, is that our index-like strategies can potentially provide better returns than the Russell 2000 Value Index and with lower risk. The self-correcting nature of scoring stocks and the ability to rank stocks as they fit certain criteria gives a clear advantage over the relatively inefficient stock screening process used so commonly for so long. Part of the reason indexing as a strategy has become so popular is the understanding that most investment managers won't beat the market (i.e. various benchmark indices), even though advisers who act in a fiduciary capacity for clients add value through other means such as investment guidance, financial planning and goal setting. However, we feel that our stock scoring strategies embody some of the best elements of indexing, such as efficiency and an emotionless process, but with better overall performance and better risk adjusted returns. We are relying on hypothetical backtest data and the actual performance of clients' accounts, and all this data suggests our findings are valid.

Our backtest studies and the actual performance of our strategies are available at www.ebertcapital.com/model-portfolios. For more information about our investment strategies, quantitative research or investment performance, please visit our website at www.ebertcapital.com or contact us by phone or email.

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