Chapter 10

James O'Shaughnessy

The Quintessential Quant

The essence of mathematics is not to make simple things complicated, but to make complicated things simple.

—Stanley Gudder, mathematician and author

Thanks to the wonders of modern technology, today's average investor can now go to a multitude of websites to run stock screens that once could only be done by big investment firms. You can set targets for earnings, debt, return on equity, profit margins, and a host of other fundamental criteria and, with the click of a mouse button, find out which of the thousands of stocks in the market meet your standards.

One thing that most of these screens won't tell you, however, is how the strategy you're using has fared over time. Sure, looking for

stocks with a P/E/growth ratio less than 1.0, profit margins of at least 5 percent, and a debt-equity ratio less than 10 percent sounds great, but has focusing on stocks that met these criteria really resulted in market-beating returns over the long haul?

With all of the different possible permutations, there's no real way of knowing the track record of every screen you perform, of course. But if anyone has come close to such screening omniscience, it's James O'Shaughnessy. In his 1996 book *What Works on Wall Street,* O'Shaughnessy detailed what may be the most in-depth quantitative stock market study in history, one in which he used Standard & Poor's high-powered Compustat computer database to back-test the performance of dozens of stock-picking approaches over more than four decades, from the early 1950s to the mid-1990s. Large market caps, small market caps, high or low price-earnings ratios, strong or weak cash flows—O'Shaughnessy studied how these and a myriad of other factors (and combinations of factors) affected stock performance for most of the post–World War II era. According to his book, his study marked the first time Compustat's full historical data was released to an outside researcher.

In addition to finding out how certain strategies had performed in terms of returns over the long term, O'Shaughnessy's study also allowed him to find out how risky or volatile each strategy he examined was. After looking at all sorts of different approaches, he was thus able to find the one that produced the best risk-adjusted returns—what he called his "United Cornerstone" strategy.

The United Cornerstone approach, which we used to establish our O'Shaughnessy-based model, is actually a combination of two separate models that O'Shaughnessy tested, one growth-focused and one value-focused. His growth method—"Cornerstone Growth"—produced better returns than his "Cornerstone Value" approach, and was a little more risky. The Cornerstone Value strategy, meanwhile, produced returns that were a bit lower, but with less volatility. Together, they formed an exceptional one-two punch, averaging a compound return of 17.1 percent from 1954 through 1996, easily beating the S&P 500s 11.5 percent compound return during that time while maintaining relatively low levels of risk. That 5.6 percent spread is enormous when compounded over 42 years: If you'd invested $10,000 using the United Cornerstone

approach on the first day of the period covered by O'Shaughnessy's study, you'd have had almost $7.6 million by the end of 1996—*more than $6.6 million more* than you'd have ended up with if you'd invested $10,000 in the S&P for the same period. That seems powerful evidence that stock prices do not—as efficient market believers suggest—move in a "random walk," but instead, as O'Shaughnessy writes, with a "purposeful stride."

Who Is James O'Shaughnessy?

Born and raised in Saint Paul, Minnesota, O'Shaughnessy studied international economics and business diplomacy at the School of Foreign Service of Georgetown University, and has a degree in economics from the University of Minnesota. Today, he is the Chairman, Chief Executive Officer, and Chief Investment Officer of O'Shaughnessy Asset Management (OSAM), a Connecticut-based firm that serves institutional investors and high-net-worth clients of financial advisors. As of March 2008, the company managed more than $9 billion in assets using 15 quantitative strategies based on O'Shaughnessy's research (The different strategies each target a different type of stocks, such as small-cap value, midcap growth, or international.) Operated under Bear Stearns Asset Management for its first 11 years, OSAM became independent from Bear on April 1, 2008. Before founding OSAM, O'Shaughnessy served as Director of Systematic Equity at Bear Stearns Asset Management, and was a Senior Managing Director of the firm. He now lives in Connecticut and is married with three children.

