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Factors Affecting the Information Content of Accounting Earnings

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Contents

Ⅰ. Introduction

Since the seminal work of Ball and Brown (1968), numerous researchers have investigated the association between unexpected earnings and unsystematic security returns. Some of these 'information content of accounting earnings' studies have examined the association between the signs (e.g., Ball and Brown (1968)) or magnitudes (e.g., Beaver, Clarke and Wright (1979)) of annual earnings forecast errors and risk-adjusted security returns. Others (e.g., Watts (1978)) have extended these studies by using

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quarterly earnings.

While generally demonstrating the importance of financial statements in that investors use accounting earnings numbers in revising their beliefs about future stock prices, some studies showed that the information contained in earnings numbers was impounded in security prices prior to the release of financial statements.[1] This indicates the existence and investors' extensive use of alternative information sources other than financial statements.

The purpose of this study is to empirically examine several factors which are presumed to affect the stock price behavior around the earnings announcement. In particular, I explore the incremental explanatory power of trading volume versus firm size with respect to cross-sectional differences in excess returns for the over-the-counter (OTC) firms surrounding the periods of annual earnings announcements.

The remainder of the paper is organized as follows. Previous studies regarding the information content of accounting earnings and relevant issues are reviewed in the next section. The hypotheses and research design are described in section 3, followed by a discussion of empirical findings. A summary of the results and direction of future research are discussed in section 5.

Ⅱ. Theoretical Background

1. Information Content of Earnings

The maintained hypothesis in 'information content' studies is that capital market is efficient with respect to publicly available information. While there exists strong controversy over the capital market efficiency, several studies [e.g., Fama (1970), Foster (1975)] reported efficiency in both exchange market and OTC market.

Grant (1980) examined the information content of annual earnings numbers for the OTC firms. The study reported significant price change, at least during the week of earnings announcement. Morse (1981), using daily returns and quarterly/annual earnings, reports essentially the same results. These studies indicate that there is positive association between the magnitude of unexpected earnings and unsystematic security returns. In this paper, I replicate Grant's study using different test periods.

1) Ball and Brown (1968) reported that 85 to 90 percent of the information about annual earnings is already reflected in security prices before the month of earnings announcement.

2. Factors Explaining Different Market Reactions

2.1 Firm Size

A financial statement has information content only if its release provides information not already reflected in prices. If more information is disseminated through alternative sources,[2] the release of financial statement will give little additional information and less 'surprise', thereby leading to lower security return variability. Therefore, the amount of information would be negatively related to the information content of earnings numbers.

Zeghal (1984) argued that firm size is positively related to the amount of information due to economy of scale in the production, storage and dissemination of information for large firms. His empirical results show that information value of earnings is inversely related to the market value of firm.

Grant (1981) reported that the annual earnings announcements of OTC firms provide more information content than those of the NYSE firms. This result implies that there is negative association between firm size and return variability surrounding the earnings announcements.[3]

2.2 Trading Volume

Despite the empirically well-documented 'size effect', there is no theory which directly associates firm size with returns behavior. If the amount of information is related to security returns variability, firm size may be, as Banz (1981) recognized, just a proxy for one or more true unknown factors correlated with size.

Morse (1980) argued that trading volume *prior to* information release may occur due to differences in beliefs about the probability distribution of information, which indicate the asymmetry in information distribution.[4] His empirical results rejected the null hypothesis of zero serial correlation of returns during the periods of high trading volume, thereby supporting his argument.

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2) Competing sources of information include statements and forecasts made by corporate officials, releases issued by brokerage firms and market-newsletter services, reports filed with SEC on insider trading, reports on changes in firm's management, registration with the SEC, and information leakages, etc.

3) Grant (1980) did not compare the size of NYSE firms with that of OTC firms. However, in a similar study, Morse (1981) documented the average total asset was $647 million for NYSE firms, but $99 million for OTC firms.

4) Asymmetrical distribution of information is not the only factor affecting trading volume. Trading may occur due to wealth changes, portfolio rebalance, and market mechanisms. See Morse (1980) for detailed discussion on this issue.

Verrechia (1979) analytically showed that the relative degree of informational efficiency depends on the number of traders. His analysis indicates that those securities with more participants will show lower excess returns than those securities with fewer market participants. He suggested trading volume, among others, as a proxy for the market participants.[5]

2.3 Other Factors

Besides firm size and trading volume, several other factors may be associated with the cross-sectional differences in abnormal returns surrounding the release of accounting earnings. Those factors include the number of news items appearing in the Wall Street Journal (or other sources), the portion of institutional holding on the shares outstanding, the number of stockholders, and the number of shares outstanding.

