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Correlation between accounting information and stock price

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Abstract
One of the key decisions a firm has to reach is the fundamental determination of its cost of capital. This has a substantial impact on both the composition of the firm's operations and its profitability, since shocks onto anticipated cash flows are reflected in the firm's cost of capital. Many studies have spent tons of ink coming up with proposals leading to a lower cost of capital. Accounting information reduces information asymmetries, which lead to adverse selection in transaction activities in the stock market as well as to enhanced liquidity, which lowers the discounts at which firms must issue capital. Argue that accounting information tends to compensate shareholders through stock returns by reducing their exposure to investment risks.

Keywords: Accounting information, Stock, market

Introduction

Accounting information

Accounting information is hypothesized to be value if it conveys information that modifies investor expectations of the firms' future cash flows, and ultimately causes the stock price to change (Scott, 2003). Though the investors use non financial information in order to make investment decisions, still conventional investors give more weight to financial information. A main purpose of accounting is to provide investors with relevant information for their investment decisions (Redovisningsrådet, 1995). According to the survey done by the Boston College (2007), 62% of respondents favored financial information and only 38% favor to the non financial information for use in investment decisions. This article is review and the aims of Correlation between accounting information and stock price.

Stock price

Ball and Brown (1968) [3] originally researched the correlation between accounting information and stock price. After they empirically studied the correlation between annual report earnings data and stock price, they found that a company had excess earnings and investors can get abnormal return. This shows the relationship between accounting earnings and stock price. Beaver asserted from another perspective that the company's financial reporting and accounting information could influence stock price. Beaver found that investors used the declared accounting information when they trade stock. Black researched and found that stock price not only showed the information but also reflected the noise of noise traders. And Ball (1995) [34] viewed that the stock market might overreact because of noise. So Ball hold it isn't always effective in stock market as people assumed. Danoth (2004) [11] and Francis (1999) [14, 15] respectively empirically studied the influence of earnings information and operating cash flow information to stock price. They found the earnings information is better correlative, but not absolute. Ohlson (1995) [37] did many pioneering work for the establishment of appraisal model. He took book value, abnormal surplus and other non-accounting information together with stock. His appraisal model can use current financial statements and other information to assess the value of enterprise. Ball (1995) [34], Subramanyan's (1996) study proved that discretionary accruals and stock return have significant correlation. It can better explain stock price by earnings information. Non-discretionary accrual is a basic part of accruals, so it undoubtedly has information value. Subramanyan's (1996) research showed that non-discretionary accrual has more value relevant than operating cash flows, but lower than net profit. Collins *et al.* (1997) referred the Residual Income Valuation Model as their theory foundation, and built a model of accounting earnings, gross book value of equity and stock price. Penman's (2001) opinion is that only eligible and real accounting information could predict future value of the enterprise. Cheng and Yang (2003) tested the correlation between accounting information and stock price, and the test used many extreme samples.

Modeling Stock Volatility

Engle (1982) [12] introduced the autoregressive conditional heteroskedasticity (ARCH) to model volatility. Engle (1982) [12] modeled the heteroskedasticity by relating the conditional variance of the disturbance term to the linear combination of the squared disturbances in the recent past. Bollers (1986) [9] generalized the ARCH model by modeling the conditional variance to depend on its lagged values as well as squared lagged values of disturbance, which is called generalized autoregressive conditional heteroskedasticity (GARCH). Since the work of Engle (1982) [12] and Bollerslev (1986) [9], the financial econometrics literature has been successful at measuring, modeling, and forecasting time-varying return volatility. Bollerslev (1986) [9] generalized the ARCH model by modeling the conditional variance to depend on its lagged values as well as squared lagged values of disturbance. Since the works of Eng (1982) [12] and Bollerslev (1986) [9] various variants of GARCH model have been developed to model volatility. Some of the models include EGARCH originally proposed by Nelson (1991) [25], GJR-GARCH model introduced by Glosten, Jagannathan and Runkle (1993) [19]. Threshold GARCI-I (TGARCH) model due to Zakoian (1994)

[32]. Following the success of the ARCH family models in capturing behavior of volatility. Stock returns volatility has received a great attention from both academies and practitioners as a measure and control of risk both in emerging and developed financial Markets. Concerning the effectiveness of the ARCH family models in capturing volatility of financial time series, Golsten (1993) found that GARCH (1, 1) model worked well to capture most of the stochastic dependencies in the time series. Based on tests of the standardized squared residuals, he found that the simple GARCI-1 (1.1) model did better at describing data than a previous ARCH(1 2) model also estimated by Golsten (1993). Similar conclusions were reached by Taylor (1994) [31]. Brook and Burke (2003) [10]. Frimpong and Oteng-Abayie (2006) [16] and Olowe (2009) [27]. In a like manner. Bekaert and Harvey (1997) and Aggarwal *et al*. (1999) in their study of emerging markets volatility, confirm the ability of asymmetric GARCH models in capturing asymmetry in stock return volatility. Thus, ARCH family models are good candidates for modelling and estimating volatility in emerging stock markets.

Stock market

Stock market is a place which facilitates corporations to raise equity capital facilitates continuous economic growth and maintain liquidity for the holder of the stocks who invest in these stocks for the purpose of capital gain. On the other hand the main objective of accounting data is to provide information about the company's economy to different users inside and outside the company (Smith, 2006). Stock's price is the most obvious and important criteria for determining the firm's value. So, stocks price maximization is the most important goal for most corporations to maintain their economic growth and credibility in the mind of investors. To answer the question, what determines stock prices? The answer would be that it depends upon the company's ability to generate cash flow now and have a potential to generate in the future. Investors during the investment process compare the value of company which is determined by the prices of the stock (Brigham and Ehrdart, 2001) [8].

