Earnings Forecasts And Institutional Demand For Common Stock

Stanley G. Eakins, (eakinss@mail.ecu.edu), East Carolina University

Stanley R. Stansell, Robert Dillard Teer Distinguished Professor of Business, (stansells@mail.ecu.edu), East Carolina University

Paul E. Wertheim, (pwertheim@pepvax.pepperdine.edu), Pepperdine University

Abstract

Given that institutional investors now control over 50% of the equity funds in the market, it is important to understand the factors that influence their investment choices. A factor widely believed to influence institutional investment is analysts' forecasts of future earnings performance. This paper investigates the ownership vs. earnings relationship using a number of different model specifications. The findings indicate that contrary to the generally accepted wisdom, there is little empirical evidence indicating that institutional investors are influenced by analysts' forecasts. Even within the subsample of those firms where the analysts are most in agreement, the relationship between the change in institutional ownership and analysts' forecasts is insignificant. These results persist across the six year time period investigated.

I. Introduction

The purpose of this paper is to examine whether institutional investors in common stocks are influenced by the earnings forecasts made by independent analysts. The traditional view is that favorable earnings forecasts should attract investors to particular stocks and vice versa¹. One possible scenario is that institutional managers, hoping to capitalize on analysts' research efforts, buy stocks with favorable forecast earnings and avoid those with poor forecast earnings. On the other hand, if institutional managers believe that markets are efficient, they will ignore publicly announced forecasts and instead invest primarily to capitalize on their own internally produced earnings projections. There is no debating that institutional in-

vestors are the most significant players in the market. Unfortunately little is known about what motivates their stock selections. The purpose of this paper is to investigate one aspect of this illusive issue.

To investigate this question we examine whether the percentage of the firm's stock held by institutional investors is influenced by independent analysts' forecasts of earnings. If institutions are influenced by independent analysts, we expect a projected earnings increase to result in increased institutional ownership and vice versa². Jensen and Meckling (1976) discuss the role of analysts in the capital markets. They argue that analysts employed by institutional investors, brokers, and advisory services play an important monitoring role. While a body of evidence exists that indicates that such activities do

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not increase portfolio returns, to the degree that such analysis reduces agency costs they are socially beneficial.

In Section II we present a brief discussion of the literature. In Section III the data set is described³. All of the year end institutional ownership filings made with the SEC between 1985 and 1992 are used in this study⁴. Section IV discusses the methodology. Section V reports the results and Section VI summarizes and concludes the paper.

In this paper we find little evidence that institutional investors follow analysts forecasts. One reason may be that these investors pay more attention to “whisper” estimates of future earnings. According to a recent Wall Street Journal article by Greg Ip, whisper estimates are the unofficial estimates that analysts formulate well after the official ones have been published. The prevalence of whisper or unofficial estimates is so pervasive that some analysts even include them in their research reports. For example, Smith Barney recently reported both whisper and consensus estimates for Microsoft, PeopleSoft and Bannf. Drew Peck, an analysts with Cowen & Co., says that he does not revise his official estimates once they are published because most investors will know the whisper number. If whisper estimates are well known among institutional investors and if they are more current and relevant than official published analysts forecasts, it is not surprising that we find no indication that these investors pay attention to the official numbers. This paper may be significant for any research with uses IBES data to proxy for investor expectations.

II. Review Of The Literature

Several different aspects of earnings forecasting research are explored in a comprehensive study by Brown (1993). Brown notes that while much of the early literature dealt with predictive ability the more recent emphasis has been on capital markets research. One conclusion of the study is that analysts provide forecasts that are generally superior to time series model

forecasts.

Badrinath, Gay and Kale (1989) find that the fiduciary responsibility of institutional fund managers and the need to demonstrate the prudence of given investments affects institutional investment decisions. They find evidence that S&P stock rankings influence investment decisions, indicating that institutional fund managers seek a legal “safe harbor” in the sense that the stock rankings may be considered proof of prudent investment behavior. Their results also indicate that institutional ownership is positively related to firm size, negatively related to returns volatility, positively related to the firm beta, positively related to trading liquidity, and positively related to number of years listed on a stock exchange. Their research suggests that institutional investors may rely on outside analysts.