In addition to his asset management firm, O'Shaughnessy also manages several Canadian mutual funds that invest in U.S. stocks. While his exhaustive study covered several decades of stock market returns, the track records of some of these funds give even more credibility to his investing approach. As of mid-April 2008, his RBC O'Shaughnessy U.S. Growth fund had a 10-year average return of 6.4 percent, four times its benchmark (the Russell 2000 TR CAD), according to Morningstar. Another, the RBC O'Shaughnessy U.S. Value fund, has a 10-year return of 4.5 percent, while its benchmark, the S&P 500 TR CAD, had returned just 0.2 percent per year, according to Morningstar.

As his innovative research shows, O'Shaughnessy appears to have a creative side. He has written three other books in addition to *What Works on Wall Street—Invest Like the Best, How to Retire Rich,* and *Predicting the Markets of Tomorrow.* (He's also updated *What Works on Wall Street,* most recently in 2005.) During the Internet boom several years ago, he also created an intriguing Web business, Netfolio .com, that allowed investors to essentially create their own personalized mutual funds. Netfolio ceased operations, however, when the tech bubble burst.

The results of that venture notwithstanding, O'Shaughnessy will always have at least one significant place in investing innovation history: He holds the distinction of being the first person given a patent on an investment strategy, having been granted United States Patent number 5,978,778, *Automated Strategies for Investment Management,* on November 2, 1999.

United Cornerstone Investing: Discipline, First and Foremost

While O'Shaughnessy's approach is purely quantitative, some of his most critical lessons are less about specific criteria and numbers than they are about the general mindset an investor must have. Perhaps more than anything else, O'Shaughnessy has repeatedly stressed the notion that, if you want to beat the market, you need to pick a strategy and stick with it—*no matter what*. In *What Works on Wall Street,* he writes that in order to beat the market, it is crucial that you stay disciplined: "[C]onsistently, patiently, and slavishly stick with a strategy, even when it's performing poorly relative to other methods."

Like several of the other gurus we've examined, O'Shaughnessy believed that emotions were perhaps the greatest enemy of the investor because feelings like fear, anxiety, and excitement can cause an investor to ditch his long-term plan for hot strategies or hot stocks that turn out to be financial mirages. "We are a bundle of inconsistencies," he continues, "and while that may make us interesting, it plays havoc with our ability to invest our money successfully. . . . Disciplined implementation of active strategies is the key to performance."

A decade later, his thoughts about sticking with strategies haven't changed. When his firm split from Bear Stearns, O'Shaughnessy's quantitative strategies were some of the things he took with him. In the October 2007 article, "Bear Stearns Manager Leaving with Strategy Intact," Reuters' Lilla Zuill quoted O'Shaughnessy as saying: "What always works on Wall Street is strict adherence to underlying strategies that have proven themselves under a variety of market environments."

Allocation Matters

To O'Shaughnessy, discipline is critical not only in the way you pick individual stocks (and we'll look in detail at his stock-picking strategies in just a bit), but also in the way you choose the general categories of stocks you focus on. In an April 2008 article titled "The Silent Storm" on O'Shaughnessy Asset Management's web site (available at www.osam.com/commentary.php), O'Shaughnessy used his forte—backtesting—to show how a systematic, disciplined approach to asset allocation would have produced solid results even in the first decade of this century—which, he noted, was the second-worst (through February 2008) for large stocks since 1900 and the worst for large growth stocks since the 1930s.

First, O'Shaughnessy looked at what he called a "typical generic 401(k) allocation"—that is, 50 percent large-cap "core" stocks, using the S&P 500 as a proxy; 40 percent large-cap growth stocks, using the Russell 1000 Growth index as proxy and 10 percent small-cap stocks, using the Ibbotson small stocks as proxy. Starting with $100,000 in January 2000 and rebalancing annually, this portfolio would have lost 2.9 percent per year, with the initial investment declining to $78,614 after inflation.

