

Stock Market Reaction to Going Concern Audit Reports:

Further Evidence

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ABSTRACT:

This paper examines the abnormal stock returns associated with going concern audit reports. In this paper it is first hypothesized that there is an abnormal stock reaction around the going concern audit report date, and secondly that the auditees agency costs affect the degree of market reaction to going concern audit reports. To empirically test the hypotheses, abnormal stock returns on the audit report date are analyzed for 310 U.S. companies. The results of the study provide evidence of a negative abnormal stock market reaction on and around the day the going concern audit report is dated. Furthermore the results show that there is a relationship between abnormal stock returns and agency costs, i.e. the level of management ownership and free cash flow. These findings provide new evidence to the event day puzzle of audit report announcements. Additionally the results indicate that agency costs can be used to some extent to explain the market reactions to going concern audit reports on the audit report date.

Keywords: audit report, going concern, market reaction, agency cost

Data availability: The data are available from public sources

1. Introduction

The responsibility of auditors is to assess the client's financial statements and financial position. If the financial statement fails to give a true and fair view of the auditee or uncertainties about the future exists, the duty of the auditors is to disclose missing information or to emphasize information included in the financial statements. Empirical evidence that such a disclosure, the audit report, affects investment decisions in the stock markets is mixed. Whereas some studies report significant share price adjustments to modified audit report announcements (e.g. Firth 1978, Chow and Rice 1982, Choi and Jeter 1992, Chen and Church 1996, Carlson, Glenzen and Benefield 1998, Chen, Su and Zhao 2000, Soltani 2000, Taffler, Lu and Kausar 2004) others do not detect such a reaction (Baskin 1972, Alderman 1977, Davis 1982, Elliot 1982, Dodd, Dopuch, Holthausen and Leftwich 1984, Ameen, Chan and Guffey 1994 and Martínez, Martínez and Benau 2004). According to Martinez et al. (2004), research on information content of audit reports has suffered from methodological weaknesses in the early studies, while the identification of the correct event date has been a major concern in later studies.

This paper focuses on the stock market reaction to going concern audit reports. In particular, the first purpose of this study is to further analyze the event day puzzle by focusing on one event day that has not received much attention, the audit report date. Second, this study examines whether agency theory explains the reaction of stock prices to going concern audit reports. It is hypothesized that management ownership and free cash flow influences the relevance of information contained in a going concern audit report. Agency costs are determined by the conflict of interest between the management and the shareholders. Since the purpose of auditing is to monitor and

assure that the management discloses true and sufficient information about the financial performance of the company, the relevance of this information is affected by the severity of conflict of interests. Abnormal stock returns of the firms that received a going concern audit report measure the relevance of the information to the investors.

The contribution of this study is twofold. First, this study provides new evidence on the event day puzzle associated with studying audit reports and stock market reactions. Crashwell (1985) concluded his analysis that the event day problem could be a possible reason for heterogeneous results concerning the relationship between qualified audit reports and stock prices. Since Crashwell (1985) many studies have most commonly still used the day of annual financial report announcements as the event day (eg. Chen et al. 2000), while some have also reported experiments with alternative dates. Soltani (2000), for instance, used three experimental event days: (i) date of the auditor's signature on the audit report, (ii) 15 days before the day of the general annual meeting, and (iii) average between auditor's signature and 15 days before the general annual meeting.

Second, this study focuses on the relationship between management ownership and free cash flow and abnormal returns of a firm that receives a going concern audit report. Previous studies concerned with modified audit reports have controlled for the influence of different financial and earnings variables, but agency variables have not been examined (Chen et al. 2000, Martinez et al. 2005 and Carlson et al 1998, Chen and Church 1996). Management ownership and free cash flow both affect the conflict of interests between the management and the owners (Jensen 1986, 1989). The greater the conflicts are the more need there is for auditing (Chow 1982). Chen et al. (2000)

studied the reactions to modified audit reports and controlled for the effects of concurrent annual report announcements in the Chinese market. Martinez et al. (2005) tested the reactions of the Spanish stock markets by comparing abnormal returns between an experimental group and a control group. Carlson et al (1998) used a pair matched sample of going concern audit reports and non-going concern audit reports while controlling for financial statement ratios that financial statement users analyze when evaluating a company's financial condition. Chen and Church (1996) test the difference between the bankruptcy filing date excess returns of going concern report firms and unqualified firms. They control for the financial profile, stock price performance in the preceding year and media disclosures of financial difficulties.

