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SPECULATION AND GAMBLING STRATEGIES ON EARNINGS MANAGEMENT: THE CASE OF THE NEW YORK STOCK EXCHANGE ON WALL STREET

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Abstract

Speculation is the practice in which the speculator is engaged in risky purchase of stock without the intention to maintain it, in an attempt to profit from price movements in the shortest time possible. Wall Street stock market is the largest stock market in the United States of America and the world in terms of turnover and market capitalization. In this paper, we are going to investigate speculation and gambling strategies on earnings management of New York Stock market during the years 2008-2014. The purpose of this paper is to investigate speculation and gambling strategies on earnings management. In this paper, we have investigated earnings management in member companies of the Wall Street stock exchange. This study is carried out using speculation and gambling variables on earnings management. Among the variables, gambling has shown an inverse relationship on earnings management.

Key words:

Gambling; Earnings Management; Financial Leverage; New York Stock Exchange.

INTRODUCTION

Assuming the rational behavior of individuals in economics, it is assumed that all individuals seek to maximize their own wealth, thus shareholders and brokers of stocks are not excluded from this rule. Speculation is the practice in which the speculator is engaged in risky purchase of stock without the intention to maintain it, in an attempt to profit from price movements in the shortest time possible. Based on the degree and type of risk acceptance and intention to purchase stock and what they do for making profit, we can distinguish between objective and non-objective

speculation. Investors in the stock market can be divided into two large groups (Chung-Hua Shen, 2015).

The first category includes investors who make investments after careful examination of companies' financial capability based on reliable information regarding underlying factors such as the company's assets and performance. This type of investment is called rational speculation which contributes to the economic growth of the countries. This category of traders in the stock market are called investors in financial literature (Roser Granero, Salomé Tárrega, 2012).

The second category consists of those who seek quick, easy and effortless profits and make profit through this behavior and sometimes undergo loss. These type of transactions are called irrational speculation and gambling (Luis Coelho, 2010).

Gambling means putting money at risk in the hope of making a profit in a place where there is fortune, luck, and chance and there is no need to take a risk (Roser Granero, Salomé Tárrega, 2012). This paper examines the consequences of pricing in the market clearly motivated by gambling.

When testing the market pricing implications of gambling-driven trading, we find a strong, negative, and statistically significant post-bankruptcy announcement drift of at leat 28% over the following year, an important and original result that is clearly inconsistent with conventional market pricing theory. A number of robustness tests indicate that our finding is different from other established phenomena, as well as the level of pre-event financial distress, and industry membership. It is also insensitive to a whole range of different event-study methods (Rasa Kanapickien, 2015).

Kumar (2009) relies on three stock characteristics (price, idiosyncratic volatility and idiosyncratic skewness) to indirectly identify a set of CRSP stocks that seem to conform to his definition of a lottery stock: low priced stocks that, for a small initial investment, offer a very low probability of a huge future reward and a very high probability of a small loss. In parallel ,we work with the specific case of bankrupt firms' stock to provide clear evidence on what happens when investors are able to invest in stocks that have clear lottery-like features. More importantly, our paper also adds to the literature by exploring the aggregate market pricing pattern of stocks exhibiting lottery-like features and by examining the potential role of arbitrageurs in a market dominated by gambling-motivated traders, something not pursued in Kumar's (2009) paper.

Several studies have investigated the effects of earnings management (EM) on investment decision. EM occurs when firms‟ reported economic performance is altered by insiders to "mislead stakeholders" or "influence contractual outcomes" (Schipper, 1989; Healy & Wahlen, 1999). Overinvestment ensues when actual investments exceed equilibrium investment. Firms that manipulate earnings may

indicate a favorable outcome for investors; such misrepresentations can affect internal decision making and lead to suboptimal or inefficient investment decisions (McNichols & Stubben, 2008). Biddle and Hilary (2006) explained that higher quality accounting and limited EM reduce information asymmetry between managers and outside suppliers of capital, thereby increasing investment efficiency. Fisher and Merton (1984) specified that firms with upward (or downward) EM are expected to invest more (or less) in subsequent periods than does the average firm. Tang (2007) indicated that EM affects subsequent corporate investments by accounting manipulation. Cohen et al., (2009) discovered that firms engaged in either real or accrual EM tend to overinvest. Biddle, Hilary, and Verdi (2009) argued that managers who prioritize their personal welfare are inclined to make investments that are not in the shareholders‟ best interest. Chen et al., (2011) observed that the quality of financial reporting affects investment efficiency. McNichols & Stubben (2008) investigated whether firms that manipulate reported financial results make suboptimal investment decisions.

