

What works on Bay Street

By John J. Schmitz

It's not the stuff of great headlines, but recognizing the predictive variables of stocks helps when trying to decipher a portfolio managers' products

The most media-visible investment managers are the ones who can tell great stories — for instance about a company they flew out to see firsthand — or have colourful theories about the new economy, the baby boom or the future of the genomics

revolution. These are people you want at a party, because they speak a language more accessible to Main Street and, for that matter, to Bay Street.

In contrast, my best stories are found in t-statistics, which measure levels of significance — not exactly the stuff of great headlines. But at the end of the day, my goal is not to spin a great yarn but to find and use what works. What I am recapping in short form are the results of a research exercise Sean Cleary and I published in *Canadian Investment Review's* winter 2001 edition. As reflected in this article's title, the goal of the exercise was to determine what has worked on Bay Street. In other words, which of the many fundamental and stock characteristic variables have been predictive of stock returns over the past decade.

This may be unfamiliar territory for many readers, but I believe such research can give advisers a deeper understanding of all portfolio managers' products. Every manager starts his or her research with a preferred method of measuring a company's prospects for delivering stock returns. Behind every value manager is a set of value variables; behind every growth manager is a set of growth variables. To complete the decision, they or their analyst teams add in various economic, risk and intangible judgments.

My stock-picking philosophy is different from that of a traditional portfolio manager. I believe that, at any given time, stock prices are determined by a large number of unique factors. More important, the identity and significance of these "priced" factors may change dramatically over a period of time as the investment and macroeconomic environments change. Our research findings support this stock-picking philosophy.

In reviewing and testing what worked on Bay Street in the '90s, Cleary and I were looking for patterns within the market's so-called "random walk." We wanted to see which, if any, variables were predictive, and whether some variables were more dominant in up markets versus down markets. In a nutshell, we were looking for short-term inefficiencies. Because, in the end, exploiting market inefficiencies is what allows you to beat the market and add value to a client's portfolio.

The study

Our goal was to determine what works, so we defined “working” as the ability of a variable to predict short-term stock returns — greater than government of Canada T-bill yield.

We examined a number of variables over the 10-year period from January 1989 to December 1998. It was a good period to examine because it included a recession, bear markets, a stock market crash, a couple of interest rate shocks, extreme bull markets and periods of extreme volatility. Through a review of reports and interviews with money managers, we assembled a list of 59 distinct fundamental, technical and risk-based factors, while controlling for 11 economic sectors, including:

- risk and quasi-risk factors (stock market beta, debt-to-equity ratio);
- size and liquidity factors (market cap, trading volume to float ratio);
- value factors (price to EPS ratio, dividend yield);
- growth factors (sales growth, EPS momentum);
- profitability factors (operating margin, return on equity);
- earnings estimate revisions and surprise factors (number of analyst FQ estimate revisions, FQ EPS surprise);
- technical factors (price momentum, moving average crossover rules).

Many variables simultaneously influence stock returns, and many capture overlapping information. The multivariate statistical method we used enabled us to determine which factors are the most important and to rank them.

Key findings

Our objective was to determine what factors worked on Bay Street, while controlling all other possible factors that might drive stock prices. Various factors can be powerful predictors of both positive and negative stock returns — that is, factors can have either positive or negative payoffs. Not only are the sign (positive or negative) and magnitude of factor payoffs important, so is the stability of the factors through time. To capture all three factor payoff characteristics, we used a t-statistic.

The following variables have been the most statistically powerful predictors of future stock returns in Canada over the past decade: cash flow yield (positive), 12-month price momentum (positive), stock price (negative), operating margin (positive), one-month price momentum (negative) and the number of analyst earnings estimate revisions (positive).

Interestingly, cash flow yield wasn't a particularly stable predictor. It was very strong in 1994 and 1996 but was far less powerful in other years. In addition, other well-known value measures, when important, actually had negative payoffs.

There were not many variables that worked in both up and down markets. Only operating margin, 12-month price momentum, one-month price momentum and 120-day moving average cross-over predicted returns in both up and down markets.

One surprising finding was the importance and stability of the payoff to

simple stock price, with lower-priced stocks yielding higher returns on average. This factor is difficult to explain economically, although it could be argued that stock price captures some form of illiquidity premium. However, the man on the street might say a dollar gain on a two dollar stock (a 50% return) is almost as likely as a dollar gain on a \$20 stock (a 5% gain).

It was also interesting that several liquidity factors (such as trading volume to float ratio and market cap) had strong negative payoffs in down markets. This effect may be explained by the notion that lower liquidity may provide some price support in down markets. In other words, it is harder to unload small illiquid stocks, and this actually insulates them slightly in down months.

Another surprise in our findings has to do with the cliché about risk contributing to return. In our study, the majority of the risk-based factors display a negative payoff, often significantly negative. That is, the higher the risk, the lower the future stock return. This contradicts one of the basic premises of modern portfolio theory, that higher risk is associated with higher returns.

As one might expect, there is no super variable that displays consistent predictive power. Changes in economic or market conditions and changes in investment styles or theories that are in vogue tend to shake up the field. However, we did find some interesting trends: liquidity, value and growth measures were more important during up markets. Risk variables, when significant, often displayed a negative relationship with stock returns, contrary to what one might expect, while traditional value factors varied in sign and levels of significance.

When one steps back from the nitty gritty of our rankings, one can see how the certain management styles may fall in and out of favour over time — after all, so do the underlying variables that drive stock returns.

John J. Schmitz is senior vice-president, investments and lead manager, Quantum Aggressive Market Neutral Equity Fund

Technical Editor: Ian Davidson, MBA, CFP, CA, Assante Capital Management Limited, Toronto.