The results of this study may have important implications for auditors and accounting regulators. Since the auditing business has become increasingly complex, the auditors need to reduce the risk that is involved in auditing a client in financial distress. Identifying determinants in the client that affect the relevance of the auditor's reporting to investors can be useful in planning the auditing. Accounting regulators also may need to consider agency problems in defining requirements for accounting information disclosure or requirements for mandatory auditing.

The remainder of the paper is organized as follows. The following section discusses the stock market reactions to modified audit reports and agency theory. Section 3 describes the data and section 4 the methodology used. The empirical results are presented in Section 5. Section 6 concludes the findings of the study.

2. Stock market reactions to audit reports and agency theory

Considerable evidence exists supporting the simultaneous or delayed correlation between earnings information and stock price changes (Ball and Brown 1968; Bernard and Thomas 1989). However, as Lev (1989) reported, earnings explain only a fraction of the change in returns at the earnings announcement date. Due to this, accounting researchers have explored market reactions with other financial information (Ou and Penman 1989; Livnat and Zarowin 1990; Sloan 1996). One such source of information is the audit report. Audit reports have the potential to change the market responsiveness to earnings by adding (reducing) noise or reducing (increasing) the persistency of reported earnings (Choi and Jeter 1992).

2.1. Event date puzzle

A going concern audit report may convey information that shifts owners' perceptions of a firm's risk and therefore decreases owners' expectations of future cash flows and stock performance. By conveying incremental information to the financial statement users, the issuance of a going concern audit report is likely to have a negative effect on that firm's stock price. (Carlson et al. 1998)

Crashwell (1985) concluded that "because the evidence is contradictory and inconsistent, it is not possible to make general statements about the information content of audit qualifications". Several studies have been done since this conclusion, but nearly two decades later Martinez et al. (2004) argue in their review that research has still not provided any absolutely conclusive results. They also propose that the

market is able to anticipate the information disclosed in an audit report before it becomes public and thus the information is already discounted into the stock prices when it arrives (Martinez et al. 2004).

A wide range of recent studies have devoted considerable effort on trying to identify the date when the investors had knowledge of the auditors' report. Dodd et al. (1984) devoted attention to analyze the announcement date of the audit qualification. Based on their investigation they decided to focus on the announcement of the 10-k or annual report. Dopuch, Holthausen and Leftwich (1986) found evidence of a significant negative stock market reaction to media disclosures of qualified audit reports. Chen et. al (1996) investigated the association between going concern audit reports and market reactions to bankruptcy filings. The results indicated that going concern audit reports contains information that is useful in predicting bankruptcy. Carlson et al. (1998) used a matched pair -method to analyze differences in stock market performance of firms receiving going concern audit report and firms with no going concern audit report. They found significant differences in mean stock returns for the two groups. Soltani (2000) presented significant negative abnormal returns for French firms around the estimated announcement dates of audit reports. Soltani (2000) defined the event date as the fifteenth day before the annual general meeting of each company. Martinez et al. (2004) used the earlier of the two dates; the fifteenth day before the annual general meeting or the date when the Spanish Stock Exchange Commission makes the financial statement and audit report available. They found that qualified audit reports have no information value for investors.

To conclude, a going concern audit report may contain information that shifts owners' perceptions of a firm's risk and therefore decreases owners' expectations of future cash flows and stock performance. By conveying incremental information to the financial statement users the issuance of a qualified audit report is likely to have a negative effect on that firm's stock price. (Carlson et al. 1998)

Based on the previous literature, it is hypothesized that:

H₁: Going concern audit reports are associated with negative abnormal stock reactions, measured on the audit report date.

The choice of this date is based on suggestions in previous literature. Although audit report date has been discussed in previous studies, no results have been reported regarding this event date (Soltani 2000). In this study we consider the audit report date (i.e. the date typed by the auditor on the audit report) to be the first possible day when the auditor's assessment of the firm is transmitted to the market.

