

Market Noise

Market volatility has been increasing over the past several months, as evidenced by the returns of the major equity indexes during the period. The S&P 500, a large-cap index, reached its quarterly high of 1,326.70 on May 8, 2006, subsequently falling to its period low of 1,219.29 by June 14. The volatility was even more pronounced for small-cap stocks, as the Russell 2000 Index peaked for the quarter at 784.62 on May 5, only to decline to 669.88 by June 14.

Index	May 5-8 Peak	June 14 Trough	% Change
S&P 500	1,326.70	1,219.29	-8.1%
Russell 2000	784.62	669.88	-14.6%

While the magnitude of these moves (-8.1% for large caps and -14.6% for small caps) is by no means record setting from a historical perspective, the moves themselves are not insignificant to the typical investor. So, how does one explain the price movements over the past quarter?

Traditional finance assumes that all investors are rational, will seek to maximize returns for an acceptable level of risk, and will correctly process all available information. Under this framework, the price of a stock is equal to its fundamental value, which is the discounted value of all of the company's future cash flows, as represented by projected earnings and dividends. The hypothesis that all stock prices reflect the best, unbiased estimates of fundamental values is the Efficient Market Hypothesis ("EMH"). Under the EMH, a deviation from fundamental value, also known as a mispricing, creates an opportunity for profit, which rational investors will exploit, thereby correcting the mispricing. For this reason, stock prices are assumed to be mean reverting within the EMH framework.

This would imply that the downward price fluctuations over the past quarter were caused by sharp reductions in fundamental value estimates due to lower reported earnings and/or projected earnings. However, according to Thompson One Analytics, the most recognized database for institutional brokerage earnings estimates, 67% of the number of companies in the S&P 500 that have reported first quarter 2006 earnings beat their estimated earnings targets, 15% were on target, and 18% were below target. Aggregate growth for the quarter was 14.9%, well ahead of the 11.9% consensus estimate at the beginning of the period. For all of the companies in the S&P 500, 44% revised their second quarter 2006 earnings estimates higher, 47% reduced estimates, and 9% remained unchanged. In total, estimates increased to 11.9% in earnings growth for the second quarter, up from the 10.9% estimate 12 weeks ago. These numbers hardly support the declines in stock prices in recent months.

Another possible explanation could be a reduction in the consensus macro-economic forecast, which incorporates a variety of inputs such as projections of economic growth, the stage of the current business cycle, the interest-rate environment, productivity, and employment levels and trends. The aggregate of these forecasts shapes the consensus of projected market returns three to six months into the future. The market discounts these projections back into today's prices to determine the estimates of fundamental values. But the most recent economic data have been positive and inconclusive with respect to identifying any economic weakening, which would not seem to support the downward fluctuations in equity prices.

Noise Traders

Behavioral finance introduces the observation that not all investors act rationally. Noise trader is the term used to describe market participants (both individual and institutional) who trade stocks based upon price momentum, reported events, rumor, speculation, or any other non-fundamental

reason. Consider the following quote from Benjamin Graham and David L. Dodd from their seminal textbook *Security Analysis*: “An investment operation is one which, upon thorough analysis promises safety of principal and an adequate return. Operations not meeting these requirements are speculative.”

For this reason, we purposely avoid defining noise traders as investors. A common characteristic of noise traders is the extrapolation of a trend from a single data point and the use of this extrapolation to govern trading decisions. This trading activity often results in prices that do not reflect intrinsic value and will cause a stock’s under- or over-valuation to become more pronounced than what would be justified by the fundamentals. It is for these reasons that some mispricings persist over time.

By way of example, consider a company that reports earnings in line with the current estimates but reduces earnings projections by 5% for the upcoming quarter. Naturally, one would expect the stock price to decline in proportion to the magnitude of the forecasted reduction in earnings. However, stocks frequently experience price declines that are much more severe than the estimate reduction. Typically, this overreaction is caused by noise traders, who react not only to the reduced projections but also to the assumption that the one-time reduction is indicative of a trend. Noise traders will also react to the selling by other market participants, which in turn feeds upon itself, causing even more selling pressure.

Suppose that a value investor spots this overreaction to the reduced forecasts and purchases the stock soon after the announcement, based upon a thorough analysis that indicates that the stock is undervalued relative to its fundamentals. Assuming that stocks are mean reverting over the long term, the value investor expects to profit over time as the price increases to reflect the stock’s true fundamental value. But noise traders, reacting to the downward momentum, may keep selling the stock, resulting in even further undervaluation, which will cause short-term losses for the value investor. In the same manner, noise traders can cause overvalued stocks to become even more over-valued over time (remember the momentum investors of the late 1990s?), creating short-term profits that are not warranted by the fundamentals.

Why should we care if profits (or losses) are not justified by fundamentals? For the simple fact that most investment managers, and their investment strategies, are evaluated based upon short-term investment results. Since these results may be affected by persistent mispricings due to noise traders, clients may erroneously conclude that the value investment manager from our previous example is incompetent and withdraw their funds at precisely the wrong time (while a mispricing exists). Or clients may conclude that an investment manager’s positive results are due to skill when in fact they may be due to noise traders. To avoid this pitfall, clients should make a reasonable attempt to understand the manager’s investment philosophy and process, in conjunction with an examination of the manager’s long-term results.