The preliminary investigation of institutional holdings and news items in the WSJ showed that they are highly positively correlated with firm size and trading volume (see Table 4). Thus, the rest of this paper will focus on two factors : firm size and trading volume.

Ⅲ. Research Design

1. Hypotheses

Discussion in the preceding section suggests the following two research hypotheses (in a *null* form) to be tested in this study :

Hypothesis 1 : There is no association between trading volume prior to earnings announcements and the magnitude of unsystematic security returns surrounding the periods of earnings announcements.

Hypothesis 2 : There is no marginal explanatory power of trading volume versus firm size with respect to unexpected security returns surrounding the periods of earnings announcements.

2. Data

A sample of 20 OTC firms was selected.[6] The announcement dates of annual earnings were obtained form the Wall Street Journal (WSJ) Index. Weekly price and trading vol-

5) Other proxies suggested by Verrechia (1979) for the measure of market participants include number of shares outstanding, number of stockholders, and market value of a firm.

6) This sample consists of the firms I used in another research, where OTC firms were matched with listing firms based on the amount of asset.

ume data from January 1973 to December 1976 were taken from the Standard and Poor's (S&P) Daily Stock Price Record. Bid price was used as the measure of price. The earnings per share (EPS) and book value of asset were collected from the Moody's Mannuals. To ensure that the sample represents OTC firms, the sample firms must be traded in OTC at least up to the year 1978. The frequency distribution of fiscal year ends and earnings announcements for the sample firms is presented in Table 1.

Table 1. Frequency of Fiscal Year Ends and Earnings Announcement Months

Panel A :	Fiscal Year Ends	
Months	Number	Percent
January	1	5
June	3	15
August	1	5
September	2	10
October	2	10
December	11	55
Total	20	100
Panel B :	Earnings Announcements	
Months	Number	Percent
January	3	15
February	7	35
March	1	5
April	1	5
August	3	15
September	1	5
November	2	10
December	2	10
Total	20	100

3. Measurement of Variables

3.1 Information Content

To remove the effect of market-wide events on the individual security returns, following 'market model' was estimated :

$$R_{it} = \alpha_i + \beta_i RMt_t + u_{it} \quad (1)$$

where

$R_{it} = (P_{it} - P_{i,t-1})/P_{i,t-1}$: return on stock i during week t

$RM_t = (SP_{it} - SP_{i,t-1})/SP_{i,t-1}$: return on market portfolio during week t

P_{it} = price of security i at the end of week t

SP_{it} = S&P's 500 composite index at the end of week t

u_{it} = residual term; $E(u_{it})=0$, $Cov(RM_{it}, u_{it})=0$, $Cov(u_{it}, u_{jt})=0$

α_i and β_i were estimated by time-series ordinary least square(OLS) regression. The periods used in this estimation procedure are fifty weeks (t=-30 to -6, and t=6 to 30; where t=0 is earnings announcement week). These estimates were then used to compute the residuals (unexpected or abnormal returns) u_{it}'s during the eleven week test period (t =-5,...0,...5).

If the annual earnings announcement has information content, the $(u_{it})^2$ for t=0 should be greater than the sample variance of residuals from estimation. Beaver (1968) proposed following statistic for the measure of information content :

$$U_{it} = (u_{it})^2/S^2(u_{it}) \quad (2)$$

where $S^2(u_{it}) = [\sum(u_{it})^2]/T-2$: sample variance of residuals (T=50). If we assume that u_{it} is normally distributed with $E(u_{it})=0$ and $Var(u_{it})=\sigma^2$, U_{it} will follow chi-square distribution with one degree of freedom when the null hypothesis is true [$(u_{it})^2 = S^2(u_{it})$], assuming that $S^2(u_{it})$ is unbiased estimator of true variance [i.e., $S^2(u_{it}) = \sigma^2$].

To examine the association of several factors with security return variability, following cumulative abnormal return metric was used.

$$CAR_{ik} = \sum_{t=-k}^{k'} u_{it}$$

where $u_{it} = R_{it} - (\alpha_i + \beta_i RM_t)$, and k, k′ denote weeks over which u_{it}'s are cumulated. In this study, two cases of k=k′=5 and k=5, k′=0 were used.