2.2. Agency theory and stock market reactions to going concern audit reports

The existing audit and accounting literature suggests that agency factors have a strong influence on various aspects of accounting and auditing issues. Firms demand external auditing due to the management's and owners' conflicts of interests (Chow 1982). An essential purpose of auditing is to provide owners with the information that is required by the accounting rules if the financial statement information is not sufficient or accurate. Therefore, the auditor's report is an important part of the audit system, since

the audit report is the instrument that auditors use to communicate the results of the audit to the owners.

Due to the information asymmetry between the management (insiders) and owners (outsiders), the audit report relevance obviously has a negative relationship with management ownership. Or as Jensen (1986) suggests, agency costs are lower for firms with high levels of management ownership since the managers' interest are more likely to be aligned with those of the owners' when they own a larger proportion of the shares.

As a consequence, it can be hypothesized that monitoring, including audit report information, is more relevant in firms with low management ownership:

H₂: There exists a positive relationship between management ownership and abnormal stock returns after going concern audit report announcements.

Based on the theory of Jensen and Meckling (1976) and Jensen (1986, 1989), the agency problem is more severe in firms with higher free cash flow (FCF). This is because large cash reserves provide managers more choice as to where to use the funds. Auditing can be seen as a mean to monitor managers' behavior and thus auditing can reduce this problem. Therefore, it can be hypothesized that monitoring, including audit report information, is more relevant in firms with high free cash flow:

H₃: There exists a negative relationship between free cash flow and abnormal stock returns after going concern audit report announcements.

3. Data

The sample consists of firms listed in the US stock markets. A search in the Thomson Financial Worldscope database identified 636 firms (financial services industry excluded) that have received a modified audit report from financial years ending 2002–2005. Finally, a first time going concern audit report and stock price data was found from public sources for 310 firms. First time going concern audit report is defined in this study as the audit report with the previous period audit report being unqualified. The going concern audit reports and audit report dates are searched from the SEC Edgar database. Thomson Financial Worldscope database contains the information needed for estimating the dependent variable and the information of the agency variables as well as control variables. The independent variables data used in the regression analysis are available for 237 firms.

4. Methodology

Abnormal stock returns around the audit report date is investigated by applying the risk adjusting methods based on stock market information. Here, the abnormal returns, AR_{it} , are determined by using the market model adjusted daily return. Daily stock returns for the sample in this paper are calculated as differences in logarithmic price indices. Stock returns are determined in the basis of closing price data from the U.S. stock markets.

The market's reactions to the audit report information are investigated during the event period. The event period begins one trading day before and ends one trading day after the audit report date. Audit report date is the day that is printed on the audit

report. An estimation period of 200 days precedes the event day. Therefore, stock price data must be available for both the event period and the estimation period for the observation to be selected for the analysis.

Abnormal return is here defined as the market model adjusted daily abnormal return (AR), with the return of the Russell 3000 Index being used as a proxy for the market return (R_m).

$$(1) AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

Where:

$AR_{i,t}$ = Abnormal return for firm i at time t

$R_{i,t}$ = Return for firm i at time t

$R_{m,t}$ = Return of the market at time t (Russell 3000)

The parameters α and β in the market adjusted model are estimated for each firm using daily stock returns for the previous 200-days period.

In addition to the average abnormal returns on individual days in the event period, also the cumulative abnormal returns are investigated. The cumulative average abnormal returns are calculated for three different event windows in the event period. The standard t-statistic is applied to test H_1 , i.e. whether the abnormal returns in the event window are statistically significantly different from zero.