Then, O'Shaughnessy looked at how two of the allocation scenarios he previously recommended in his book *Predicting the Markets of Tomorrow* would have fared. The first, his "conservative" recommendation, involved 60 percent large-cap value stocks, with the Russell 1000 Value index as proxy; 25 percent small-cap stocks, with Ibbotson small stocks as proxy; and 15 percent large-cap growth stocks, with the Russell 1000 Growth index as proxy. Over the same time period, this

portfolio would have gained 2.32 percent per year, making the initial $100,000 investment grow to $120,600 after inflation.

Finally, O'Shaughnessy looked at an optimal asset allocation breakdown he had previously recommended in *Predicting the Markets of Tomorrow,* which involved 50 percent large-cap value stocks, with the Russell 1000 Value as proxy; 35 percent small-cap stocks, with Ibbotson small stocks as proxy; and 15 percent large-cap growth stocks, with the Russell 1000 as proxy. Using the same January 2000—February 2008 timeframe, this portfolio would have grown 2.69 percent per year, O'Shaughnessy said, leaving the investor with $124,230 after inflation—pretty impressive considering that the period was overall a bad one for stocks. In the "The Silent Storm" article mentioned previously, O'Shaughnessy writes:

> If an investor diligently followed a simple asset allocation plan over the last eight years, he would have earned a reasonable return during one of the worst markets for equities in 110 years! If he simply took an hour on the first of every year to rebalance his portfolio back to its target allocation, he would manage to sidestep a market meltdown of epic proportions. Sounds simple and sensible, yet many investors have a nearly impossible time following this simple advice. We live in the full-blooded world of the here and now—headlines scream warnings at us; experts deliver endless advice on what is hot *right now* and we feel overwhelmed and either do nothing or take rash action at the worst possible time.

The answer to how to avoid such problems is obvious to O'Shaughnessy:

> I passionately believe that investors who manage to short-circuit their underlying emotions by following a simple equity asset allocation plan with consistent discipline will vastly outperform those who are unable to do so, whatever the overall market environment. By letting the data of 108 years inform us—rather than listening to what a talking head is saying right now on the TV or internet—we can see the simple truth that using simple, straightforward and time-tested investment

strategies leads to the best overall results in virtually all market environments.

We agree that investors should pick a proven strategy that is right for them and stick to it; that's one of the basic principles on which Validea was founded. In fact, it can be argued that the decision to follow a strategy—any strategy—is more important than the decision about what specific strategy to pick. Even a mediocre strategy that an investor sticks with through a whole market cycle, especially including the grim years when the media is writing articles making a persuasive case that the strategy is dead, can be more profitable than the investing done by someone without any strategy at all.

Buy and Hold—But Not Forever

Another key to O'Shaughnessy's overall investing philosophy is that he is a firm believer in the buy-and-hold approach. "It's irrefutable," he said in a 2000 interview with Chris Farrell of *Right on the Money*!, which aired on PBS television in early 2001. "The more you trade, the less well you do. Have a strategy and then let that strategy work."

Unlike other buy-and-hold strategists such as Warren Buffett, however, O'Shaughnessy doesn't generally hold stocks for years and years. He usually holds for a year and then rebalances his portfolios. By doing so, he makes sure he's not holding stocks that no longer meet his criteria. While he usually rebalances annually, he will rebalance some portfolios more frequently. OSAM's website details eight of the 15 strategies the company uses, and of those eight, five are rebalanced annually, one is rebalanced every six months, and two are rebalanced quarterly.

At Validea, we rebalance our portfolios over multiple timeframes depending on the particular portfolio. Generally, we've found that a monthly rebalancing has produced superior performance, though there are certain portfolios that work better with other time frames. (We'll discuss our rebalancing process and why it is very important in greater detail a bit later.) Again here, however, we believe you can make a good case that deciding to pick a rebalancing period—be it monthly, quarterly, semiannually, or annually—and sticking to it is more important than the decision about which specific period to use.