Index Noise

Returning to the Efficient Market Hypothesis, if one assumes that the EMH is valid, then one would conclude that most investors, lacking exceptional skill, would do no better than holding a market portfolio. Reasonable proxies for the market portfolio include such market indexes as the S&P 500, the Russell 1000, the Russell 3000, and the Wilshire 5000. All of these market indexes are capitalization-weighted (with the exception of the Dow Jones Industrial Average), which simply means that the weight of each stock in the index is proportional to the total market value of its shares. Therefore, if all stocks are priced according to the EMH, then capitalization-weighted indexes offer investors the best risk-return combination. There is a plethora of academic research that supports this conclusion; however, actual results tell a different story.

As we discussed previously, behavioral finance points out that some investors are irrational, which contradicts one of the key underlying assumptions of the EMH. The existence of persistent mispricings (e.g., the late 1990s tech bubble) supports this contradiction and is evidence of the impact of noise traders. Further support of “market noise” can be found in the fact that over time, value stocks, here loosely defined as low P/E stocks, outperform capitalization-weighted indexes. This can be explained as follows: If the price of a stock declines for reasons unrelated to changes in its fundamental value due to noise traders, the stock will be mispriced on the downside. Stocks that are mispriced in this manner become low P/E stocks, due to the decline in P (price) without a corresponding drop in E (earnings) and are likely to outperform as the price eventually reverts back to reflect its true fundamental value. Conversely, a stock that rises in price above its fundamental value becomes a high P/E stock, since P has advanced ahead of E, and would be expected to underperform as the price reverts back down to its fundamental value.

Due to market noise, a market index will contain some stocks that are priced above their true fundamental value and some that are priced below their true fundamental value. Because a capitalization-weighted index weights each stock in proportion to the total market value of its shares, by default any market index will overweight all the stocks that are above their fundamental value and underweight all the stocks below their fundamental value. Since the index is overweighting the stocks that are overvalued and expected to underperform and underweighting those that are undervalued and should outperform, there is a built-in negative return bias. All capitalization-weighted indexes suffer from this error-seeking tendency. This conclusion applies equally as well to individual investment portfolios that are capitalization weighted.

Consider a \$200,000 capitalization-weighted portfolio that contains only two stocks, each priced at \$10 and each with a true fundamental value of \$10. Since the price of both stocks is the same, the portfolio will weight each stock at 50% and contain 10,000 shares of each. Assume that due to market noise, the first stock increases to \$12 and the second stock declines to \$8, leaving the total portfolio value unchanged at \$200,000 at the end of the first period. Notice that the weights of the two stocks are now 60% ($\$12 * 10,000 \text{ shares} / \$200,000$) and 40% ($\$8 * 10,000 \text{ shares} / \$200,000$) respectively. Now assume that both stocks revert back to their true fundamental values (\$10) by the end of the next period. Our total portfolio value is still \$200,000, and our total return over both periods is 0%, i.e., $(60\% * [(\$10 - \$12)/\$12] + 40\% * [(\$10 - \$8)/\$8])$.

Had we equal-weighted the portfolio, we would have started with the same 50% weight for each stock. At the end of the first period, we would have rebalanced the portfolio, resulting in 8,333 shares of the first stock and 12,500 shares of the second stock. Note that each stock continues to have a 50% weight, and the portfolio value is still \$200,000. However, assuming that by the end of the second period each stock reverts back to its true fundamental value, our portfolio would now be worth \$208,330 and the total return would equal 4.2%, i.e., $(50\% * [(\$10 - \$12)/\$12] + 50\% * [(\$10 - \$8)/\$8])$.

CornerCap’s Approach

Clearly, the previous example illustrates how an equal-weighted portfolio overcomes the negative bias inherent in a capitalization-weighted portfolio scheme. We employ an equal-weighting discipline to managing all of the portfolios at CornerCap. Once position sizes are determined for the individual portfolio, we then assign thresholds, or high and low bands, around this target size. The purpose of the bands is to reduce or avoid unwanted and unnecessary portfolio turnover, which would cause friction, reduce returns, and possibly increase taxes. Then, as a stock’s price rises above its target threshold, we sell a portion of the holding to maintain the equal weighting. Conversely, if a stock’s price declines below the target threshold and the research indicates that it is still attractive, we purchase more in order to bring the weighting back in line. By following this process, CornerCap is consistently buying low and selling high, while maintaining an approximate equal weighting in every portfolio.

We have fine-tuned the CornerCap investment process to seek and identify the mispricing opportunities inherent in undervalued stocks. The validity of the assumptions that are used in our quantitative and qualitative analyses is constantly evaluated. Over time, the results of the quantitative ranking system and qualitative analysis procedures consistently identify stocks whose prices typically do not reflect their true fundamental value. The quantitative ranking process also measures when a stock becomes overvalued relative to its fundamental value and should be sold. We monitor the holdings on a weekly basis, and when a stock's ranking falls into the overvalued range, it is sold. This process enables us to maintain our investment discipline and act like an investment operation, in the true Graham & Dodd sense of the term, while avoiding the noise. Hopefully, we have demonstrated that reacting to market noise will reduce one's returns. Market noise will also cause one to "tinker" with his portfolio, but that is a topic for a future article . . .