

Earnings Estimate Revisions and Earnings Surprises
In relation to Stock Prices

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Estimate Revisions and Earnings Surprises

There is yet another class of market anomalies that is related to the price and earnings behavior for growth vs. cyclical stocks. It is based on buying stocks after they have undergone large revisions in their consensus earnings forecasts or experienced quarterly earnings surprises -- i.e., reported EPS marginally greater, or marginally less, than the consensus had predicted.

This is a relatively new anomaly that surfaced in the mid-eighties as consensus earnings forecasts became more widely used and researched. As a result, an entire cottage industry is now based on the anomaly which strongly believes it is possible to "buy on the news" and still "beat the gun". (An excellent compilation of the literature describing how well these strategies have worked in the past is contained in *The handbook of Corporate Earnings Analysis* edited by Bruce and Epstein, 1994.)

At bottom, success for these strategies has been attributed to the perception that all investors do not react "instantaneously" to consensus estimate revisions or earnings surprises, that all analysts do not change their estimates at once, and that individual analysts tend to "nickle and dime" their revisions. In turn, this behavior could be attributable to the complexity of the underlying event, a tendency to gradually admit one's mistakes, and whether a given analyst has a buy or sell recommendation on the stock. In other words, there is not only a gradual response to the news, but an ingrained tendency for one estimate revision to be followed by another of the same sign.

One of the earlier studies examining the impact of consensus estimate revisions on stock prices was co-authored by the writer and published in the September/October 1984 issue of the *Financial Analysts Journal*. An excerpt from the article, "Earnings Expectations and Security Prices," follows:

For each of 24 quarters from March 1975 through December 1980, the authors initiated a portfolio consisting of the 20 stocks with the largest one-month increase in their consensus earnings estimate. Not only did the portfolios achieve a 12 month alpha (CAPM risk adjusted excess return) of 14.2% but 66 per cent of the stocks outperformed the S&P 500 Index on an absolute basis...

The finding of risk-adjusted (non-market-related) returns of the magnitude reported here is inconsistent with the tenets of either the CAPM or market efficiency. Other studies that have obtained excess returns using systematic decision rules have asserted that the CAPM's equations, not to mention its underlying assumptions and imputed causal relations, are misspecified.

In our view, the CAPM is an eloquent specification of the market conditions that ought to produce "equilibrium" pricing (or at least nondiscernible mispricing) However, many of these conditions simply do not pertain in the real world, and it would probably help little if they did, given the frequently irrational and impulse driven behavior of investors. Thus, *we doubt that the "Markowitz revolution," elevating expected security returns, variances, covariances and weightings to the mathematical equivalent of quantum mechanics, has significantly changed the way the vast majority of investors behave.*

Specifically, we believe investors continue to base their decisions mostly on earnings expectations (not the mean and variance of return!) for individual stocks (not portfolios!) and have little patience for dividend estimates and associated prediction risks stretching 40 to 60 years into the future, on which the value of a stock today theoretically depends.

E. Hawkins, S. Chamberlin and W. Daniel

A review of this article, that is considered among the first to call attention to this persistent market anomaly, appeared in the Spring 1985 issue of the *CFA Digest*. That review appears below. The complete article is also available on this Website.

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Earnings Expectations and Security Prices

Eugene H. Hawkins, Stanley C. Chamberlin and Wayne E. Daniel

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Can investors use generally available information about consensus earnings expectations to achieve risk-adjusted excess returns? If the market is not perfectly efficient and discounts new information only gradually, current consensus forecasts and subsequent stock price behavior should be related. The authors examine whether large positive revisions in earnings expectations can predict changes in stock prices. The results of their tests suggest that the market is not efficient in processing this kind of information and that it can be used to achieve returns significantly above the market's return, even after risk adjustment and transaction costs.

Investors by and large accept the view that expectations (particularly, earnings expectations) are a significant determinant of stock prices. Several studies have shown that investors able to identify errors correctly in the consensus forecasts and act on these perceptions (in effect, "arguing with the consensus") can earn risk-adjusted excess returns. This approach to investment requires a research capability that produces superior forecasts.

Alternatively, an investor might choose to "go along with the consensus" but assume that some consensus data contain important information that a less- than-perfectly-

efficient market has not yet fully discounted. This approach requires the ability to discern such significant information, rather than the ability to make superior forecasts. One recent study by Elton, Gruber and Gultiken demonstrated the ability of both of these approaches to produce worthwhile excess returns. Such findings suggest that revisions in consensus earnings forecasts can be used to predict changes in stock prices. This article examines this proposition.