Simplicity—and a Surprise

Another key part of O'Shaughnessy's approach: Keep it simple. After studying dozens of different strategies and several decades of stock market results, you might expect him to have emerged from his study with some highly complex, esoteric formulas for how to produce the best returns. Instead, it was just the opposite.

Investing, O'Shaughnessy writes in *What Works on Wall Street,* is one example of the validity of Occam's razor—the logical principle holding that the simplest theory is most often the best one. The two components of the United Cornerstone approach he developed after his intensive review were thus remarkably simple—his Cornerstone Value approach has only five fairly straightforward criteria, and his Cornerstone Growth model has just four.

Each of these strategies starts with a simple market-cap screen. The Cornerstone Value model looks for bigger stocks—those with market caps over $1 billion—because they produce the solid and stable earnings O'Shaughnessy looked for in value plays. The Cornerstone Growth approach, meanwhile, allows for smaller stocks. It likes stocks to have caps of at least $150 million, however, to screen out those that are too illiquid.

When using the Cornerstone Value approach, O'Shaughnessy targeted "market leaders"—large, well-known firms with sales well above those of the average company—because he found that these firms' stocks are considerably less volatile than the broader market. He believed that all investors—even the youngest of the bunch—should hold some value stocks.

To target these large, prominent value stocks, O'Shaughnessy didn't just use the market cap requirement. He also liked it when these firms had a number of shares outstanding greater than the market mean, and when their trailing 12-month sales were at least 1.5 times the market mean.

Size and market position weren't enough to make a value stock attractive for O'Shaughnessy, however. Another key factor that was a great predictor of a stock's future, he found, was cash flow, with higher cash flows being better. The value model we base on his writings thus calls for companies to have cash flows per share greater than the market average.

Among large market-leaders, another criterion was even more important than cash flow per share to O'Shaughnessy: dividend yield. While high yields weren't nearly as important when examining smaller stocks (in fact, smaller companies with higher dividends actually underperformed the market in his study), O'Shaughnessy found that high dividend yields were an excellent predictor of success for large, well-known stocks. Large market-leaders with high dividends tended to outperform during bull markets, and didn't fall as far as other stocks during bear markets. The Cornerstone Value model takes all of the stocks that pass the four aforementioned criteria (market cap, shares outstanding, sales, and cash flow) and ranks them according to dividend yield; the 50 stocks with the highest dividend yields gain final approval.

Interestingly, O'Shaughnessy found that all of the successful strategies he studied—even growth approaches—included at least one value-based criterion. And the value component of his Cornerstone Growth strategy—the price-sales ratio—was particularly important to O'Shaughnessy—and particularly surprising to many Wall Streeters. As part of his extensive study of stock market returns, O'Shaughnessy found that the P/S ratio was the single best indication of a stock's value, and predictor of its future. This was something of a shock to Wall Street, which has long relied on the price-earnings ratio as the essential means to evaluate a stock's value.

While low price-sales ratios—those below 1.5—were a big part of O'Shaughnessy's growth stock method, they were by no means the only factor he considered. To avoid outright dogs, the strategy also looks at a company's last five years of earnings, requiring that its earnings per share have increased each year since the first year of that period.

In addition, O'Shaughnessy also found that a company that was a winner tended to continue winning, while losers tended to continue losing. That's why he is a fan of using relative strength, which measures how a company has performed, pricewise, compared to all other stocks over the past 12 months.

O'Shaughnessy used this criterion similarly to the way he used dividend yield in his value approach. He took all the companies that passed all three of the aforementioned growth model tests (market cap, EPS persistence, and price-sales ratio) and ranked them according to

relative strength. Those in the top 50 of that list made the growth stock grade.

A key part of why the growth stock model works so well, according to O'Shaughnessy, is the combination of high relative strengths and low P/S ratios. By targeting stocks with high relative strengths, you're looking for companies that the market is embracing. But by also making sure that a firm has a low P/S ratio—which is actually a value rather than growth characteristic—you're ensuring that you're not getting in too late on these popular stocks, after they've become too expensive. "This strategy will never buy a Netscape or Genentech or Polaroid at 165 times earnings," O'Shaughnessy wrote, referring to some of history's well-known momentum-driven, overpriced stocks. "It forces you to buy stocks just when the market realizes the companies have been overlooked."