Eddy and Seifert (1992) find that the Value Line prediction of expected stock price performance and analysts’ earnings prediction error are related. As prediction error increases, rankings fall and vice versa.

O’Brien and Bhushan (1991) find a positive relation between analyst following and percentage institutional ownership, although it remains unclear whether institutions invest in securities because analysts are following them or for other reasons. The causal relationship is difficult to establish. There is evidence of a complex feedback relationship between ownership and analyst following. They find a positive relationship between institutional ownership and firm beta (a measure of systematic risk), and a negative relationship with firm standard error of the estimate (a measure of unsystematic risk). These results indicate an aggressive attitude toward risk bearing by institutions in regards to beta. The exhibited aversion to unsystematic risk is unexpected and inconsistent with capital market theory.

Forbes and Skerratt (1992) examine the role of analysts’ revisions of earnings forecasts in the formation of security prices. They find evidence of a simultaneous process between prices

and earnings forecast revisions. They find some evidence that the market may suspect that agency problems exist which reduce the reliability of analyst forecasts. Brown, Foster and Noreen (1985) performed a major study of analysts' earnings forecasts using the IBES tapes. Their results suggest that revisions follow price changes, rather than vice versa. Both of these studies question whether analysts' earnings forecasts are of value to investors.

The role of institutional ownership of common stock is complex. Arbel, et al (1983a, 1983b, 1985a, 1985b) find evidence that holding period returns rise as institutional investment falls. Edelman and Baker (1987) find that the level of institutional ownership is related to both P/E ratios and holding period returns. There appears to be a neglect factor at work.

Potter (1992) examines the relation between the level of institutional ownership and the magnitude of security price variability at quarterly earnings announcement dates. He finds that the degree of price variability at these dates increases with the level of institutional ownership.

In summary, while efforts have been made to determine the role of analysts in guiding institutional investors, little progress has been made. There is some evidence indicating institutional investors follow analysts, but we do not know whether they consider specific analysts forecast meaningful. This paper looks at this question.

III. Data

Data on earnings forecasts are taken from the IBES Summary Tape covering the period 1985-1991. The IBES tape provides detailed data on earnings forecasts as well as the descriptive statistics on the forecasts. The IBES data set appears to be of high quality. Philbrick and Ricks (1991) examine the forecast errors of IBES and alternative data sources and find that IBES compares favorably.

The institutional ownership data used in

this study are collected from two sources. Institutional ownership data for the years 1985 through 1988 was purchased from Control Data Advisors Investment Technologies Spectrum. Institutional ownership data sets for the years 1988 through 1991 were obtained from Disclosure, Inc⁵. Beginning with 1988, Disclosure provides the data collected by Control Data Advisors Investment Technologies Spectrum 3/4 on its CDROM data base. The overlapping year, 1988, was used to verify that the Disclosure data exactly matched the data obtained from Spectrum. This data set is composed of the institutional ownership filings required by the Securities and Exchange Commission (SEC). Financial institutions with investment control of over \$100 million in assets must report to the SEC equity holdings above 10,000 shares which have a market value above \$200,000. The Disclosure data set used in this study includes all filings reported for December 31 of each year.

A review of the data on institutional ownership indicates that some institutions report ownership interest in firms even when ownership is less than the 10,000 share cutoff. To be consistent, we eliminate any institutional ownership position of less than 10,000 shares.

Brickley, Lease and Smith (1988), classify institutions by type using the definitions in the 1988 *Money Market Directory*. We adhere to this classification procedure. Institutions are classified as bank trusts, insurance companies, corporate pension funds, investment advisors, endowment funds, foundations, or government pension plans. An "other" category includes miscellaneous institutions not classified in the directory.

IV. Methodology and Results

The percentage of outstanding common stock shares held by institutions in each firm (PCTOWN) is computed by summing the number of shares held by institutions and dividing by the total number of shares outstanding as shown below.

$$PCTOWN_i = \frac{\sum_{j=1}^J INSH_{ji}}{Shares_i} \quad (1)$$

where $PCTOWN_i$ = percentage shares held by institutions in firm i at year end, $INSH_{ji}$ = number of shares held by institution j in firm i at year end, and $Shares_i$ = total number of shares outstanding in firm i at year end.