The authors used EPS expectations collected by the Institutional Brokers Estimate System (I/B/E/s) and, in particular, the regular monthly list of stocks followed by three or more analysts that have shown, the greatest increase in their mean earnings forecasts since the prior month (I/B/E/s Screen No.1). From these the authors constructed equally weighted portfolios of 20 stocks with the largest increases in their mean estimates, initiating such portfolios at quarterly intervals between March 1975 and December 1980.

To obtain risk-adjusted comparisons, the monthly Screen No.1 portfolio returns minus the three-month T-Bill rate were regressed against the capitalization-weighted S&P and the equally-weighted I/B/E/S universe. Against the S&P, Screen No.1 portfolios averaged an annual risk-adjusted excess return (alpha) of 14.24 percent. The alpha was positive in 20 of the 24 holding periods, while betas ranged from 0.85 to 1.94 and averaged 1.39. Against the I/B/E/S universe the alpha (positive in 18 of the 24 periods) averaged 7.14 percent per year, with betas ranging from 0.94 to 1.54 and averaging 1.25. Regressing the equally-weighted I/B/E/S universe against the capitalization-weighted S&P revealed a universe alpha of 5.53 percent annualized (positive in 21 of 24 periods) and a beta of 1.10. A beta of risk-adjusted (non-market-related) returns of this magnitude is inconsistent with the tenets of either the CAPM or market efficiency. The authors attribute this result primarily to the fact that many of the market conditions specified simply do not pertain in the real world, nor do investors necessarily behave rationally. Specifically, they believe that investors base their decisions mostly on earnings expectations for individual stocks and have little patience with dividend estimates and associated prediction risks stretching far into the future.

As an alternative to performance evaluation using the I/B/E/S universe and the S&P, the authors compared the risk and return characteristics of randomly selected universe portfolios with those of Screen No.1 portfolios. Using this approach, when performance is assessed on the basis of total return, Screen No.1 portfolios attained an average rank of 783 within the 1,000 random portfolios selected over comparable time periods. A naive investor selecting at random from the 1,000 control portfolios available in each of the 24 periods had one chance in five million of obtaining an average rank score higher than 783. The Screen No.1 portfolios also ranked high in interim variability terms (average position of 791). Combining the measures to obtain return per unit of variability, Screen No.1 portfolios had an average rank of 622. The probability of beating these results by chance is calculated by the authors to be one in fifty-seven.

Twenty-four thousand Screen No.1 portfolios were formed and tested for a 6 3/4-year period ending December 31, 1981. The average twelve-month total return for these portfolios was 29.1 percent; comparative returns for the entire I/B/E/S universe and the S&P 500 were 18.7 percent

and 12.0 percent, respectively. The Screen No.1 portfolios outperformed the *I/B/E/S* universe in nineteen of the twenty-four holding periods and did better than the S&P 500 in all but two periods. The *I/B/E/S* universe itself outperformed the S&P 500 in 21 of the 24 periods. Cumulatively, average total returns on Screen No.1 portfolios holding periods of one to twelve months always exceeded those of the *I/B/E/S* universe, which in turn always outperformed the S&P 500.

The authors also examined longer-term results of holding Screen No.1 portfolios for varying periods- three, six, nine, and twelve months-and then rolling into the next available portfolio, comparing these results with investments made on a buy-and-hold basis in universe and S&P benchmark portfolios. The three-month returns gave the highest long-run results, before transaction costs. On an after-expense basis, the six-month rollover strategy produced the highest returns.

In summary, the authors believe that the evidence strongly suggests that revisions in consensus earnings estimates (the activity underlying Screen No.1 portfolios) can be used to predict subsequent stock price performance, and that the market is not efficient in processing such information. They view the results for the 1975 to 1981 test period as confirmation of Arthur Zeikel's "sociology of information recognition" thesis, wherein recognition and proper interpretation of new information flows from intelligent, sophisticated segments of the market to the lesser informed, slower moving elements at the other end of the spectrum, causing a sequence of interim price movements as the information moves through the system and is discounted only gradually.

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To put the matter of market related covariance in perspective with how a portfolio that leveraged the market, without any interest expenses, consider the exhibit on the following page. It clearly demonstrates what the Screen #1 portfolios were all about.

*After a momentary Silence spake
Some Vessel of a more ungainly Make;
"They sneer at me for leaning all awry;
What! did the Hand then of the Potter shake?"*

*Whereat some one of the loquacious Lot—
I think a Sufi Pipkin—waxing hot—
"All this of Pot and Potter—Tell me then,
Who is the Potter, pray, and who the Pot?"*

OMAR KHAYYAM

