by Leonard Zacks

EPS Forecasts– Accuracy Is Not Enough

▶ Many investors select stocks on the basis of companies' earnings prospects. Since an efficient market will already have impounded these prospects in share prices, such investors will not outperform the market.

The authors derived forecast earnings per share growth for 1976 and actual EPS growth for 260 of the S&P companies for which the IBES service provides institutional earnings forecasts. Using the difference as a surrogate for change in the earnings forecast, they compared price performance over this period with both the magnitude of the original EPS growth forecast and the magnitude of the change. They found no relation between forecast EPS growth and actual price movement.

On the other hand, portfolios of companies whose consensus forecasts underestimated actual earnings growth outperformed the market on the average, whereas portfolios of companies whose consensus forecasts overestimated actual earnings growth underperformed the market. These results suggest that, if the objective of stock selection is achieving abnormal portfolio returns, selection must be based on anticipating changes in the consensus, rather than changes in earnings.

Institutions can increase the efficiency of their investment departments by using a two-stage selection process. First, analysts make preliminary forecasts of EPS growth, which are compared with consensus forecasts. Second, analysts concentrate on those companies for which the discrepancy between their forecasts and the consensus forecasts is greatest. In this way, analysts expend the bulk of their efforts on those firms most likely to offer exceptional share price performance. ▶

IF THE STOCK MARKET is highly efficient, and if price movements do result from changes in expectations of earnings, payout ratios and discount rates, as theory would have it, then (1) current expectations should bear little relation to price movements because they are presumably already reflected in stock prices by the time they become measurable, but (2) changes in expectations should be directly related to price movements. Furthermore, changes in the discount rate should be felt uniformly across all companies, hence correlate with the market return, whereas changes in expected earnings and payout ratios should correlate with the deviations of individual stock returns from the market return—i.e., with abnormal returns. In fact, the impact of payout expectations would correlate highly with that of earnings expectations, to the point where it would be hard to distinguish the two.

Unfortunately, the paucity of good expectational data severely limits our ability to test all these hypotheses. The cross-sectional test described below examines the limited hypothesis that excess returns are directly related to changes in earnings expectations. The results clearly confirm that an analyst able to forecast changes in expectations, rather than changes in earnings themselves, can achieve superior returns.

Consensus Forecast and Price

We began our analysis with the 320 companies of the Standard & Poor's (S&P) 500 index for which the Lynch, Jones & Ryan IBES Service provides institutional earnings forecasts. We excluded from our sample those companies that reported deficits for 1975 and those with fiscal years not ending on December 31st. For each of the 260 remaining companies, we identified a consensus forecast for 1976 earnings per share (EPS) made as of December 1975 and calculated the forecast growth in EPS for 1976 and the actual stock price growth during 1976.[1]

To examine the general relation between forecast EPS growth and stock price movement, we first ranked the 260 companies by forecast 1976 EPS growth and created five portfolios of approximately equal size—companies with forecast EPS growth (A) above 40 per cent, (B) between 23 and 40 per cent, (C) between 12 and 23 per cent, (D) between zero and 12 per cent and

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TABLE I: 1976 Price Performance of Portfolios With Differing Consensus Forecasts and Forecast Errors

(1) Portfolio	(2) Range of Consensus Forecasts of Individual Company 1976 EPS Growth as of 12/75		(3) Actual Portfolio Performance During 1976	(4) Sub-portfolio	(5) Range of Forecast Errors		(6) Portfolio Performance During 1976	(7) Number of Securities in Portfolio
	From	To			From	To		
				A-1	10%	130%	49%	14
A	40%	335%	31.0	A-2	−10%	+10%	24	13
				A-3	−90%	−10%	23	20
				B-1	10%	29%	25	4
B	23%	40%	20.4	B-2	−10%	+10%	25	17
				B-3	−10%	−62%	14	15
				C-1	10%	95%	49	19
C	12%	23%	25.1	C-2	−10%	+10%	21	38
				C-3	−40%	−10%	−2	11
				D-1	10%	90%	35	27
D	0%	12%	27.0	D-2	−10%	+10%	26	42
				D-3	−82%	−10%	14	13
				E-1	10%	55%	50	17
E	−44%	0%	38.0	E-2	−10%	+10%	21	7
				E-3	−33%	−10%	14	3

(E) below zero. We then calculated the actual, equal-weighted price change of each of those five portfolios during 1976.[2]

As Table I shows, we found no relation between forecast EPS growth and actual price movement: In fact, the group of companies with the lowest forecast EPS growth (Portfolio E) actually outperformed the group with the highest forecast EPS growth (Portfolio A). This finding is consistent with efficient market concepts and confirms that forecast data are fully incorporated into price by the time they become measurable.

The Effect of Changing Forecasts

In examining the relation between price movement and changes in consensus forecasts of earnings, we focused on the error in the December 1975 consensus forecast of 1976 EPS as a surrogate for changes in the forecast of 1976 EPS over the period December 1975 to December 1976.[3] Using the percentage difference between each company's 1976 EPS and the consensus forecast of its EPS made as of December 1975, we divided each portfolio, A through E, into three subportfolios according to whether the forecast underestimated EPS by more than 10 per cent, fell on target (between −10 and +10 per cent) or overestimated EPS by more than 10 per cent. For example, the consensus forecasts of 1976 EPS growth for companies in Portfolio A-1 (all above 40 per cent) turned out to have underestimated actual growth by at least 10 per cent, while those for companies in Portfolio E-1 (all below zero) also turned out to have underestimated actual growth by at least 10 per cent.