The change in the percentage institutional ownership is calculated as:

$$\Delta PCTOWN_i = PCTOWN_{i,t} - PCTOWN_{i,t-1} \quad (2)$$

where $PCTOWN_{i,t}$ is the percentage institutional ownership on 12/31 and $PCTOWN_{i,t-1}$ is the percentage institutional ownership 12/31 of the prior year.

The change in earnings per share ΔEPS is calculated as the analysts' forecast change in earnings per share for five different time periods varying in length from a few weeks to 1 year. The ΔEPS is calculated by subtracting the actual end of year earnings from the analysts earnings forecast. For example, the ΔEPS used in the 85-86 one year regression is calculated by subtracting the 12/31/85 actual company earnings from the analyst forecasts made on 12/31/85 for 12/31/86 earnings. Similarly, the 85-86 9 month ΔEPS is calculated by subtracting the 12/31/85 actual company earnings from the analyst's forecasts made on 3/31/86 for the 12/31/86 earnings. In all, 30 separate cross sectional regressions are estimated for the five earnings forecasts and the six years for which changes in institutional ownership can be calculated.

A. Change In Percent Ownership vs. Change In Analysts' Earnings Forecasts

Using the variables defined above, we estimate the following equation for the yearly changes 1985-1986 through 1990-1991.

$$\Delta PCTOWN_i = \alpha + \beta \Delta EPS_i + e_i \quad (3)$$

If institutional investors follow analysts' forecasts the coefficients on ΔEPS should be positive and significant. For example, on 12/31/85 institutional investors may learn of favorable analysts' forecasts for 12/31/86 as measured by ΔEPS (forecasted 12/31/86 EPS minus actual 12/31/85 EPS). If this is valuable information, percent institutional ownership should increase.

The results of the estimations of equation (3) are presented in Table 1. As noted, the dependent variable ($\Delta PCTOWN$) is the annual change in percentage institutional ownership. The independent variable is the forecast change in EPS for one year, 9 months, 6 months, 3 months, and end-of-the-year.

This procedure allows us to examine whether the change in institutional ownership varies with the length of the forecast period. The longest forecast period is one year. The shortest is the "end-of-year" forecast where there is usually a delay of several weeks before final earnings are known. With the exception of the 1987-1988 period, the coefficients of the ΔEPS variable are insignificant and are often negative in sign. In the 1987-1988 period, the coefficients are significant but are negative in sign and quite small.

Regardless of the year examined or the length of forecast, the forecast change in EPS has very little ability to explain the change in percent institutional investment. The R^2 values are quite low. The coefficients of the ΔEPS variable are very small and usually statistically insignificant. In many cases the coefficients are negative in sign, contrary to what theory would suggest. These results suggest institutional investors do not make investment decisions based upon analysts' forecasts.

In order to examine the potential of industry related factors we estimated equation (3) with industry dummy variables based on SIC codes. We also performed estimations using a firm size variable. The results were insignificant and are not reported.

TABLE 1

$$\Delta PCTOWN_i = \alpha + \beta \Delta EPS_i + e_i \quad (3)$$

OLS regression of the change in institutional percentage ownership between 12/31 of the first year and 12/31 of the second year on the difference between actual earnings for one year and forecasted earnings for the next year where the forecasts are lagged as indicated