One more note on O'Shaughnessy general strategy: The adage that higher risk equals higher rewards doesn't always hold true for him. He found that many of the worst performing strategies were often riskier than the best performers. Focusing on risky strategies with the assumption that you'll eventually be rewarded with high returns is thus not a good idea according to his research.

Ever Improving

The United Cornerstone strategy O'Shaughnessy laid out when his book was first published produced exceptional back-tested results, but O'Shaughnessy didn't stop there. In subsequent editions of *What Works on Wall Street,* he has updated the strategy in a way that has produced even better returns.

Other Big Winners—and Big Losers

While O'Shaughnessy found that the United Cornerstone strategy was the best of all the approaches he studied, he also found a number of other high-performing strategies.

Besides his three "cornerstone" approaches, the three other top performers as measured by Sharpe ratio (a statistic

that measures risk-adjusted returns) were those that focused on stocks with:

- Price-sales ratio below 1.0 and high relative strength (Sharpe ratio: 61).
- Earnings yield (earnings per share divided by price, the opposite of the P/E ratio) greater than 5 and high relative strength (Sharpe ratio: 61).
- Price-book ratio less than 1.0 and high relative strength (Sharpe ratio: 60).

(For comparison purposes, the United Cornerstone, Cornerstone Value, and Cornerstone Growth strategies had Sharpe Ratios of 66, 62, and 61, respectively.)

The three worst performers, meanwhile, focused on:

- Stocks with high price-sales ratios (Sharpe ratio: 8).
- 90-day T-bills (Sharpe ratio: 0).
- Bringing up the rear, stocks with low one-year relative strengths (Sharpe ratio: –1).

The high relative strength criterion among the three "honorable mention" strategies and in the United Cornerstone and Cornerstone Growth strategies, as well as the low relative strength focus of the worst performer, all illustrate one of O'Shaughnessy's major tenets: Winners keep winning, and losers keep losing.

Of course, you can pick winners from stocks that have been losers in the past—we've seen how investors like David Dreman made a killing doing just that. But remember, if those investors bought a plummeting stock, they made sure it passed a number of fundamental tests. The low-relative strength strategy that O'Shaughnessy found to be the worst performer had just that one variable, meaning it picked stocks *solely on the basis that they've been performing poorly.* The message: Picking a stock because it's beaten down despite having solid financials is one thing; picking a stock simply because it's beaten down is another thing—and a dangerous one at that.

For the Cornerstone Value portion of the approach, O'Shaughnessy added in a "shareholder yield" variable. He determines shareholder yield by adding a stock's dividend yield to its share buy-back activity. (By buying back its own shares, according to O'Shaughnessy, a company decreases its number of outstanding shares, which shores up the price of the remaining shares.) To figure out the buyback activity, he simply determines the percentage difference between the number of shares a firm had at the beginning of the prior year and at the end of the prior year. If a stock had 1 million outstanding shares at the start of the prior year and 900,000 at the end of it, for example, he says its buy-back percentage would be 10 percent. That would be added to its dividend yield to determine shareholder yield.

For the Cornerstone Growth strategy, meanwhile, O'Shaughnessy added in both three-month and six-month relative strength criteria. He said that using the one-year relative strength variable by itself posed a problem: A stock could have a great one-year price appreciation and, therefore, a high relative strength; but during certain parts of the year its price could have been dropping significantly. "This seemed inconsistent with the strategy of looking for cheap stocks on the mend, so we added shorter-term price momentum screens as well," he writes. Doing so helped ensure that the strategy was focusing on stocks whose prices were on the rise at a given point in time.