3.2 Earnings Forecast Error

A simple random walk model was used as a surrogate for the market's expectations of annual earnings. This model assumes that current year earnings are expected to be equal to the previous year's earnings. Thus, the information signal provided in annual earnings announcement is defined as :

$$SUE_{it} = \frac{EPS_{it}-EPS_{i,t-1}}{|EPS_{i,t-1}|}$$

where $|EPS_{i,t-1}|$ = absolute value of annual earnings per share for firm i in year t.

4. Empirical Models

The first hypothesis to be tested is the degree of association of cumulative abnormal return with earnings forecast error, firm size and trading volume. The empirical model used to test this association is the following cross-sectional regression equation :

〈Model 1〉

$$|CAR_i| = \alpha+\beta_1|SUE_i| + \beta_2 SIZE_i + \beta_3 VOL_i + \varepsilon_i \qquad (3)$$

where

$|CAR_i|$ = absolute value of cumulative abnormal return,
$|SUE_i|$ = absolute value of standardized unexpected earnings,
$SIZE_i$ = natural logarithm of the book value of asset,
VOL_i = average weekly number of shares traded during the estimation periods (t=-30,...,6 and t=6,...,30).

The first independent variable, $|SUE_i|$, represents the magnitude of information signal contained in the financial statement. The results of previous researches suggest a positive relationship between the magnitude of unexpected earnings and that of abnormal returns surrounding the periods of earnings announcements. Thus, it is expected that β_1 will be positive.

The second independent variable, SIZE, proxies the amount of non-accounting information available to a specific firm. The third variable, VOL, is intended to proxy for the asymmetrical distribution of information or the number of market participants. The review of previous research in section 2 suggests that both variables are inversely related to the unsystematic security returns. Thus, both β_2 and β_3 are expected to be negative.

Formally, these predictions can be stated as the following hypotheses :

H1-A : $H_o : \beta_1 = 0$, $H_a : \beta_1 > 0$
H1-B : $H_o : \beta_2 = 0$, $H_a : \beta_2 < 0$
H1-C : $H_o : \beta_3 = 0$, $H_a : \beta_3 < 0$

To test the Hypothesis 2 regarding incremental expanatory power of trading volume versus firm size, the following two stage regression models are used.

〈Model 2〉

Stage I : $VOL_i = a + bSIZE_i + W_i$

Stage II : $|CAR_i| = \alpha + \beta_1 SIZE_i + \beta_2 W_i + e_i$

〈Model 3〉

Stage I : $SIZE_i = c + dVOL_i + Z_i$

Stage II : $|CAR_i| = \gamma + \theta_1 VOL_i + \theta_2 Z_i + \varepsilon_i$

Model 2 is intended to examine the marginal explanatory power of trading volume over firm size variable with respect to cumulative abnormal returns. In the first stage, trading volume was regressed on firm size to obtain residuals (W) which is, by construction, orthogonal to the varable SIZE. In the second stage, CAR is regressed on both SIZE and W. If trading volume possesses explanatory power, not provided by firm size, the regression coefficient of W (β_2) should be different from zero.[7]

If firm size variable has incremental explanatory power over trading volume, the regression coefficient of Z (θ_2) in Model 3 should be different from zero. Thus, Hypothesis 2 can be stated formally as follows :

H2-A : $H_0 : \beta_2 = 0$, $\quad H_a : \beta_2 < 0$

H2-B : $H_0 : \theta_2 = 0$, $\quad H_a : \theta_2 < 0$

Ⅳ. Empirical Results

1. Test for the Information Content of Earnings

The descriptive statistics regarding the estimation of market model (1) are presented in Table 2. The average of estimated β, the measure of systematic risk, is 0.6839 and this result is comparable with that of Grant (0.844) and Morse (0.650). The summary statistics for information content measure are shown in Table 3. The cross-sectional means of the U-statistic, stated in equation (2), are reported for eleven weeks of the test periods (t=-5, . . . , 0, . . . 5). For the week of earnings announcements (t=0), the U-

7) For the detailed discussion on the application of two stage regression method to accounting and finance research, see Beaver (1984). For econometric properties of this method, see Johnston (1984, pp. 472-483). An example of research using this methodology is Beaver, Griffin and Landsman (1982).

statistic of 2.7455 is significant at 5% level. This result is consistent with that of Grant (1980), and leads to the conclusion that annual earnings number has information content.