The current study observes one caveat, in which the majority of the studies that conduct data analyses likewise study the data distribution first. Therefore, the present study echoes this analysis and further suggests estimating the regression using robust method. However, many of these studies only use one cutoff to avoid possible contradictory results that may be generated when using different cutoffs (Chen et al., 2011; Erkens et al., 2012; Fama & French, 2006; Fan et al., 2007). The findings of these studies may not be robust. Thus, identifying the correct result is unattainable. Numerous studies do not examine the cutoffs. However, in many statistical studies (as described previously and later), using winsorization or simply removing the outliers may generate biased parameters. Therefore, a better, more reliable method is required to suggest the appropriate cutoff. We consider the endogeneity problem because overinvestment may also result in EM.

Kedia and Philippon (2009) argued that overinvested firms are more likely to conduct EM to conceal lower returns within the suboptimal investments. Consequently, we employ the lagged EMs as the regressors to avoid the endogeneity problem. The Heckman two-step method of minimizing the endogeneity problem is also considered.

Lenard and Yu (2012) examined a similar issue using data from China; however, they did not consider the outlier effect. The proxies of their study for EM and investment inefficiency also differ from those in the current study. The EM proxy in Lenard and Yu (2012) is *DAC*, whereas the EM proxies in the current study are both *DREV* and *DAC*. We also consider the three types of fraudulent cases for EM. The

investment inefficiency in their study is also replaced by the adjusted industry median for data gathered from 1997 to 2007, whereas the current study's data were collected from 1998 to 2010. The samples of Lenard and Yu only comprise firms that do not have "Big Four" auditors, whereas the samples of the current study include all firms (except those in the financial services industry). The sample size of their study comprises 3,916 firm-year observations, whereas the present study consists of 14,514 firm-year observations. The OLS results of their study support the EM-overinvestment hypothesis. However, comparing the two studies is difficult because the current study's methods, proxies, sample size, and lengths differ from those of Leonard and Yu.

RESEARCH METHODOLOGY

In order for the analysis of research data, the extracted documents are studied and then arranged in the general information chart. Then all the data were investigated using Excel and then Eviews7 software. Statistical indicators of central tendency and dispersion were used in the descriptive analysis. Descriptive statistics of variables to describe data include mean, median, maximum, minimum, standard deviation, skewness and kurtosis. Several tests are used in order to evaluate normality and reliability of the research model. Taking into account all classical regression assumptions, combined regression model was used in the inferential analysis to test research hypotheses regarding the econometric model, and t-statistics and Kolmogorov-Smirnov were used to analyze the data. This data is a combination of data related to different companies in different years and are considered as observations of company – year. Fisher statistic model was used to generally investigate the model.

The statistical population of the study consisted of all Wall Street stock companies. Selecting companies listed on the stock exchange as the population is due to further availability and reliability to information, because these companies are listed in the stock exchange after going through steps that must meet admission standards and criteria, and information and audit process etc. is done with better supervision and quality. Also they are the only companies – the shares of which are traded in the pricing stock and are more considered by investors and creditors that attend to the performance criteria of the company. In this study, 123 Wall Street stock exchange companies are investigated over the years 2008 to 2014.

The Research Model

Equation (1) is presented to investigate the probability of gambling:

$$E(BP) = \lfloor (1-\rho)f + \rho(1-f) \rfloor (1+\vartheta) - \lfloor (1-\rho)(1-f) + \rho f \rfloor$$

$$E(BP) = (2-\vartheta)(f+\rho-2\rho f) - 1$$

$$[1-2f(\rho)]+\frac{(1-2\rho)\vartheta \mathrm{f}}{\vartheta \mathrm{p}}=0$$

P = is the probability of being interested.

F = fraction of total dollars bet on the favorite game

θ = is the payment commission.

Model 1 is the strategy intended to speculators that the above article addresses.

Model (1): The profitability of companies

$$PROF_{i,t} = B_0 + B_1 PROF_{i,t} + B_2 GROW_{i,t} + B_3 (GROW_{i,t})^2 + B_4 Size_{i,t} + B_5 LEV_{i,t} + LIQ_{i,t} + \in_{i,t}$$

where operating profit (Prof) is net sales revenue minus the cost of goods sold.

