

## Mid-cap Quant Strategy

*A quantitative process, if well-constructed and disciplined, may eliminate the bias, the emotions, and the behavioral pitfalls from the investment decisions. That's why the Johnson Disciplined Mid-Cap Fund, formerly known as the Johnson Opportunity Fund, changed its approach in 2003. Today the fund relies on a multi-factor quantitative model and focuses on stock selection because that's where the alpha is added.*

**Q: What is the investment philosophy behind managing the Johnson Disciplined Mid-Cap Fund?**

**A:** Our investment philosophy is based on the belief that a disciplined, multi-factor approach to stock selection is critical for the long-term success of a portfolio. We believe that while no single factor consistently delivers superior results, a diversified mix of quantitative factors with low correlations does. As a result, our holdings have a combination of growth in earnings and revenue, reasonable valuation, good momentum, and improving profitability.

In other words, we have a quantitative philosophy that embraces both growth and value factors. We have relied on this style and philosophy since 2003, when we formally changed the investment process towards a quantitative approach. Previously, we relied on buying quality growth stocks at a reasonable price. We opted for the change because our analysis suggested that by applying a disciplined framework, we could avoid the behavioral pitfalls and the emotions that sometimes can get in the way of investment decisions.

More importantly, our approach is not a black box. When we identify the factors that we use in our model, the familiarity and the transparency of the factors are very important. With a 42-year company history, we have the benefit of working with many previously used factors and

that brings consistency and a track record.

**Q: How does that philosophy translate into an investment strategy and process?**

**A:** Our investment approach is entirely bottom-up. Since this is a mid-cap fund, we use the mid-cap universe as defined by the Russell Midcap Index for our stock selection. We rank each stock in that universe on a weekly basis through our proprietary quantitative model.

That model is based on ten proven broad factors, which include metrics of growth, profitability, valuation, and momentum. Taking a weighted average of those rankings, we calculate a quantitative score for every stock. The weighted average is done through a dynamic weighting process, where we use a combination of recent factor effectiveness and the economic environment. The weights of those factors range between 6% and 14% for any single factor.

The quantitative score derived through this factor model drives our investment decisions. The highest ranked stocks in the universe are selected for purchase, while the stocks with the lowest ranks are targeted for sale.

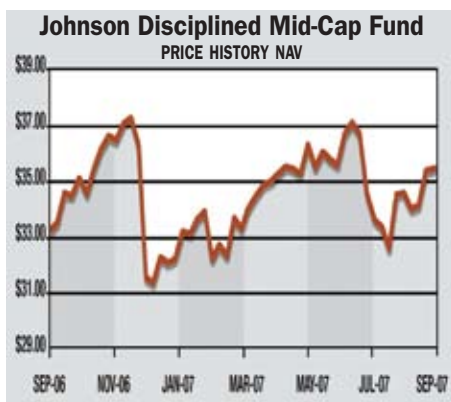
**Q: How many factors do you have in total? Could you explain them in more detail?**



**BRIAN KUTE** CFA, has been the lead manager for the Johnson Disciplined Mid-Cap Fund since 2003. As Manager of Research for Johnson Investment Counsel, his responsibilities include quantitative fund management, management of the research and trading functions, and investment process coordination.

Kute has been with the Johnson since 1994. He graduated from the University of Kentucky (B.B.A Finance and Economics) in 1991.

**“While no single factor consistently delivers superior results, a diversified mix of quantitative factors with low correlations does.”**



**A:** We use more than 50 factors but we group them into 10 broad factors, which become part of our model. Those factors fall in five categories – growth, profitability, momentum, valuation, and technical trends.

The growth factors include both historical and expected growth. We measure not just the earnings growth, but also the revenue and cash flow growth. In terms of profitability, we look at margins and accelerating growth. The momentum factors have a price momentum component and an earnings momentum component, so they represent a blend of fundamental and technical momentum.

The valuation factors include relative and absolute valuation. In the technical trends category, we include stock price reversal, which is a short-term indicator that reflects price movement, and the size of the company. One of the proven factors that we believe in is small companies outperform large companies over time and that's also part of our model.

But the result is a rank that compares the stocks within the universe; it is not an absolute number. Theoretically, if every stock in the universe had negative revenue growth and negative acceleration, we would still have a top-ranked stock, which would be the one with the smallest decline.