To empirically test H_2 and H_3 , the following regression model with abnormal returns (AR) as the dependent variable and management ownership (MANOWN) and free cash flow (FCFA) as the experimental variables and SIZE, debt to assets (DA), return on assets (ROA), QUICK ratio, price to earnings (PE) and price to book ratio (PB) as control variables is estimated:

$$(2) AR_i = \alpha + \beta_1 MANOWN_i + \beta_2 FCFA_i + \beta_3 SIZE_i + \beta_4 DA_i + \beta_5 ROA_i + \beta_6 QUICK_i + \beta_7 PE_i + \beta_8 PB_i + e,$$

Where:

MANOWN = logarithm of percentage of closely held shares

FCFA = free cash flow divided by total assets

SIZE = logarithm of total assets

DA = percent of total debt to total assets

ROA = Return on assets

QUICK = quick ratio

PE = stock price divided by earnings

PB = stock price divided by book value

Management ownership (MANOWN) is the logarithm of the closely held shares percent. Following Lehn and Poulsen (1989) the free cash flow is divided by total assets to form the variable (FCFA). SIZE is the logarithm of total assets and is used to control the firm size. Total debt to total assets ratio (DA), return on assets (ROA), quick ratio (QUICK), price to earnings (PE), price to book (PB) along with SIZE are used as control variables. These measures are selected based on the literature (eg. Gul & Tsui 1998, 2001 and Nikkinen & Sahlström 2004) and they have the potential to affect the severity of the information contained in a going concern audit report.

The control variables used are all related to the risk of the investment which is the most important factor for the owners when digesting the audit report information. Size of the firm is one of the most important control variables, because investments in larger firms are generally considered to be safer and the information environment richer (eg. Mitra and Cready 2005), return on assets measures the profitability of the firm and proxies the safety of the investment because profitable firms are less likely to

fail (Lev and Nissim 2006). Respectively, quick ratio and price to book ratio are additional variables that proxy for the risk of the firm going into bankruptcy.

Table 1 presents descriptive statistics for the variables used in the analysis and Table 2 the correlation matrix of the variables used in the regression analysis.

[Table 1 about here]

[Table 2 about here]

To reduce the influence of outliers, all variables are winsorized at two standard deviations from the mean (see e.g. Bernard and Thomas 1990). All tests have been run with winsorized and unwinsorized data.

5. Results

5.1. Event day puzzle

Table 3 presents the results of the t-test. Results are reported for the abnormal stock returns in periods [-1], [0], [+1] and cumulative abnormal stock returns for period [-1, +1], [-1, 0] and [0, +1]. In Panel A the mean abnormal returns (AR) are all negative, however they are moderate (under 1 percent) and the results from the t-statistic are statistically insignificant. The results for cumulative abnormal returns are as well insignificant. Consequently, so far we cannot accept H_1 .

However, the results from the t-statistic in Panel B are statistically significant on the day after the event day [AR +1] and also on all three cumulative abnormal return

periods [-1, +1], [-1, 0] and [0, +1]. This indicates that a statistically significant abnormal stock reaction can be observed not only one day after the auditor dates the going concern audit report but also around the event day when examining the 2-3 days cumulative abnormal return periods.

[Table 3 about here]

In general, the results indicate that there is some evidence in this sample of a relationship between abnormal stock returns and going concern audit reports in the period surrounding the audit report date. As previously discussed, identifying the first day trade takes place after the audit report information becomes available is one of the most important problems that this field of research has to deal with. In this study, we assume that the information from the audit report becomes publicly available on the same day as the auditor dates the document. It should be noted that the issue of how this information is transmitted to the markets is ignored in this paper.

The results presented in Table 3 give some support for the H₁. In particular, after winsorizing the most extreme observations there is evidence of a significant negative stock market reaction one day after the going concern audit report date and some evidence of a reaction in the two to three day periods surrounding the event day. The result extends the previous literature, specially that of Soltani (2000), but also others putting effort on solving the event day puzzle (eg. Dodd et. al 1984, Martinez et al. 2004).

5.2. Agency theory and stock market reactions to going concern audit reports

Table 4 presents the results from the regression analysis. Results are reported for the abnormal stock returns (AR) in periods [-1], [0], [+1] and cumulative abnormal stock returns (CAR) for periods [-1, +1], [-1, 0] and [0, +1]. The results in Panel A show that the agency cost variables management ownership (MANOWN) and free cash flow (FCFA) both have a statistically significant relationship with abnormal returns on the audit report date [AR 0]. Furthermore, management ownership (MANOWN) and free cash flow (FCFA) also have a significant relationship on the cumulative abnormal returns in period [CAR 0, +1]. Table 4, Panel A shows that free cash flow (FCFA) has a significant relationship with abnormal returns in all measured periods.