O'Shaughnessy's Strategy: Step by Step

About the James O'Shaughnessy Strategy

The Track Record: Looking at a time period from year-end 1954 through year-end 1996, O'Shaughnessy's Cornerstone Growth strategy produced back-tested compound returns of 18.52 percent per year, while his Cornerstone Value model posted a 15.06 percent annual compound return, both far surpassing the S&P 500's 11.51 percent return during that time. His combined growth-value approach, meanwhile, produced a 17.1 percent return, and had the best risk-adjusted returns of all of the strategies he tested. (Later modified versions of the United Cornerstone approach yielded back-tested results of 20.17 percent per year from the end of 1963 through 2003.)

Risk:	Moderate: Be aware that O'Shaughnessy's growth stock strategy tends to be significantly more volatile than his value strategy. The growth model produced better returns in his study than his value model did, however.
Time Horizon:	To get the full benefit of O'Shaughnessy's approach, you need to use his strategy for a number of years, through a full cycle of the market. But he usually rebalances his portfolio once a year, so in that respect his time horizon for holding individual stocks is usually one year.
Effort:	Lots of paperwork, but not much research.

Because our O'Shaughnessy-based strategy had performed very well, we did not update our model after O'Shaughnessy's revised edition of *What Works on Wall Street* came out. We believed it best to continue using a strategy that had proven to be quite successful for us, rather than experimenting with a modified approach. And as you'll see below, we've continued to get strong results by using the original strategy. Here's how you can implement this double-barreled growth-value approach.

Note: To get the statistical properties O'Shaughnessy's studies were based on, you need to invest in a sizable number of stocks—25 to 50. This approach may thus be better suited for those looking to invest larger sums of money.

Part I: The Cornerstone Growth Strategy

We'll start with O'Shaughnessy's growth methodology. Like Martin Zweig, whom we discussed in Chapter 9, O'Shaughnessy wanted to get good growth stocks, but he didn't want to pay too much for them. These are the four steps he used to accomplish that.

Market Cap The first requirement of the Cornerstone Growth Strategy is that the company have a market capitalization of at least $150 million. This requirement screens out companies too illiquid for most investors but still provides enough leeway to include small growth companies.

Market Cap

1. Market cap ≥ $150 million	Pass
2. Market cap < $150 million	Fail

EPS Persistence The Cornerstone Growth methodology requires looking for companies that show persistent earnings growth without regard to magnitude. To fulfill this requirement, a company's earnings per share before extraordinary items must increase each year for the most recent five-year period. In our O'Shaughnessy-based model, we look at the current EPS before extraordinary items.

EPS Persistence

1. EPSY1 > EPSY2 > EPSY3 > EPSY4 > EPSY5	Pass
2. All other combinations	Fail

Price-Sales Ratio O'Shaughnessy targeted stocks with price-sales ratios below 1.5, so that's the value we use in our model. This value criterion, coupled with the growth criterion, identifies growth stocks that are still cheap to buy.

Price-Sales Ratio (PSR)

1. PSR < 1.5	Pass
2. PSR ≥ 1.5	Fail

Relative Strength This final criterion for the Cornerstone Growth Strategy requires the relative strength (RS) of the company to be among the top 50 of the stocks that pass the previous three criteria. O'Shaughnessy believed the combination of the price/sales ratio criterion and the relative strength criterion was critical. The relative strength test gives you the opportunity to buy the growth stocks you are searching for just as the market is embracing them, while the low PSR requirement helps ensure that you're not getting in too late on these popular stocks, after they've become too expensive.

In our O'Shaughnessy-based growth model, the relative strength criterion figures into the overall method as follows:

- If the stock passes this criterion and the other three criteria, it passes overall.
- If the stock fails this criterion, it would fail the methodology, even if it passed the other three criteria.

Relative Strength Ranking

1. In top 50 of the stocks passing first three criteria	Pass
2. Not in top 50	Fail

Note: Since the initial publication of *What Works on Wall Street,* O'Shaughnessy has updated his Cornerstone Growth strategy by adding in two more criteria: three-month relative strength and six-month relative strength. Looking for stocks that score well in those areas helps avoid stocks that may have a high one-year relative strength, but are currently performing poorly. We have chosen not to incorporate these three- and six-month relative strength criteria in our model, however. We feel it best to stick with our model and its excellent track record, rather than adding in two new criteria without knowing for sure how they might impact our model.