		<u>Lag Between Analysts' Forecasts and The End of Year</u>				
		1 Year	9 months	6 months	3 months	End of Year
85-86	Constant	.044 (14.81)**	.044 (14.72)**	.044 (14.77)**	.044 (14.65)**	.044 (14.65)**
	ΔEPS	-.009 (-1.82)	-.0006 (-1.46)	-.0007 (-1.40)	-.0004 (-.86)	-.0002 (-.52)
	Adj R ²	.002	.0009	.0007	-.0002	-.0005
86-87	Constant	.036 (12.84)**	.037 (12.81)**	.037 (12.88)**	.039 (13.36)**	.040 (13.47)**
	ΔEPS	-.0002 (-.98)	-.0002 (-.92)	-.0002 (-.88)	-.0001 (-.79)	-.0001 (-.79)
	Adj R ²	-.0000	-.0001	-.0002	-.0003	-.0004
87-88	Constant	.036 (10.64)**	.034 (10.39)**	.034 (10.35)**	-.034 (10.29)**	-.034 (10.43)**
	ΔEPS	-.0001 (-2.06)*	-.001 (-2.05)*	-.0001 (-2.02)*	-.0001 (-2.00)*	-.0001 (-1.99)*
	Adj R ²	.0023	.0023	.0022	.0021	.0021
88-89	Constant	.024 (8.79)**	.024 (8.88)**	.024 (8.81)**	.024 (8.87)**	.024 (8.27)**
	ΔEPS	4.08x10 ⁻⁶ (.41)	4.11x10 ⁻⁶ (.41)	4.11x10 ⁻⁶ (.41)	4.10x10 ⁻⁶ (.41)	4.26x10 ⁻⁶ (.43)
	Adj R ²	-.0006	-.0006	-.0006	-.0006	-.0006
89-90	Constant	.023 (8.16)**	.022 (8.03)**	.022 (7.92)**	.022 (7.95)**	.022 (7.96)**
	ΔEPS	-6.19x10 ⁻⁶ (-.14)	-5.41x10 ⁻⁶ (.12)	-3.45x10 ⁻⁶ (-.08)	3.47x10 ⁻⁶ (-.01)	4.05x10 ⁻⁶ (.10)
	Adj R ²	-.0007	-.0007	-.0007	-.0007	-.0007
90-91	Constant	.034 (13.42)**	.034 (13.33)**	.034 (13.32)**	.034 (13.46)**	.034 (13.52)**
	ΔEPS	.0001 (.99)	.0001 (1.05)	.0000 (.66)	.0001 (.74)	.0001 (.80)
	Adj R ²	.000	.000	.0004	.0003	.0002

Note: "t" statistics are shown in parentheses.

* Denotes significance at the $\alpha = .05$ level.

B. Analysis By Quintile

It is possible that institutional investors rely most heavily on analyst forecasts when the analysts are generally in agreement with each other. Prior research (Brown, Richardson and Schwager, 1987) has documented that forecast accuracy is increased when the standard deviation of the forecast is reduced. To investigate this possibility the data is sorted into quintiles based on the standard error of the analysts' forecasts. Those firms where analysts are most in agreement with each other are grouped into quintile 1. Those firms where analysts are least

in agreement are grouped in quintile 5. It is anticipated that if institutional investors follow analysts' forecasts the relationship will be strongest for firms in the 1st quintile. Estimates of equation (4) are performed for each quintile. The results for regressions by quintile for the periods 1985-1991 are reported in Table 2. Dummy variables are included to control for annual variation where DUM1 = 1 for 1985 - 86, DUM 2 = 1 for 1986-87,..., DUM 5 = 1 for 1990-91.

$$\Delta PCTOWN_i = \alpha + \beta_1 \Delta EPS + \beta_2 DUM1 + \dots + \beta_5 DUM5 + e_i \quad (4)$$

TABLE 2

$$\Delta \text{PCTOWN}_i = \alpha + \beta_1 \Delta \text{EPS}_i + \beta_2 \text{DUM1} + \dots + \beta_6 \text{DUM5} + e_i \quad (4)$$

OLS regression of the change in percentage institutional ownership between 12/31 of the first year and 12/31 of the second year on the difference between actual earnings for one year and forecasted earnings for the next year where the forecasts are lagged as indicated. Dummy variables control for annual changes.