Most importantly, however, as the agency theory suggests the regression estimates illustrate that management ownership (MANOWN) has a positive relationship and free cash flow (FCFA) a negative relationship with abnormal returns on the event day [AR 0] and cumulative abnormal returns in period [CAR 0, +1], i.e. the level of the firm's agency costs affect the reactions of stock markets to going concern audit reports.

In Panel B, after winsorizing the most extreme observations in the data, the results are still essentially the same. The most substantial difference can be observed in the relationship between the abnormal (AR) and cumulative abnormal returns (CAR) and free cash flow (FCFA). In Panel B free cash flow (FCFA) has a negative and statistically significant (under 10-percent level) relationship only with the abnormal

returns on the event day [AR 0], whereas in Panel A the relationship is statistically significant (under 1-percent level) in all periods.

In general, the results indicate that firm specific agency variables management ownership and free cash flow explain the abnormal returns on the going concern audit report date. As suggested by the theory, the results show that management ownership has a positive relationship with abnormal returns on the going concern audit report date, which means that as management ownership increases, the information contained in a going concern audit report affects stock returns less negatively. Similarly, free cash flow has as predicted a negative relationship with abnormal returns on the going concern audit report date. This indicates that an increase in free cash flow causes abnormal returns to be more negative. Overall, as the firms agency costs increase, the reaction to going concern audit report announcements is more negative. Based on this finding we can accept H_2 and H_3 .

Results in Table 4 show that the estimate of SIZE is positive and significant on the event day [AR 0] in both Panel A and B. Larger firms are generally considered to get more attention from analysts and thus they have a more information-rich environment (Mitra et al. 2005). As a consequence, the going concern audit could be more predictable in advance and thus we observe a smaller abnormal reaction. The estimate for the leverage variable, total debt to total assets (DA), is positive and statistically significant in Panel A. Debt is expected to reduce the cash flows management has available for non-value maximizing activities and it is additionally recognized that debt could increase outside monitoring from eg. financial institutions.

6. Conclusions

This paper investigates the relationship between going concern audit reports and abnormal stock market reactions. The main purpose is to find new evidence to the event day puzzle brought up in previous studies and to study if the firm's agency costs have a relationship with abnormal market reactions to going concern audit reports.

Since the 1980's several studies (eg. Dodd et al. 1984, Crashwell 1985, Soltani 2000 and Martinez 2004) have focused on identifying the appropriate event day, i.e. the first day stock market activities take place after a qualified audit report. However, the results from a wide range of different event windows are inconclusive. This can mean that the event period has not been identified or that the audit report is of no value to the investors. Based on previous literature it is hypothesized here that there is a negative relationship between going concern audit reports and abnormal stock market returns surrounding the audit report date.

To empirically test the hypothesis, abnormal returns surrounding the event day (audit report date) are estimated using the market model. The statistical significance of the abnormal returns is tested using the standard t-statistic. The findings of this study give support to the hypothesis. After winsorizing the potential outliers in the sample we find significant abnormal returns the day after the auditor dates the audit report. Additionally, we find significant results in the cumulative abnormal returns for the two and three-day periods surrounding the audit report date.

This result suggests, that stock price adjustment to the going concern audit report information can be observed around the audit report date. The result contributes to several studies. Audit report date as the event date has been used by Soltani (2000), but the results of that particular analysis were insignificant. Soltani (2000) and Martinez et al. (2004) used an estimation of 15 days before the annual general meeting as an experimental event date in the examination of French (significant negative abnormal returns) and Spanish (insignificant returns) markets. Others, eg. Chen et al. (2000), have used the announcement of the annual report as the event day for audit reports. However, the results from this study would indicate that the first day of trading after the audit report is earlier than identified in any of the previous studies. The issue of how the information is transferred to the markets at this time is ignored in this study.