Part II: The Cornerstone Value Strategy

Now, on to the other prong of O'Shaughnessy's approach. When looking for value plays, he targeted large companies with nice cash flows that paid solid dividends.

Market Cap The Cornerstone Value strategy requires looking for large, well-known companies whose market caps are greater than $1 billion. O'Shaughnessy found that these stocks exhibited solid and stable earnings.

The Cornerstone Value Strategy does not include utility stocks because these stocks would dominate the list of eligible companies because of their typically high yields.

Market Cap

1. Market cap > $1 billion	Pass
2. Market cap ≤ $1 billion	Fail

Cash Flow per Share O'Shaughnessy seeks companies whose cash flow per share exceeds the average cash flow per share for the market. Companies with strong cash flows are typically the value-oriented investments that this strategy looks for. To pass our O'Shaughnessy-based model, a stock must thus have a cash flow per share greater than the market average.

Cash Flow per Share

1. Cash flow/Share > Market average cash flow/Share	Pass
2. Cash flow/Share ≤ Market average cash flow/Share	Fail

Shares Outstanding O'Shaughnessy seeks companies whose number of outstanding shares exceeds the market average, another way he targets large firms when looking for value plays. These are the better known and heavily traded companies. Our model thus requires a company to have more shares outstanding than the market average.

Shares Outstanding

1. Shares outstanding > Market average shares outstanding	Pass
2. Shares outstanding ≤ Market average shares outstanding	Fail

Trailing 12-Month Sales Another way O'Shaughnessy targets large value stocks is by looking for firms with high trailing 12-month (TTM) sales. In our O'Shaughnessy-based model, a company's trailing 12-month sales is required to be 1.5 times greater than the mean trailing 12-month sales of all stocks in the market.

Trailing 12-Month Sales

1. Sales (TTM) > [Market average sales (TTM)] × 1.5	Pass
2. Sales (TTM) ≤ [Market average sales (TTM)] × 1.5	Fail

Dividends The final step in the Cornerstone Value strategy is to select the 50 companies from the group of market leaders (those passing the previous four criteria) that have the highest dividend yield. If the company is among the 50 companies with the highest dividend yield, then the stock passes this final test. This criterion reflects O'Shaughnessy's

finding that high dividend payouts were a good predictor of success when it came to large value stocks.

In our O'Shaughnessy-based value model, the dividend criterion figures into the overall method as follows:

- If the stock passes this criterion and the other four criteria, it passes overall.
- If the stock fails this criterion, it would fail the methodology, even if it passed the other four criteria.

Dividend Yield Ranking

1. In top 50 passing the previous four criteria	Pass
2. Not in top 50	Fail

Note: Since the initial publication of *What Works on Wall Street,* O'Shaughnessy has added another criterion to his Cornerstone Value strategy: shareholder yield. He defines this as the sum of a stock's dividend yield and its share buy-back yield. The buy-back yield is determined by calculating the percentage difference between the number of outstanding shares a company had at the start of the prior year and the end of the prior year. Similar to our handling of O'Shaughnessy's new growth model criteria, we have chosen not to incorporate this shareholder yield test in our O'Shaughnessy value model. We feel it best to stick with our strategy and its excellent track record, rather than adding in a new criterion without knowing for sure how it might impact our model.

Click It!

If the Cornerstone Growth and/or Cornerstone Value approaches appeal to you and you're looking for some O'Shaughnessy-type stocks, visit www.guruinvestorbook.com. The free site lists three picks that pass our O'Shaughnessy model every day, a good way to get ideas when building your portfolio.