Table 2. Summary of Market Model Estimation

$R_{it} = \alpha_i + \beta_i RM_t + U_{it}$

Parameter	Mean	Std. Dev
α	0.0044	0.0042
β	0.6839	0.4376
Adj R^2	0.1561	0.1683

2. Test of Hypothesis 1

As a preliminary step to test Hypothesis 1, cumulative abnormal returns (CAR) was related to several factors. Two measures of CAR were used. The first masure (CARA) is the unsystematic return cumulated over all the test periods (t=-5 to 5), while the second one (CARB) is cumulated over the periods before and at the announcement week (t =-5 to 0).[2] The second measure was used because the results in Table 3 indicate relatively significant security return variability during those periods compared with other periods.

Table 3. Information Content of Earnings

$U_{it} = (u_{it})^2 / S^2(u_{it})$

t	Mean	Std. Dev
-5	1.9484*	3.1054
-4	1.5476*	2.9117
-3	2.0529*	3.0443
-2	0.6696	1.0432
-1	1.2198	2.3246
0	2.7455**	3.3734
1	1.3550*	2.2600
2	0.8749	1.6842
3	0.7114	0.8684
4	0.6918	1.1508
5	1.2894	1.9882

* significant at $\alpha=0.10$; ** significant at $\alpha=0.05$

8) Besides these two measures, I applied several CAR metrics using different combinations of periods. The rsults are similar to those reported.

The descriptive statistics for the variables used are presented in Table 4. The mean of total asset is $244.15 million, and the average weekly trading volume prior to earnings announcements is 18,778 shares. The correlation coefficients between CARs and unexpected earnings (SUE) are positive, and those between CAR and other information variables are all negative as expected. The correlation coefficient between asset size and trading volume is 0.456.

Table 4. Descriptive Statistics and Correlations Among Variables

Var	Mean	Std. Dev.	|CARB|	SUE	SIZE	VOL	IH	NEWS
|CARA|	0.180	0.131	0.600	0.187	-0.101	-0.119	-0.189	-0.039
|CARB|	0.115	0.127		0.102	-0.193	-0.355	-0.301	-0.257
SUE	0.435	0.471			-0.342	-0.196	0.039	-0.180
SIZE	244.15	362.13				0.456	0.406	0.443
VOL	187.78	256.97					0.535	0.329
IH	3.48	4.13						0.238
NEWS	7.70	4.01						1.000

SIZE = amount of total asset ($Million)
VOL = average number of shares traded weekly during estimation period
IH = institutional holding of securities (%)
NEWS = number of news items in the WSJ.

To test the hypotheses H1-A, H1-B and H1-C, the regression model 1 (equation (3)) was estimated and the results are presented in Panel A of Table 5. The results show positive coefficient (β_1) for SUE, and negative coefficients (β_2 and β_3) for SIZE and VOL. While the direction of association is consistent with predictions, these results are statistically insignificant. Only the coefficient (β_3) of VOL is relatively significant at around 10% level when CARB is used as dependent variable.

Since SIZE and VOL are highly correlated, multicollinearity problem may lead to above results. Thus, regression models without either SIZE or VOL, and simple regression models were estimated. The results in Panel B through Panel E of Table 5 provide the same conclusion. Only H1-C (Hypothesis 1) can be rejected around 5% of significance level when CARB was used as a measure of CAR. However, both H1-A and H1-B cannot be rejected.

The above results provide weak but consistent evidence that trading volume *prior to* earnings announcements is negatively associated with the magnitude of abnormal returns during the periods before and at the announcement date.

Table 5. Regression Analysis : Cumulative Abnormal Returns on Unexpected Earnings and Information Variables

Panel A	Model : $Y_i=\alpha+\beta_1\|SUE_i\|+\beta_2 SIZE_i+\beta_3 VOL_i+\varepsilon$	
	Y=|CARA|(-5, +5)	Y=|CARB|(-5, 0)
β_1	0.046 (0.646)	0.007 (0.102)
β_2	-55.951 (0.020)	-297.015 (0.113)
β_3	-0.043 (0.303)	-0.166 (1.279)*
Adj R^2(%)	4.19	12.79
Panel B	Model : $Y_i=\alpha+\beta_1\|SUE_i\|+\beta_2 SIZE_i+\varepsilon_i$	
	Y=|CARA|(-5, +5)	Y=|CARB|(-5, 0)
β_1	0.047 (0.699)	0.011 (0.160)
β_2	-418.576 (0.168)	-1712.240 (0.708)
Adj R^2(%)	3.64	3.90
Panel C	Model : $Y_i=\alpha+\beta_1\|SUE_i\|+\beta_2 VOL_i+\varepsilon_i$	
	Y=|CARA|(-5, +5)	Y=|CARB|(-5, 0)
β_1	0.046 (0.701)	0.009 (0.145)
β_2	-0.044 (0.354)	-0.172 (1.508)**
Adj R^2(%)	4.19	12.72
Panel D	Model : $Y_i=\alpha+\beta\ SIZE_i+\varepsilon_i$	
	Y=|CARA|(-5, +5)	Y=|CARB|(-5, 0)
β	-998.102 (0.432)	-1844.216 (0.834)
Adj R^2(%)	1.03	3.72
Panel E	Model : $Y_i=\alpha+\beta\ VOL_i+\varepsilon_i$	
	Y=|CARA|(-5, +5)	Y=|CARB|(-5, 0)
β	-0.061 (0.508)	-0.175 (1.612)**
Adj R^2(%)	1.42	12.61