<u>Lag Between Analysts' Forecasts and The End of Year</u>					
	1 Year	9 months	6 months	3 months	End of Year
Standard Error					
Quintile 1 (lowest)					
Constant	.065 (10.17)**	.056 (8.48)**	.068 (10.15)**	.071 (9.9)**	.060 (7.92)**
ΔEPS	-.000 (-1.27)	.000 (-1.14)	.000 (-.88)	.000 (-.24)	.000 (.83)
Adj R ²	.0079	.0099	.015	.0174	.0083
Quintile 2					
Constant	.052 (8.18)**	.063 (9.31)**	.054 (7.40)**	.062 (8.74)**	.064 (8.78)**
ΔEPS	-.000 (-1.15)	.000 (-1.28)	-.000 (-1.68)	.000 (-.95)	.000 (-1.62)
Adj R ²	.0037	.0067	.0139	.0073	.0049
Quintile 3					
Constant	.052 (6.94)**	.054 (7.86)**	.059 (8.55)**	.052 (7.51)**	.063 (9.54)**
ΔEPS	-.000 (-.08)	.000 (.41)	.000 (1.06)	-.000 (-.71)	-.000 (-.41)
Adj R ²	.0040	.0062	.0094	.0038	.0159
Quintile 4					
Constant	.036 (5.34)**	.039 (5.52)**	.044 (6.92)**	.044 (6.71)**	.042 (6.54)**
ΔEPS	-.000 (-.17)	-.000 (-.19)	.000 (.39)	-.000 (-1.61)	-.0020 (-.03)
Adj R ²	.0051	.0058	.0199	.0170	.0110
Quintile 5 (highest)					
Constant	.019 (1.92)**	.018 (1.95)**	.009 (1.07)**	.013 (1.68)**	.016 (2.11)**
ΔEPS	-.000 (-.49)	-.000 (-.15)	-.000 (-1.93)	-.000 (-.54)	-.000 (-1.41)
Adj R ²	.0182	.0175	.0129	.0116	.0129

Note: "t" statistics are shown in parentheses.

* Denotes significance at the $\alpha = .05$ level.

** Denotes significance at the $\alpha = .01$ level.

The results are not encouraging. The coefficients of ΔEPS are universally insignificant. The adjusted R² values are small. The regressions are also run on each year separately without dummy variables. The results are similar and are therefore not reported. We conclude that, even when institutional investor following of analyst forecasts is most expected, no empirical evidence exists to suggest that it does.

C. Change In Percent Ownership vs. Unexpected Earnings Changes

It is possible that institutional investors respond to unexpected changes in forecast earnings. In order to examine this hypothesis, we first perform a forecast using an expectational model of earnings for each firm. We multiply the five year average growth rate

(GROWTH) in operating income times the prior period ending EPS (ACTUAL_{t-1}) to perform a naive forecasts of EPS for the period analyzed.

$$\text{NAIVE FORECAST}_t = \text{ACTUAL}_{t-1} \times (1 + \text{GROWTH}) \quad (5)$$

The unexpected EPS (hereafter, UNEPS) is calculated by subtracting the expectational model forecast (NAIVE FORECAST) from the analysts forecast, period by period.

$$\text{UNEPS}_t = \text{ANALYSTS FORECAST}_t - \text{NAIVE FORECAST}_t \quad (6)$$

We then estimate the following equation using OLS.

$$\Delta \text{PCTOWN}_i = \alpha + \beta_1 \text{UNEPS}_i + \beta_2 \text{SD}_i + e_i \quad (7)$$

We include the standard deviation of the analysts' forecast EPS for the period as a control variable. This should capture the analysts' consensus of the EPS forecast.

The results of the estimation of equation (5) are presented in Table 3. The results are not again very encouraging. We focus on the coefficient of the UNEPS variable. A few of the coefficients are significant for the 85-86 period and the 89-90 period. The other coefficients are not significant. The R^2 values are very small for all estimations. Generally, the results do not indicate that unexpected changes in EPS affect institutional ownership.

D. Analysis of the Full Sample Using Unexpected Earnings Changes

We next combine all time periods, include dummy variables for time, and analyze the data by institutional type.

$$\Delta \text{PCTOWN}_i = a + \beta_1 \text{UNEPS}_i + \beta_2 \text{DUM1} + \dots + \beta_5 \text{DVM4} + e_i \quad (8)$$

The results are presented in Table 4. Once again, a few of the coefficients of UNEPS are significant but most are not. The R^2 values are

again very small. The results indicate that unexpected changes in EPS do not influence institutional ownership decisions.