**Q: How do you weight the importance of each factor in the final calculation?**

**A:** The weightings change as they are part of the dynamic process with two main in-

puts. We believe that all ten factors are important for our model, and we allocate weight to them in any environment. We start with equal weights of 10% and then we make adjustments with our dynamic weighting process.

The first step is evaluating the recent factor effectiveness. We measure the performance of each of the ten factors using a long-short portfolio, and we make adjustments based on the recent performance trends for the factors. For example, growth might have a weight of 12%, and relative value might have a weight of 8%.

The second adjustment is tilting the growth or the value factors using our leading economic indicators model. The idea is that certain economic environments favor growth stocks and other environments favor value stocks, so the environment is reflected in our model. That indicator has been sending mixed signals this summer, which probably indicates that we're transitioning to the growth overlay. Prior to that period, there was a preference for valuation factors. So the factor effectiveness and the economic conditions are the major steps of the weighting process.

**Q: How would you describe your buy and sell discipline? What are the other criteria in addition to the ranking?**

**A:** Because we try to balance the turnover and the transaction costs, rather than changing the portfolio every day, we have rules that determine what an appropriate value-added swap would be. For instance, if a stock has a weighted average score of 7, while another stock has a score of 6.5, the difference between the two doesn't justify a swap.

We have a "two-point" rule that says that the portfolio can be improved by adding the stock with a score two points higher than the stock that's already in the portfolio. That's a value-added swap and we'll make that trade. Our turnover is in the 80% to 90% range because in a typical week we would find two or three stocks that score low enough on the portfolio to be replaced.

I believe that a real advantage of a quantitative process is that we don't have target prices and we are never accused of falling in love with our stocks. We're constantly evaluating alternative choices and we have the ability to come up with an opinion on a weekly basis for every stock that we track.

**Q: What are the main elements of your research process?**

**A:** A crucial part of our research process is our belief that the key for long-term success in a quantitative process, is keeping a proper balance of discipline and improvement. Our research gives us the framework to adhere to a discipline, but also helps to recognize how the factor effectiveness changes over time and to adjust our model to those changes.

We look at the macro picture, the significance of the factors that we are tracking before we move on with our investments decisions. Our five-person quantitative strategy team meets monthly to review the portfolio. This team is responsible for reviewing the portfolio construction discipline and for evaluating any other quantitative research that we've done.

**Q: Could you give us some specific examples that illustrate your research process?**

**A:** The energy sector has been the source for many standout performers. Since we adopted the quantitative process in 2003, our factors have picked up on the fact that many energy stocks possess the characteristics that we find attractive in our model, namely, strong earnings momentum and attractive valuation. As a result, we have had a consistent overweight in energy for the past four years, which has been rewarded. For example, Global Santa Fe and Tidewater have been recent winners for us, while Superior Energy is currently our highest-ranking stock.

Also, the fund has participated in the strong performance of the cyclical growth companies, such as Cummins, which is our largest holding, MEMC Electronic Materials, and US Steel. The current posi-

tions in the portfolio still reflect the view in our model that cyclical stocks are still attractive.

**Q: What are the characteristics that made Cummins and U.S. Steel attractive in your process?**

**A:** Both in the idea-generation and stock-selection process, there is very little qualitative or subjective elements. Removing the subjectivity from the process was the reason for establishing the model, and all of our buy and sell decisions are determined by the calculated quantitative scores.

Cummins was evaluated in the context of the ten broad factors. The company had similar characteristics to many of the cyclical growth companies; it was a company with attractive valuation compared both to its industry and to other sectors. It had strong fundamental momentum, including earnings growth, accelerating sales, profitability trends, positive analyst revisions, and price momentum. Our multi-factor model requires a stock to be attractive on many different metrics to achieve a high weighted average score. The investors' enthusiasm and the company's execution have to come together to attract our attention.

The example of U.S. Steel probably best illustrates how a quantitative process allows you to put aside some biases. From a fundamental perspective, we probably wouldn't give the company much consideration at the time we bought it. Its industry seemed to be in a decline and there were no signs of commodity inflation. But the evaluation of the company through our quantitative model helped us to appreciate some of its attractive characteristics, such as low valuation and signs of improving earnings momentum. That enabled us to buy the stock before the story was well recognized.