Financial leverage (LEV) is obtained by dividing the total debt to assets. We expect that there is a direct and significant relationship between financial leverage and profitability. Considering the advantages of financing through debts (such as lower cost and tax exemption), those companies that use more debt in their capital structure, will enjoy greater profitability.

$$Lev_{i,t} = (Total\ Debt)_{i,t}/(Total\ Asset)_{i,t}$$

Liquidity ratio (LIQ) indicates the liquidity capacity of the company's assets as well as the company's ability in fulfilling its short-term obligations. Companies which maintain desired level of current assets, are less exposed to sudden environmental changes and market risks. in the present article the current ratio is considered as the control variable.

$$LIQ_{it} = (Current)_{i,t}/(Current\ Debt)_{i,t}$$

Due to long-term transaction interruptions or low volume of transactions made on shares, company size is many of the companies surveyed as well as inefficiency of Wall Street stock.

$$\text{Size}_{\text{i,t}} = Ln(Sale_{i,t})$$

in which the growth of the company is one of the fundamental variables affecting the future status of profitability of the companies and consequently the return on equity investment of companies is fixed in assets that could lay the ground for achieving optimal efficiency in the future. The power of the company may increase

because of higher risk toleration on the company's financial situation as a result of further investment.

$$Firm\ \text{Growth} = (\text{Total Asset}_{i,t} - \text{Total Asset}_{i,t-1})/\text{Total Asset}_{i,t}$$

Model (2) revenue achievement

$$\Delta AR_{i,t} = a_0 + a_1 \Delta Rev_{i,t} + \in_{i,t}$$

Where *i* and *t* imply the i-th company at time t, respectively; ΔAR investigates annual change in receivable accounts and ΔREV represents annual changes in income.

TABLE 1. EXPLANATORY VARIABLES

fixed effects panel data Test				Explanatory variables	
K-S	P – value	t-Statistics	Coefficient		
0.0452	0.1284	1.5511	81.5966	C	Intercept
0.0231	0.0000	4.7863	2.7899	BP	Gambling
0.03256	0.0000	5.7050	4.3133	PROF	profitable
0.04214	0.0000	1.3964	32.8585	Lev	Financial Leverage
0.01325	0.0001	1.9400	31.8782	LIQ	Liquidity ratio
0.03254	0.0000	4.7852	6.9115	Grow	Company growth
0.0214	0.0000	3.7907	2.3092	Size	Company size
21.3267				F - Statistics	
0.0000				P-value	
	0.91			R^2	
	0.85			R^2 Modified	
	1.89			Watson	
	Source: author's calculations				

Research Hypotheses:

H_1: Increase in the ratio of debt to capital, makes earnings management positive.

The ratio of debt to capital is one of the financial ratios as well as financial leverage measuring scales. This ratio is obtained by dividing the total debts of the company by the capital, which shows that what percentage of a company's assets is used to finance its assets. The high ratio of debt to capital could lead to surplus payment of interest which usually means that most of the debt of the company has been used for financing.

If the company use a large amount of debt in its financing and increase the ratio of debt to equity; then the potential company shall make more money compared to the

time when it hasn't made external financing. In this way if the company income significantly increases compared to the cost of debt (interest expense), then shareholders will enjoy more revenue with their previous investment.

H_2: Increase in the size of the company, makes earnings management positive.

The size of the auditing company is one of the most important criteria for auditing criteria, the larger the size is, the greater will be the auditing quality (Nazemi Ardakani), 1 is considered as earnings management and 0 for others in order to calculate the size of the auditing company.

H_3: Increase in the gambling, makes earnings management negative.

Investigating the role of gambling in the stock market is the final hypothesis. A number of shareholders try to increase the number of individual investors through gambling. It is important that conventional financial affairs have become outstanding on the importance of trade (i.e. trade generated by individual investors). There is a growing support for the claim that in pricing securities gambling correction has always a significant effect on earnings management.