V. Conclusions

Given that institutional investors now control over 50% of the equity funds in the market, it is important to understand the factors that influence their investment choices. One commonly assumed factor widely believed to influence institutional investment is analysts' forecasts of future earnings performance. This paper investigates the ownership vs. earnings relationship using a number of different model specifications⁶⁷.

Contrary to the commonly accepted wisdom, there is little empirical evidence indicating that institutional investors are influenced by analysts' forecasts. Even within the subsample of those firms where the analysts are most in agreement, the relationship between the change in institutional ownership and analysts' forecasts is insignificant. These results persists across a six year time interval.

The only evidence consistent with the hypothesis that institutions follow analysts forecasts is that institutional ownership is positively related to both the percentage of up forecasts and the percentage of down forecasts (i.e., that percentage ownership increases with up forecasts and declines with down forecasts)⁸. The small coefficient estimates and low R^2 suggest that this link is weak. Since institutional investors and analysts likely review the same basic data it is not unexpected that some correlation in their behavior be observed. We are unconvinced that this evidence indicates that institutions rely upon analysts' forecasts.

While initially surprising, the results presented in this paper may be simply affirming that institutional investors are rational believers in efficient markets. Since analysts' projections are widely circulated, it can be argued that it is unlikely that unusual investment return opportunities are to be found by following these rec-

TABLE 3

$$\Delta \text{PCTOWN}_i = \alpha + \beta_1 \text{UNEPS}_i + \beta_2 \text{SD}_i + e_i \quad (5)$$

OLS regression of the percent change in institutional ownership between 12/31 of the first year and 12/31 of the second year on the percent difference between actual earnings for one year and forecasted earnings for the next year where the forecasts are lagged as indicated

Lag Between The Percent Change In Analysts' Forecasts and The End of Year

		1 Year	9 months	6 months	3 months	End of Year
85-86	Constant	.058 (10.32)**	.059 (11.50)**	.056 (11.78)**	.054 (12.77)**	.053 (12.34)**
	Δ EPS	.006 (1.26)	.012 (2.35)*	.007 (1.6)	.010 (2.64)**	.012 (3.37)**
	STD	-.046 (-1.67)	-.048 (-2.18)	-.021 (-1.17)	.016	.017
	Adj R ²					
86-87	Constant	.038 (6.57)**	.041 (7.09)**	.038 (8.26)**	.040 (8.41)**	.040 (8.18)**
	Δ EPS	.003 (.62)	.004 (.84)	-.000 (-.02)	-.001 (-.49)	-.001 (-.65)
	STD	-.015 (-.67)	-.033 (-1.45)	-.011 (-1.09)	-.013 (-.72)	-.021 (-.94)
	Adj R ²	-.002	.002	.001	.001	-.002
87-88	Constant	.027 (4.34)**	.023 (3.92)**	.024 (4.09)**	.028 (4.98)**	.031 (5.56)
	Δ EPS	-.000 (-.24)	-.000 (-.40)	-.001 (-.17)	.000 (.13)	.000 (.25)
	STD	.003 (.14)	.0315 (1.40)	.020 (.76)	-.0056 (-.22)	-.031 (-1.17)
	Adj R ²	.000	.000	.001	.001	-.001
88-89	Constant	.026 (4.72)**	.027 (4.75)**	.026 (4.87)**	.027 (5.06)**	.0274 (5.38)**
	Δ EPS	-.0051 (-1.36)	-.004 (-1.27)	-.003 (-.77)	-.001 (-.31)	.001 (.22)
	STD	-.013 (-.61)	-.019 (-.83)	-.023 (-1.01)	-.032 (-1.41)	-.036 (-1.69)
	Adj R ²	.000	.000	.001	.000	.002
89-90	Constant	.032 (6.84)**	.031 (6.43)**	.031 (6.85)**	.034 (6.86)**	.034 (8.33)**
	Δ EPS	.009 (1.82)	.010 (2.05)*	.010 (2.34)*	.010 (2.55)*	.010 (2.83)**
	STD	-.035 (-1.98)*	-.028 (-1.35)	-.029 (-1.31)	-.046 (-1.52)	-.040 (-2.21)*
	Adj R ²	.012	.011	.012	.022	.023
90-91	Constant	.034 (7.87)**	.035 (8.09)**	.033 (8.09)**	.038 (9.07)**	.036 (9.39)**
	Δ EPS	-.000 (-.03)	.001 (.212)	.003 (1.34)	.003 (1.02)	.003 (1.48)
	STD	-.029 (-1.63)	-.034 (-1.82)	-.019 (-.95)	-.056 (-2.34)*	-.047 (-2.01)*
	Adj R ²	.002	.005	.001	.017	.018