The O'Shaughnessy-Based Model Performance

Like O'Shaughnessy's United Cornerstone approach, our O'Shaughnessy-based strategy is also a combination of two separate models, one based on O'Shaughnessy's Cornerstone Growth strategy and the other on his Cornerstone Value strategy. Overall, this 10-stock portfolio (using the blended strategy) has produced a 90.2 percent return since its inception in July 2003, more than four times the S&P 500's 21.4 percent gain. The 20-stock portfolio has been even better, returning 96.1 percent since inception. In addition, because O'Shaughnessy found that his models worked best with a sizeable number of stocks, we also track a 50-stock O'Shaughnessy-based portfolio. That's outperformed the 10- and 20-stock versions, returning 109.1 percent since its inception compared to the S&P's 21.4 percent. All three of these portfolios have a rather small amount of volatility, with each having a beta between 1.10 and 1.11.

We've also tracked the separate performances of our O'Shaughnessy-based value and growth models, though we didn't begin doing so separately until about eight months after we began tracking the blended portfolios' overall results. Since February 27, 2004, both models have easily outpaced the market, with the value model really excelling. Its 10-stock portfolio has returned 41.1 percent since its inception, more than six times the S&P's 6.0 percent gain in that time; the 10-stock growth model has gained 31.7 percent, more than five times the S&P. The value model has been significantly less volatile—its beta is just 1.01 compared to the growth model's 1.22—and significantly more accurate—61.0 percent of its picks have gained ground compared to the growth model's 46.4 percent accuracy (using the 10-stock portfolios).

The O'Shaughnessy Value model 20-stock portfolio has gained 33.1 percent compared to that 6.0 percent gain for the S&P since its February 27, 2004 inception. The 50-stock portfolio, meanwhile, has more than doubled the S&P since we started tracking it more than two years ago.

The O'Shaughnessy-based Growth model, meanwhile, shows better performance as the portfolios get bigger. The 20-stock and 50-stock versions, both of which we have tracked since February, 27, 2004, have

gained 39.3 percent and 53.3 percent, respectively since their inceptions, compared to the S&P's meager 6.0 percent return.

Both the growth and value models will select a variety of stocks, ranging from financials to energy companies to retailers to industrials. One interesting note is that, even though the growth model's $150 million market cap minimum allows it to pick up some small, fast-growing firms, it will also find good growth prospects in huge companies. In April 2008, for example, the 10-stock growth portfolio held both Exxon Mobil, which had a cap of more than $500 billion, and Chevron, which had a cap of almost $200 billion. (See Table 10.1.)

Table 10.1 Model Portfolio Risk and Return Statistics

	10-Stock	20-Stock	S&P 500
Annualized Return	13.7%	14.4%	4.0%
Total Return	90.2%	96.1%	21.4%
Best Full Year	24.0% in 2006	27.9% in 2005	13.6% in 2006
Worst Full Year	−3.9% in 2007	−2.7% in 2007	3.0% in 2005
Beta	1.11	1.10	1.0
Accuracy	52.7%	54.8%	N/A

Note: Returns statistics are from July 15, 2003 to July 15, 2008. See Appendix A for additional return disclosure and explanation.
Source: Guru Model Portfolio Tool, Validea.com.

O'Shaughnessy's Key Investing Criteria

Growth Stocks

- Look at the market cap to make sure the stock is liquid enough.
- Look for EPS persistence.
- Look for a low price-sales (P/S) ratio.
- From the stocks that pass all of the first three criteria, pick the 50 with the highest relative strengths.

In order for O'Shaughnessy to have any interest at all, the stock has to pass all of these criteria. With this methodology, it

is an all-or-none approach. There is no "some" level of interest, only "strong" interest or no interest.

Value Stocks

- Make sure the firm's market cap is large enough.
- Look at cash flow per share.
- Look at shares outstanding.
- Look at trailing 12-month sales.
- From the stocks that pass all of the first four tests, pick the 50 with the highest dividend yield.

In order for O'Shaughnessy to have any interest at all, the stock again has to pass all of these criteria.