**Q: What are the key elements of the portfolio construction process?**

**A:** The fund typically holds between 100 and 150 securities. The initial positions are restricted to 1% or less, while the


maximum position size is 3%. Typically, our top ten holdings account for just 10% to 15% of the portfolio. The maximum sector weight is 30%.

The sector and industry weights are the result of the stock selection; there's no top-down overlay. But we feel that by limiting our exposure to sectors and by holding many different positions, we can emphasize the factor characteristics that we seek, instead of having them clouded by sector definitions or single stock events.

For example, in the last four-year market cycle, the traditional definitions of growth and value haven't held up. Growth stocks were not found in healthcare and technology, but in energy, materials, and industrials. Being completely bottom-up allows us to find the important characteristics that we seek without having to restrict ourselves to a particular sector. We also avoid market-cap drift by requiring that the holdings are members of the Russell Midcap Index. Currently, we hold stocks with market cap from \$1.6 billion to \$25 billion. The weighted average capitalization size is \$7.3 billion.

**Q: What is your view on risk and how do you mitigate it?**

**A:** We define risk primarily as the volatility of return, both in absolute and relative terms. Diversification is our main risk control and is related to the constraints on position and sector exposure. We use several tools to monitor the risk attributes of the fund, such as the Zephyr Style Advisor for analyzing standard deviation, beta, R-squared, tracking error, Sharpe ratio, information ratio, as well as RiskGrades, which is a measure of the price volatility.

We don't use cash for controlling risk and we don't time the market. We think that the investors in our fund are willing to participate in the asset class risk and, therefore, our objective is to maximize the return. In our process, the stock selection is the primary focus of the fund and that's where the alpha is added. 

## Johnson Disciplined Mid-Cap Fund

|           |   |
|-----------|---|
| Website   | <a href="http://www.johnsoninv.com">www.johnsoninv.com</a>                    |
| Address   | Johnson Investment Counsel Inc<br>3777 West Fork Road<br>Cincinnati, OH 45247 |
| Tel. No.  | 800-541-0170  |
| Inception | 05/16/1994  |

| PORTFOLIO                    |         |
|------------------------------|---------|
| Total Net Assets*            | \$89.3  |
| Avg Mkt Cap (\$ Weighted)*   | \$6,800 |
| Average Price/Earnings Ratio | 20.99x  |
| Average Price/Book Ratio     | 3.24x   |
| Turnover Ratio               | 91%     |

| INVESTMENT INFORMATION     |         |
|----------------------------|---------|
| New Investment             | Open    |
| Min Initial Investment     | \$2,000 |
| Min Subsequent Investment  | N/A     |
| Min Initial IRA Investment | N/A     |

| RISK (AGAINST S&P 500 DAILY REINV IX - 3 YRS) |       |
|---|-------|
| Alpha   | 0.25  |
| Beta  | 0.99  |
| R-Squared                                     | 0.48  |
| Ann. Std Deviation                            | 10.37 |
| Sharpe Ratio                                  | 1.07  |

| RETURNS VS. S&P 500 DAILY REINV INDEX |        |        |
|---------------------------------------|--------|--------|
|                                       | Fund   | Index  |
| 1 Year (Cum.)                         | 20.34% | 15.13% |
| 3 Year (Ann.)                         | 17.80% | 12.16% |
| 5 Year (Ann.)                         | 16.50% | 12.00% |

| RETURNS VS. RUSSELL MID CP TR INDEX |        |        |
|-------------------------------------|--------|--------|
|                                     | Fund   | Index  |
| 1 Year (Cum.)                       | 20.34% | 16.18% |
| 3 Year (Ann.)                       | 17.80% | 17.33% |
| 5 Year (Ann.)                       | 16.50% | 17.82% |

| FEES AND EXPENSES           |       |
|-----------------------------|-------|
| Max Sales Charge - Front    | 0.00% |
| Max Sales Charge - Deferred | 0.00% |
| Max Redemption Fee          | 0.00% |
| Total Expense Ratio         | 0.95% |

| PORTFOLIO MANAGER |      |
|-------------------|------|
| Brian Kute        | 2003 |

\*millions

Data through: 08/31/2007

Source: Company Documents; Lipper

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Our interview covers investment philosophy and strategy, research process, portfolio construction and risk control for funds. Through an interview we uncover long-term strategies and processes that help to generate long-term returns.

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