Note: "t" statistics are shown in parentheses.

* Denotes significance at the $\alpha = .05$ level.

** Denotes significance at the $\alpha = 1\%$ level.

ommendations. Instead, institutional investors may rely upon their own internally generated projections or unofficial and unpublished whisper forecasts when making investment decisions.

VI. Suggestions For Future Research

Institutional investments in common

stock are currently very large. It appears highly probable that such investments will continue to increase in the future. Relatively little work has been performed to examine the nature of institutional demand for common stock. Several major areas of research exist. First, is institutional demand influenced by individual firm attributes such as financial ratios? Second, is institutional demand influenced by the statistical

TABLE 4

$$\Delta \text{PCTOWN}_i = \alpha + \beta_1 \text{ONES}_i + \text{DUM1} + \dots + \beta_5 \text{DUM4} + e_i \quad (6)$$

OLS regression of the change in institutional ownership between 12/31 of the first year and 12/31 of the second year on the difference between actual earnings for one year and forecasted earnings for the next year where the forecasts are lagged as indicated. All years observations are combined and dummy variables are included (not reported) in the regressions to control for annual variation.

<u>Lag Between Analysts' Forecasts and The End of Year</u>					
<u>Inst. Type</u>	<u>1 Year</u>	<u>9 months</u>	<u>6 months</u>	<u>3 months</u>	<u>End of Year</u>
Bank					
Constant	.003 (2.99)**	.003 (3.15)**	.002 (2.70)**	.002 (2.42)**	.002 (2.33)*
$\Delta \text{EPS (x10}^6\text{)}$	-3.48 (-.22)	3.16 (-.20)	-7.57 (-.49)	-12.25 (-.85)	-10.38 (-.73)
Adj R ²	.016	.019	.017	.018	.017
Insurance					
Constant	.014 (9.49)**	.014 (9.87)**	.014 (9.84)**	.014 (9.77)**	.014 (9.89)**
$\Delta \text{EPS (x10}^5\text{)}$	15.67 (.71)	24.67 (1.12)	34.98 (1.61)	40.04 (1.47)*	45.29 (2.27)*
Adj R ²	.012	.015	.017	.015	.017
Corp. Pension					
Constant	.003 (5.01)**	.003 (4.91)**	.003 (4.80)**	.003 (4.79)**	.003 (4.86)**
$\Delta \text{EPS (x10}^5\text{)}$	16.18 (1.56)	18.33 (1.77)	22.43 (2.22)*	19.80 (2.05)*	21.01 (2.23)*
Adj R ²	.011	.011	.011	.011	.012
Inv. Counsel					
Constant	.001 (1.75)	.001 (1.74)	.001 (1.98)*	.001 (1.98)*	.002 (2.49)*
$\Delta \text{EPS (x10}^5\text{)}$	3.94 (.35)	4.19 (.37)	4.87 (.44)x	5.81 (.36)	7.22 (.71)
Adj R ²	.079	.080	.079	.079	.079
Endowment					
Constant	.028 (12.08)**	.028 (11.93)**	.028 (12.29)**	.028 (12.56)**	.029 (12.72)**
ΔEPS	.67 (.19)	17.71 (.49)	25.57 (.73)	22.43 (.68)	22.70 (.70)
Adj R ²	.017	.017	.018	.019	.020
Foundation					
Constant	.000 (.12)	.000 (.08)	.000 (.13)	.000 (.12)	.000 (.10)
$\Delta \text{EPS (x10}^5\text{)}$	2.11 (.56)	2.15 (.58)	2.02 (.55)	1.98 (.57)	1.77 (.52)
Adj R ²	.021	.023	.021	.021	.021
Govt. Pension					
Constant	-.000 (-.27)	-.000 (-.37)	-.000 (-.40)	-.000 (-.26)	-.000 (-.27)
$\Delta \text{EPS (x10}^5\text{)}$	.340 (.26)	.390 (.27)	.350 (.27)	.186 (.15)	.323 (.79)
Adj R ²	-.000	-.001	-.000	-.000	-.000
Other					
Constant	.005 (7.08)**	.005 (7.27)**	.005 (7.61)**	.005 (7.27)**	.005 (7.44)
$\Delta \text{EPS (x10}^5\text{)}$	22.12 (2.01)*	24.20 (2.22)*	23.22 (2.17)*	20.41 (2.01)*	20.15 (2.07)*
Adj R ²	.018	.018	.018	.018	.018