The values in parentheses indicate t-values (one-tail test).
* significant at $\alpha<0.10$; ** significant at $\alpha<0.05$;

3. Test of Hypothesis 2

Given the fact that trading volume and, though insignificant, firm size are negatively associated with unsystematic security returns, high but imperfect correlation between those two variables indicates that there is some differential explanatory power. To test the

hypothesis H2-A regarding the marginal explanatory power of trading volume over firm size, two stage regression equations (Model 2) were estimated, and the results are presented in Panel A of Table 6. In the first stage, trading volume was regressed on firm size to get the portion of trading volume not explained by firm size.

Table 6. Two Stage Regression Analysis

Panel A : Model 2	Stage I : $VOL_i = a + bSIZE_i + W_i$	
	Y = |CARA|(-5, +5)	Y = |CARB|(-5, 0)
b	8828.769 (2.175)**	
Adj R^2(%)	16.40	
	Stage II : $Y_i = \alpha + \beta_1 SIZE_i + \beta_2 W_i + e_i$	
	Y = |CARA|(-5, +5)	Y = |CARB|(-5, 0)
β_1	-0.010 (0.421)	-0.018 (0.852)
β_2	-0.050 (0.340)	-0.167 (1.325)*
Adj R^2(%)	0.10	2.50
Panel B : Model 3	Stage I : $SIZE_i = c + dVOL_i + Z_i$	
	Y = |CARA|(-5, +5)	Y = |CARB|(-5, 0)
d	2.360 (2.175)***	
Adj R^2(%)	16.40	
	Stage II : $Y_i = \gamma + \theta_1 VOL_i + \theta_2 Z_i + \varepsilon_i$	
	Y = |CARA|(-5, +5)	Y = |CARB|(-5, 0)
θ_1	-0.062 (0.507)	-0.176 (1.576)**
θ_2	-0.006 (0.220)	-0.004 (0.180)
Adj R^2(%)	0.10	2.50

The values in parentheses indicate t-values (one tail test).
* significant at $\alpha < 0.10$; ** significant at $\alpha < 0.05$;
*** significant at $\alpha < 0.01$.

The t-statistic for the coefficient of SIZE variable is 2.175 and significant at 5% level. The adjusted R^2 (0.164) also indicates that trading volume and firm size are highly positively correlated. In the second stage, CAR was regressed on both SIZE variable and residuals from the first stage regression. The coefficient (β_2) of the residual (W) is negative and significant, though weak, around 10% level. Thus, we reject the null hypothesis H2-A.

The results of testing hypothesis H2-B are presented in Panel B of Table 6. Although we cannot reject the hypothesis, there still exists negative association (only in terms of sign) between SIZE and CAR even after removing the influence of trading volume.

Based on above analysis, I tentatively conclude that trading volume, even after extracting the effect of firm size, provides additional explanatory power with respect to cross-sectional differences in abnormal returns surrounding the periods of annual earnings announcements.

V. Conclusion

The main purpose of this study was to examine several factors which affect the unexpected security returns around the annual earnings announcements for the OTC firms. The results provide weak but consistent evidence that trading volume *prior to* the release of financial statement is inversely related to the unsystematic security returns. More importantly, this study reveals that trading volume is more highly associated with abnormal returns than is firm size surrounding the release of annual earnings.

However, these results should be interpreted with caution due to the following limitations. First, this study used only 20 firms and one year earnings announcement. In addition to this small sample problem, sample selection was not random (see footnote 6). Second, the estimation of risk (β) from OLS would be biased because infrequent trading is usual for the securities of OTC firms. Scholes and Williams (1977) argued that the measurement of returns from infrequently traded securities would lead to errors-in-the-variables problem. With this problem in the market model, OLS estimators are downward-biased and inconsistent. This biasedness would affect the calculation of CAR, and thus the results of study.