Value relevance

Value relevance is defined as "the ability of accounting numbers to summarize the information underlying the stock prices, thus the value relevance is indicated by a statistical association between financial information and prices or returns''(Liu & Liu 2007) [24]. The value relevance literature deals with the usefulness of financial statement information in equity valuation, i.e., how well do accounting figures measure value? What accounting figures can be used to predict value attributes? These research questions are addressed in this study. A key role of financial statements is to summaries business transactions and other events. Under this construct, the value relevance of financial statement information is measured by its ability to capture or summarize information, regardless of source, that affects equity value (Francis and Schipper, 1999) [14, 15].

Accounting Information and Value Relevance

The premise for expecting accounting information to influence stock volatility is that the accounting information is value relevant. Value relevance research is based on the idea that accounting information is useful for determining company value in the case that its cross sectional variation corresponds with the cross sectional variation in stock prices or stock returns (Novak. 2010; Barth, *et' al*. 2001) [26, 4]. However, the term relevance as a quality of accounting information as used in accounting literature is defined by the American Accounting Association (1966:9); "For information to meet the standard of relevance, it must bear on or be usefully associated with the action it is designed to facilitate or the result desired to produce. This requires that either the information or the act of the communicating exert influence on the designated action". Relevance thus implies the ability of the information to influence decisions of both potential and existing investors whether by changing or confirming their expectations about the result or consequences of actions or events. According to Barth (2001) [4] for financial information to be value relevant, it is a condition that accounting numbers should be related to current company value. If there is no association between accounting numbers and company value, accounting information cannot be termed value relevant and, hence, financial reports are unable to fulfill one of their primary objectives. Put succinctly, Barth, (2001. p. 95) [4] states that: "Value relevance research examines the association between accounting amounts and equity market values". Theil (1968) was one of the first value relevance researchers and defined information as a change of expectations in the outcome of an event. Within the context of his study, he claimed that a firm's financial statement is value relevant if it leads to a change in investors assessments of the probability distribution of future returns. Beaver (1968) [5, 6, 7] supported this definition and added that a sufficiently large change should exist to induce a change in decision maker's behavior. According to Kothari (2001) [23] the impact of financial statement information on capital markets is an enduring and well documented area of research. The value-relevance stream of this research is based on the premise that if information is useful, investors will adjust their behavior and the market will respond through changes in stock prices. Therefore, information is considered value-relevant if stock price movements are associated with the release of the information. Francis and Schipper (1999) [14, 15] suggested four possible alternative interpretations of value relevance. The first interpretation considers accounting information as leading stock prices by capturing intrinsic share values. The measurement of value relevance will then be the profits generated from implementing accounting trading rules. The second interpretation indicates that if the variables used in valuation models originate from financial statement information, the information is termed value relevant. The third interpretation is based on the statistical association between accounting information and market value where the main objective is to measure whether investors actually use the information in setting prices. Finally, the fourth interpretation is seen in a long window perspective where the correlation between accounting information and market values are statistically examined, Interpretation three and four are the most common used interpretations in value relevant research in recent studies (e.g. Kothari, 2001; Aboody, Hughes, & Liu. 2002; Dontoh, Radhkrishnan, & Ronen, 2004) [23, 1, 11], According to Beaver (2002), value relevance research investigates the association between a security price dependent variable and a set of independent accounting variables. There are several approaches to this definitional explanation. Francis

and Schipper (1999) [14, 15] and Nilsson (2003) define it from four perspectives:

(a) The predictive view of value relevance: The accounting number is relevant if it can be used to predict future earnings, dividends, or future cash flows.

(b) The information view of value relevance: The value relevance is measured in terms of market reactions to new information.

(c) Fundamental analysis view of value relevance: The accounting information is relevant in valuation if portfolios formed on the basis of accounting information are associated with abnormal returns and

(d) The measurement view of value relevance: The financial statement is measured by its ability to capture or summarize information that affects equity value.

The market reaction to annual and interim accounting disclosures

The stock price reaction to earnings announcements confirm the seminal findings of Beaver (1968) [5, 6, 7] in the US: earnings disclosures lead to significant stock price changes or trading volume increases. In the UK, Firth (1981) [13] reported both abnormal absolute stock returns and significant trading volume increases at annual earnings announcement dates under the period 1976–78, for a sample of 120 companies. Similarly, Pope and Inyangete (1992) [28] observed a strong increase in the volatility of security returns around announcement dates for a sample of 3,541 UK annual earnings announcements between 1985 and 1987. With a different approach, Hew *et al*. (1996) [20] confirm that UK annual earnings have information content for investors, since positive (negative) unexpected annual earnings were found to cause significant positive (negative) returns. Results in Finland, Spain or France are consistent with those obtained in the UK. Using data from the Finnish stock market, Kallunki (1996) [21] showed that positive (negative) unexpected annual earnings announcements are associated with positive (negative) abnormal returns at the announcement dates. In the same vein, Gajewski and Que´re´ (2001) [18] analysed the French market response to annual earnings announcements by comparing actual earnings with those expected by financial analysts. Their data indicate that positive unexpected earnings lead to positive abnormal returns, while negative unexpected ones cause negative returns. This result is consistent with a study by Gajewski (1999) [17] which found that trades on the Paris Stock Exchange increase signicantly around earnings announcement.

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