Note: "t" statistics are shown in parentheses.

* Denotes significance at the $\alpha = .05$ level.

** Denotes significance at the $\alpha = .01$ level.

moments of individual firm returns such as the mean, standard deviation, skewness and kurtosis? Finally, is institutional demand influenced by factors captured in what is referred to as technical analysis. The results of this study indicate that earnings forecasts by independent analysts do not influence institutional demand.

Endnotes

1. Analysts forecasts are widely circulated. For example, Compustat recently began including monthly updates of analysts' consensus estimates with its data base.
2. Despite extensive analytic tests, we find no conclusive evidence that institutional investors are influenced by analysts' estimates of future performance. Even when we examine a subsample where analysts are in agreement with each other, there is no statistical relation between analysts forecast and institutional investment selection.
3. This paper uses a far more complete data set than has been available in the past.
4. From this sample, one year analysts forecasts were available on 1334 firms in 1986, 1308 firms in 1987, 1440 firms in 1988, 1470 firms in 1989, 1448 firms in 1990, and 1502 firms in 1991. The number of observations by year and by the number of months in advance analysts are forecasting are reported below.
5. We wish to extend our thanks to Disclosure, Inc., and IBES for providing historical data for this study.
6. To verify that the most robust variables were utilized in this study, the percentage change in institutional ownership and the percentage change in earnings per share are computed and used in the regressions. The percentage change in institutional ownership PCTCHGOWN is computed as $\Delta \text{PCTOWN} / \text{PCTOWN}$ and the percentage change in earnings per share PCTCHGEPS is computed as $\Delta \text{EPS} / \text{EPS}$. The variable PCTCHGOWN is regressed

on PCTCHGEPS by year and by quintile.

$$\text{PCTCHGOWN}_i = \alpha + \beta \text{PCTCHGEPS}_i + e$$

The coefficients of PCTCHGEPS are insignificant and often negative in sign. The regression results by quintile were similar and are not reported. The R^2 's are quite small. The results indicate that percentage changes in institutional ownership are not influenced by percentage changes in earnings per share forecasts.

7. It may be that some types of institutional investors follow analysts' forecasts while others do not. To test this hypothesis the PCTCHGOWN is computed separately for each of the eight types of institutional investors described earlier. The regressions were then run for each year both by standard deviation quintile and combined for each institutional type. Again, no evidence that institutional investors follow analysts' forecasts is found. The results for the quintile regressions were similar and are not reported.
8. It is possible that institutional investment decisions are influenced by the number of analysts forecasting good or bad news rather than the details of their forecast. To test this we compute the percentage of up forecasts and the percentage of down forecasts as follows:

$\text{PERUP} = \text{Number of analysts forecasting improved earnings} / \text{total number of analysts.}$

$\text{PERDN} = \text{Number of analysts forecasting deteriorating earnings} / \text{total number of analysts.}$

The following two equations are separately estimated.

$$\text{PCTOWN}_i = \alpha + \beta \text{PERUP}_i + e_i$$

$$\text{PCTOWN}_i = \alpha + \beta \text{PERDN}_i + e_i$$

While some coefficients are statistically

significant, the degree of explanatory power is very small. It appears that institutional investors do not rely upon such forecasts to any substantial degree.

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