Following limitations are related to the measurements of variables : (1) Total book value of asset was used as a measure of firm size. However, market value of firm may be more appropriate measure of firm size as a proxy for amount of information. (2) the absolute number of shares trading was used for trading volume variable. Since trading volume was used as a proxy for degree of market participation or asymmetrical information distribution prior to information release, the relative measure of trading volume [e.g., (number of shares trading)/(total number of shares outstanding)] may be more appropriate for that proxy. (3) Naive random walk model was assumed to measure unexpected earnings. As employed by previous researchers [e.g., Watts (1978)], more

elaborate expectation models (e. g., time-series models) should be used to examine the sensitivity of the results.

Finally, this study may be subject to well-known methodological problems in event studies such as event date clustering and confounding effects. Collins and Dent (1984) argued that cross-sectional correlations of the dependent variables are severe problem when we have clustering of event time and industry, and this would distort the test results. The distribution of earnings announcement dates (Table 1) indicates the possible existence of event date clustering problem. Also, when using weekly data, confounding effects are more likely. The abnormal returns will be affected by other events (e. g., dividend announcements) as well as earnings announcements.

To draw definite inference, larger and randomly selected sample including the listed firms should be used in the future research. Furthermore, methodological refinement which incorporates the above-mentioned limitations, and use of daily returns and quarterly earnings announcements should be considered. Another interesting issue to be examined is differential market reaction to earnings (or dividends) announcements between listing firms and OTC firms. Previous studies regarding this issue provide inconsistent results. Grant (1981) reported significantly different reactions, while Morse (1980) documented no difference.

Given the well-documented effect of firm size on security return variability, findings by Grant (1981) may result from the difference in size, or possibly trading volume between listing firms and OTC firms. Morse (1980)'s finding is consistent with the 'trading volume effect' in this study. The reason is that although his sample shows significant difference in firm size between listing firms and OTC firms, he implicitly controlled for trading volume by selecting only frequently traded (90% of the trading days) OTC firms. For example, the comparison of market reaction to earnings announcements between listed firms and OTC firms after controlling for firm size and/or trading volume may be an interesting issue to be investigated.

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〈국문초록〉

회계이익공시의 정보효과에 영향을 미치는 요인

이 경 주

본 연구의 목적은 연간회계이익의 공시에 따른 주가의 변동, 즉 정보효과(information content)에 영향을 미치는 요인들에 대하여 실증적인 분석을 수행하는 것이다. 특히, 기존의 연구문헌에서 단편적으로 취급되어진 기업규모(firm size)와 주식거래량(trading volume)의 초과수익율에 대한 영향의 상대적 크기를 분석하였다. 일반적으로 기업규모는 투자자들에게 이용가능한 정보의 양을, 주식거래량은 정보분포의 불균형(asymmetry)을 나타내는 것으로 인식되고 있다. 그러나, 지금까지의 연구에서는 회계이익공시의 정보효과가 기업에 따라 달라지는 하나의 이유로서 기업규모의 역할이 주로 다루어졌다. 이와는 달리, 본 연구에서는 주식거래량에 연구의 초점을 두었으며(가설 1), 특히 회계이익공시에 따른 초과수익율에 대한 기업규모와 주식거래량의 상대적 설명력 (marginal explanatory power)을 비교분석 하였다 (가설 2).

미국의 장외시장(over-the-counter)에서 거래되는 주식 20개를 대상으로 1973-1976년의 주별(weekly) 주식수익율 및 거래량 자료를 이용한 실증분석 결과는 다음과 같이 요약된다. 첫째, 기존의 연구에서와 같이 회계이익이 공시되는 시점을 전후하여 주식수익율의 변동이 매우 크게 나타났으며, 이는 통계적으로 유의하였다. 이것은 회계이익이 정보효과를 가지고 있음을 보여주는 것이다. 둘째, 기업규모 뿐만 아니라 주식거래량도 초과수익율과 부(-)의 관계를 갖는 것으로 나타났다. 비록 이 결과는 통계적으로 유의하지는 않았으나, 이론적 예측과 일치하는 것이다. 세째, 기업규모에 의해서 설명되는 부분을 통제한 후에도 주식거래량은 초과수익율에 대하여 통계적으로 유의한 설명력을 보여주고 있다. 이것은 기업규모에 비해 주식거래량이 회계이익공시의 정보효과에 상대적으로 보다 중요한 영향을 미친다는 것을 시사하는 것이다.