Table I shows the relevant statistics for each of these 15 portfolios, including the equal-weighted price performance for 1976. Compare the price performance of each portfolio with the magnitude of the original EPS growth forecast and the magnitude of its error. The companies with on-target forecast errors (−10 to +10 per cent) all performed about the same as the market, regardless of their EPS forecasts. For example, Portfolio E-2, comprised of companies with on-target forecasts predicting EPS growth below zero, was up 21 per cent, while Portfolio A-2, comprised of companies with on-target forecasts predicting EPS growth of over 40 per cent, was up 24 per cent; during 1976, the S&P 500 price advance was 20 per cent. Moreover, with the exception of the four companies in Portfolio B-1, the portfolios of companies with consensus forecasts that significantly underestimated EPS growth substantially outperformed the S&P, whereas the portfolios of companies with consensus forecasts that overestimated EPS growth underperformed the S&P. These results indicate strongly that *surprise earnings or equivalent changes in consensus forecasts are a key determinant of abnormal returns.*

This relation between surprise earnings and prices explains the familiar historical relation between actual EPS and price performance. Companies for which the consensus overestimated earnings would tend to have lower actual EPS growth and be found near the bottom of a ranking by actual EPS growth, while companies for which the consensus underestimated earnings would be found near the top of a ranking by actual EPS growth.

The relation between surprise earnings and price movement can also explain many cases in which prices move in a direction opposite to that of earnings—an

aberration traditionally attributed to price-earnings ratio expansions or contractions. If, for example, a company's EPS growth were forecast to exceed 30 per cent, and turned out to be only 15 per cent, its share price could easily drop 10 to 20 per cent, thereby reducing its price-earnings ratio despite the respectable earnings growth. Conversely, if a company's actual earnings fell only 10 per cent, when they were expected to fall 30 per cent, share price could easily move upward, resulting in substantial price-earnings ratio expansion. This interplay between expectation and realization may be a significant determinant of changes in price-earnings ratios.

Implications for Managing the Investment Decision Process

Assuming that our results are not specific to 1976, or to the IBES data used, but are generally valid, their implications are significant—especially for the many investment organizations that follow an investment strategy of continually ranking companies by EPS growth forecasts and shifting assets from the bottom of the list to the top. As experience has shown, and as statistics demonstrate, this strategy, when based on accurate EPS forecasts, does result in superior performance.

On the other hand, changing expectations determine price movements, and if there is a direct relation between efforts expended by analysts in forecasting EPS and the accuracy of such forecasts, an institution can increase the efficiency of its own resources by adopting a two-stage investment decision process. In the first stage, an institutional analyst would develop a preliminary independent forecast of company EPS growth, which would then be compared with the Street's consensus forecast. If the forecasts were reasonably close, the institutional analyst would expend little additional effort on the company. If the analyst's estimate fell above or below the consensus, however, he would devote considerable time to refining his forecast of the company's EPS. This approach could increase the productivity of an institutional research department by focusing analysts' time on those areas with the highest potential payoffs.

Implications for Specific Investment Decisions

These general results gloss over wide variations in the performance of individual companies. To translate them into a practical format, we show in Table II the chances of outperforming a market index (the S&P 500), based upon a detailed statistical analysis of forecast errors involving individual companies.[4]

Column 1 of Table II shows the probability of outperforming the S&P 500 in 1976 if an analyst had randomly selected in December 1975 a single company that had been correctly classified by the error in the consensus forecast. For example, if he had been able to identify a company for which the consensus EPS forecast underestimated actual EPS by 10 to 30 per cent, he would have had a 69 per cent chance of outperforming the S&P 500 (or odds of 2.2 to one in favor). If he had identified a company for which the consensus EPS forecast was within 10 per cent of actual EPS, his chances of outperforming the S&P would have been only 51 per cent.

TABLE II: Chance of Outperforming S&P 500 Based Upon Accurate Knowledge of Errors In Consensus Forecasts

	Chance of Outperforming S&P by Selecting Portfolio With Varying Number of Issues			
Consensus Forecast	1 Issue	2 Issues	4 Issues	8 Issues
Underestimates EPS by 30% or more	88%	95%	99%	99%
Underestimates EPS by 10 to 30%	69	77	85	93
Within 10% of EPS	51	51	52	53
Overestimates EPS by 10 to 30%	31	24	16	7
Overestimates EPS by 30% or more	24	16	7	3

The remaining columns of Table II show that the chances of outperforming the S&P 500, given foreknowledge of consensus errors, increase substantially if portfolios are based on forecast error. A portfolio of eight stocks, all having consensus forecasts of EPS that underestimated actual EPS by 10 to 30 per cent, would have a 93 per cent chance of outperforming the market (or odds of 13 to one in favor). On the other hand, a portfolio of eight stocks selected from among those with accurate consensus forecasts would have only a 53 per cent chance of outperforming the S&P index. If one accepts 1976 as a representative year, Table II can serve as a useful guide for making portfolio decisions on the basis of consensus forecasts and internal EPS estimates. ■

Footnotes

1. The consensus EPS forecast for calendar year 1976 was taken to be the mean IBES estimate as of December 1975 for 1976 earnings; the consensus forecast growth for 1976 was the percentage difference between the consensus EPS forecast and actual 1975 earnings, while the corresponding stock price growth was the percentage difference between the price on December 31, 1976, and the price a year earlier.
2. Equal-weighted performance of a portfolio is the arithmetic average of the percentage changes in prices of the individual securities in the portfolio.
3. We implicitly assume that the 1976 EPS forecast made as of December 1976 would equal the 1976 actual EPS. This approach eliminates a number of timing and reporting problems inherent in the definition and collection of consensus forecasts.
4. The chances are based on an analysis of the data for the 260 companies with fiscal years corresponding to the calendar year.