TABLE 2. DESCRIPTIVE STATISTICS

strain	skewness	min	max	standard deviation	median	mean	symbol	Variable
0.25	2.23	0.001	0.874	0.954	0.325	0.851	BP	Gambling
0.75	2.14	0	0.1023	0.00136	0.00137	0.0214	PROF	profitable
0.456	1.23	0	1	0.107	0.857	0.816	*Lev*	Financial Leverage
0.324	1.14	-1.223	6.6685	0.0023	2.9410	0.0214	LIQ	Liquidity ratio
0.1245	2.65	0.04425	2.7062	0.6318	0.833	0.541	Grow	Company growth
0.3256	2.75	9.87955	18.0035	0.055	16.6458	0.0142	Size	Company size

Testing Hypotheses

1. *First hypothesis:* Increase in the ratio of debt to capital, makes earnings management positive.

The following regression model is used to test the first hypothesis:

Results:

considering the fact that the obtained coefficient for profitability is 0.455 in the above

table and the significance level is less than 5%, therefore we can conclude that increase in the ratio of debt to capital, makes earnings management positive (Chung-Hua Shen, 2015).

In this test, B is the slope of the line. Zero value for B indicates insignificance of the model, otherwise it represents the significance of the model.

The level 0.95%, is the confidence level where B is 0.23 which confirms the first hypotheses.

The second hypothesis: Increase in the size of the company, makes earnings management positive.
The following regression model is used to test the second hypothesis:

$$SIZE_{it} = \alpha_0 + \beta_1 BP + \beta_2 PROF + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROW + \beta_6 DEPT + eit$$

TABLE 3. TEST RESULTS OF THE FIRST HYPOTHESIS

$$SIZE_{it} = \alpha_0 + \beta_1 BP + \beta_2 PROF + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROW + \beta_6 DEPT + ei$$

Index	Results	Level of significance	T-statistic	Coefficients of variables	Variable
1.5698	Meaningful	0.0000	11.4268	3.412	a_0
1.898	Meaningful	0.0231	0.759	.2321	BP
1.3256	Meaningful	0.0000	1.3256	1.325	PROF
p-value	Meaningful	test	Amount		
0.0875	0.132	K-S	0.806		R^2
0.0000	14.125	Fisher test	0.325		R^2 Modified
			1.5698		D-W

Test results of the second hypothesis

Considering the fact that the obtained coefficient for profitability is 0.231 in the above table and the significance level is less than 5%, therefore we can conclude that increase in the size of the company, makes earnings management positive.

In this test, B is the slope of the line. Zero value for B indicates insignificance of the model, otherwise it represents the significance of the model.

The level 0.95%, is the confidence level where B is 0.231 which confirms the second hypotheses.

The third hypothesis: Increase in the gambling, makes earnings management negative.
The following regression model is used to test the third hypothesis:

$$BP_{it} = \alpha_0 + \beta_1 SIZE + \beta_2 PROF + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROW + \beta_6 DEPT + eit$$

TABLE 4. TEST RESULTS OF THE SECOND HYPOTHESIS

$BP_{it} = \alpha_0 + \beta_1 SIZE + \beta_2 PROF + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROW + \beta_6 DEPT + eit$					
Index	Results	Level of significance	T-statistic	Coefficients of variables	Variable
1.6589	Meaningful	0.0000	9.2145	2.365	a_0
1.8745	Meaningful	0.0235	0.6589	0.3214	BP
1.236	Meaningful	0.0000	1.0325	1.0325	PROF
p-value	Meaningful	test	Amount		
0.0789	0.123	K-S	0.385		R^2
0.0000	13.895	Fisher	0.123		R^2 Modified
			1.6589		D-W

Test results of the third hypothesis

Considering the fact that the obtained coefficient for profitability is 0.3214 in the above table and the significance level is less than 5%, therefore we can conclude that increase in the gambling, makes earnings management negative.

In this test, B is the slope of the line. Zero value for B indicates insignificance of the model, otherwise it represents the significance of the model (Roser Granero, Salomé Tárrega, 2012) .The level 0.95%, is the confidence level where B is 0.385 which confirms the third hypotheses.

Results

It is well known that by adopting methods that reduce the fluctuations of net income, managers often engage in earnings management and gambling. The reason is that managers believe investors pay more money to invest in a company that has a smooth flow of profit. In this study, we have investigated earnings management in member companies of the Wall Street stock exchange. This study is carried out using gambling and earnings management variables (The size of the company, the debt ratio, etc.) Among the variables, gambling has shown an inverse relationship on earnings management.

This method was used to investigate gambling in Wall Street stock exchange, the findings suggest that managers of big companies use accruals in their companies. In case of having debts, companies can also gain benefit which leads to a reduction in the possibility of gambling and speculation on these companies.

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