Second, this paper extends the analysis regarding stock market reactions to going concern audit reports by investigating whether firm specific agency variables have a relationship with the stock market reactions. It is hypothesized that management ownership has a positive relationship and free cash flow has a negative relationship with abnormal stock market returns on and around the event day. Based on the agency theory, management ownership affects the alignment of interests between the management and owners and thus monitoring and reporting provided by auditors is not as relevant in firms with high management ownership. Furthermore, agency theory suggests that free cash flow is a factor that can affect the conflicts of interests, because when managers have more cash flow available, the likelihood that they are used for non-value maximizing purposes increases. Thus monitoring and reporting

provided by the auditor becomes more important in companies with more free cash flow.

To empirically test the hypothesis, abnormal returns on and surrounding the event day (audit report date) are estimated using the market model. The results from the regression confirm the hypothesis that there exists a positive relationship between management ownership and a negative relationship between free cash flow and abnormal returns to going concern audit reports on the audit report date. Also size and leverage have a positive relationship with the market reactions to going concern audit report announcements.

As hypothesized, we observe a statistically significant abnormal stock reaction on the day that the auditor dates the going concern audit report. Additionally, as hypothesized, firm specific agency variables explain statistically significantly the abnormal stock market reaction on the day the going concern audit report is dated by the auditor. This finding concerning the relationship between agency theory and the role of auditing is similar to the empirical findings in the audit fee literature e.g. Gul and Tsui (2001) and Nikkinen and Sahlström (2004). The results on the relevance of going concern modified audit report information are similar to the results from Carlson et al. (1998) and Chen and Church (1996). The practical implications of the results are that agency variables should be taken into account when planning the audit and in reporting the results from the audit.

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TABLE 1. Descriptive statistics of variables**PANEL A**

	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis	n
AR 0	-0.004	0.001	0.707	-0.679	0.112	-0.218	18.868	310
AR 1	-0.001	0.001	1.109	-0.284	0.106	4.568	46.584	310
AR -1	-0.009	0.000	0.834	-1.082	0.114	-2.128	41.882	310
CAR -1, 1	-0.013	-0.004	0.693	-0.689	0.153	-0.070	9.358	310
CAR -1, 0	-0.013	-0.002	0.725	-1.066	0.149	-1.385	16.839	310
CAR 0, 1	-0.005	0.003	1.125	-0.666	0.143	1.429	20.157	310
	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis	n
MANOWN	3.279	3.518	4.576	-2.836	1.106	-2.225	10.021	237
FCFA	1.204	-0.329	492.762	-30.749	32.152	15.170	232.498	237
SIZE	2.205	2.041	10.213	-8.251	2.639	0.278	4.626	237
DA	69.516	25.553	3229.251	0.000	240.559	10.374	129.732	237
ROA	-126.494	-44.119	1489.095	-2384.739	323.908	-3.676	28.247	237
QUICK	1.467	0.633	61.952	0.000	4.578	10.583	133.249	237
PE	8.974	-1.500	3500.000	-692.308	232.625	14.234	216.181	237
PB	-12.891	0.859	1125.000	-4513.889	304.838	-13.435	203.096	237

PANEL B

	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis	n
AR 0	-0.004	0.001	0.176	-0.189	0.065	-0.199	5.257	310
AR 1	-0.006	0.001	0.153	-0.205	0.065	-0.492	5.142	310
AR -1	-0.005	0.000	0.201	-0.169	0.065	0.351	5.486	310
CAR -1, 1	-0.013	-0.004	0.333	-0.364	0.125	-0.059	5.127	310
CAR -1, 0	-0.010	-0.002	0.277	-0.361	0.107	-0.398	6.098	310
CAR 0, 1	-0.009	0.003	0.236	-0.323	0.100	-0.646	5.176	310
	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis	n
MANOWN	3.325	3.518	4.509	0.582	0.928	-1.249	4.360	237
FCFA	-0.725	-0.329	2.464	-9.357	1.264	-3.110	16.102	237
SIZE	2.200	2.041	7.926	-2.953	2.424	0.390	3.203	237
DA	50.951	25.553	421.736	0.000	85.095	3.101	12.832	237
ROA	-117.625	-44.119	18.038	-1009.971	210.321	-2.971	11.525	237
QUICK	1.158	0.633	9.815	0.001	1.755	3.469	16.314	237
PE	-2.960	-1.500	28.983	-41.379	10.654	-0.624	8.450	237
PB	1.226	0.859	60.575	-63.513	16.253	-0.116	10.739	237

Notes:

PANEL B. Observations winsorized at two standard deviations from the mean

The variables are defined as follows:

AR= Abnormal return (periods t_0 , t_1 and t_{-1})

CAR= Cumulative abnormal return (periods [-1,1], [-1,0] and [0, -1])

MANOWN = natural logarithm of percentage of closely held shares

FCFA = free cash flow divided by total assets

SIZE = natural logarithm of total assets

DA = percent of total debt to total assets

ROA = Return on assets

QUICK = quick ratio

PE = price to earnings

PB = price to book ratio

TABLE 2. Correlation matrix

PANEL A									
	AR	MANOWN	FCFA	SIZE	DA	ROA	QUICK	PE	
MANOWN	0.077								
FCFA	-0.240	0.049							
SIZE	0.143	-0.367	-0.227						
DA	0.090	0.103	-0.037	-0.239					
ROA	0.081	-0.083	0.062	0.397	-0.028				
QUICK	0.053	-0.022	-0.019	0.014	-0.072	0.045			
PE	0.006	0.026	-0.001	-0.044	-0.005	0.027	-0.016		
PB	-0.002	-0.001	-0.006	0.033	0.005	0.149	0.009	0.001	

PANEL B									
	AR	MANOWN	FCFA	SIZE	DA	ROA	QUICK	PE	
MANOWN	0.049								
FCFA	-0.057	-0.029							
SIZE	0.148	-0.308	0.456						
DA	0.075	0.217	-0.477	-0.305					
ROA	0.056	-0.092	0.605	0.520	-0.289				
QUICK	0.088	-0.130	0.021	0.087	-0.249	0.108			
PE	0.009	-0.035	0.043	0.120	-0.029	0.068	0.000		
PB	0.001	-0.053	0.073	0.063	-0.183	0.238	0.060	0.012	

Notes:

PANEL B. Observations winsorized at two standard deviations from the mean

The variables are defined as follows:

AR= Abnormal return (period t_0)

MANOWN = natural logarithm of percentage of closely held shares

FCFA = free cash flow divided by total assets

SIZE = natural logarithm of total assets

DA = percent of total debt to total assets

ROA = Return on assets

QUICK = quick ratio

PE = price to earnings

PB = price to book ratio

TABLE 3: Abnormal stock returns around the event date

PANEL A

Period	Mean abnormal return	T-test
-1	-0.009	-1.355
0	-0.004	-0.691
+1	-0.001	-0.096
CAR [-1, +1]	-0.013	-1.524
CAR [-1, 0]	-0.013	-1.507
CAR [0, +1]	-0.005	-0.613

PANEL B

-1	-0.005	-1.494	
0	-0.004	-1.054	
+1	-0.006	-1.701	*
CAR [-1, +1]	-0.013	-1.854	*
CAR [-1, 0]	-0.009	-1.699	*
CAR [0, +1]	-0.010	-1.663	*

Number of observations: 310

* Statistically significant at the 10 percent level

Notes:

PANEL B. Observations winsorized at two standard deviations from the mean

TABLE 4: Regression results**PANEL A**

Dependent Variable: Abnormal return (R3000)

Model:

$$AR_i = \alpha + \beta_1 MANOWN_i + \beta_2 FCFA_i + \beta_3 SIZE_i + \beta_4 DA_i + \beta_5 ROA_i + \beta_6 QUICK_i + \beta_7 PE_i + \beta_8 PB_i + e_i$$

Variable	Prediction	AR t0	AR t+1	AR t-1	CAR (-1,+1)	CAR (-1,0)	CAR (0,+1)
MANOWN	+	1.192	0.680	-1.025	0.812	0.135	1.872
		1.893 *	1.369	-1.126	0.970	0.154	2.314 **
FCFA	-	-0.062	-0.032	-0.022	-0.116	-0.085	-0.094
		-9.858 ***	-3.573 ***	-2.629 ***	-12.801 ***	-8.389 ***	-8.407 ***
SIZE	?	0.558	-0.301	0.130	0.352	0.655	0.257
		1.989 **	-0.919	0.415	0.908	1.592	0.585
DA	?	0.004	-0.001	0.000	0.003	0.004	0.004
		4.374 ***	-0.290	-0.071	1.035	1.524	1.650
ROA	?	0.001	0.001	-0.003	0.000	-0.001	0.003
		0.724	0.569	-1.516	-0.116	-0.627	0.896
QUICK	?	0.118	0.107	0.039	0.260	0.154	0.225
		1.849 *	1.108	0.747	2.920 ***	1.715 *	2.511 **
PE	?	0.000	0.000	0.002	0.003	0.003	0.001
		1.116	0.305	5.433 ***	6.577 ***	4.721 ***	1.134
PB	?	-0.001	0.002	0.000	0.002	0.000	0.002
		-1.623	0.720	0.725	0.610	-0.812	0.544
C		-6.065	-1.662	2.416	-5.078	-3.430	-7.726
		-2.018 **	-0.935	0.681	-1.334	-0.887	-2.203 **
Number of observations		237	237	237	237	237	237
Adj. R2		0.068	-0.008	-0.010	0.071	0.040	0.050
F-statistic		3.153 ***	0.765	0.708	3.262 **	2.229 **	2.568 **

*** Statistically significant at the 1 percent level,

** Statistically significant at the 5 percent level,

* Statistically significant at the 10 percent level

PANEL B

Dependent Variable: Abnormal return (R3000)

Model:

$$AR_i = \alpha + \beta_1 MANOWN_i + \beta_2 FCFA_i + \beta_3 SIZE_i + \beta_4 DA_i + \beta_5 ROA_i + \beta_6 QUICK_i + \beta_7 PE_i + \beta_8 PB_i + e,$$

Variable	Prediction	AR t0	AR t+1	AR t-1	CAR (-1,+1)	CAR (-1,0)	CAR (0,+1)	
MANOWN	+	0.851	0.500	-0.184	0.811	0.344	1.778	
		1.689 *	1.057	0.750	0.854	0.394	2.263	**
FCFA	-	-0.802	0.417	-0.225	-0.236	-0.851	-0.436	
		-1.858 *	1.146	0.613	-0.345	-1.258	-0.702	
SIZE	?	0.688	0.047	0.136	0.733	0.892	0.799	
		3.202 ***	0.231	0.471	1.765 *	2.374 **	2.235	**
DA	?	0.007	0.012	0.001	0.022	0.011	0.019	
		1.649	1.943 *	0.795	2.679 ***	1.641	2.313	**
ROA	?	0.001	-0.002	-0.004	-0.005	-0.003	-0.001	
		0.484	-0.695	0.154	-1.204	-0.972	-0.136	
QUICK	?	0.384	0.171	0.180	0.715	0.622	0.611	
		1.615	0.742	0.179	2.106 **	1.929 *	2.044	**
PE	?	-0.007	0.048	0.063	0.102	0.045	0.027	
		-0.205	1.460	0.070	1.794 *	0.996 ***	0.651	
PB	?	0.001	0.069	0.013	0.080	0.005	0.081	
		0.046	2.702 ***	0.582	1.512	0.140	1.945 *	
C		-6.136	-3.152	-0.552	-7.902	-5.987	-11.029	
		-2.686 ***	-1.637	0.814	-1.856 *	-1.513	-3.152	***
Number of observations		237	237	237	237	237	237	
Adj. R2		0.037	0.019	-0.002	0.023	0.021	0.044	
F-statistic		2.147 **	1.563	0.940	1.687	1.622	2.369	**

*** Statistically significant at the 1 percent level,

** Statistically significant at the 5 percent level,

* Statistically significant at the 10 percent level

Notes:

PANEL B. Observations winsorized at two standard deviations from the mean
All coefficients *100

The variables are defined as follows:

AR= Abnormal return (periods t_0 , t_1 and t_{-1})

CAR= Cumulative abnormal return (periods [-1,1], [-1,0] and [0, -1])

MANOWN = natural logarithm of percentage of closely held shares

FCFA = free cash flow divided by total assets

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