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Costs of Stock Trading by Study on Commitment Components

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Abstract

In this paper, we are examining the relationship between stock trading costs and commitment components and find both abnormal and normal commitments associated with these costs are associated. Moreover, stock trading costs have a greater influence by both abnormal and normal negative commitments more than positive commitments. Further analysis has shown that in general, investors are unable to break up positive or negative abnormal commitments from earnings. Additionally, investors overrate the continuity of both positive and negative normal commitments. These intuitions form more witness of the low degree of market efficiency. It seem investors depend on commitments and they overrate value when abnormal and normal commitments are positive and underestimate it when they are negative, So this propels to asymmetric effect on trading costs between positive and negative commitments in the face of short-selling constraints

Keywords: Abnormal commitments, Normal commitments, Short-selling constraints, Stock trading costs.

1. Introduction

The efficient allocation of capital in economic systems are conducted Trading cost savings. Despite of the trading cost involved in each transaction is small, Biais et al. (2005) argue that the volume of transactions renders the overall economic system non-trivial. Such savings are also conducive to investment returns. The issue that is significant importance to academics, practitioners, and regulators is the cost of mispricing of Commitments to investor. Investors find information on firm value by commitment, and the timing of cash flow recognition in earnings can altered by their use, thereby mitigating the problem of noisy cash flow measurement and improving the accuracy of firm performance measurement, particularly in case the interval of the latter measurement is short, the volatility of the firm's working capital requirements and investment and financing activities is great, and its operating cycle is long (Dechow, 1994). (Sloan, 1996; Xie, 2001; Richardson et al., 2005) suggested that investors have difficulty understanding the real firm value information embedded in commitments, which by information asymmetry between informed and uninformed traders they can increase stock trading costs.

Many researchers discuss the relationship between the bid-ask spread and commitment quality, but few consider that between commitment components and stock trading costs. In addition, few researchers due on the effects of normal commitments on stock trading costs or those of short-selling constraints on the relationship between abnormal and normal commitments and these trading costs. We want to contribute to the literature by showing how short-selling constraints affect the relationship between commitments and stock trading costs.

This paper also have several implications for accounting theory. First, accounting is an information and measurement system that identifies, records, and communicates relevant, reliable, and comparable information about an organization's real business activities (Ge, 2003). The quality of earnings in terms of their relevance, reliability, and comparability are investigated in many papers, but few document the real accounting goal of reflecting an organization's real business activities. Second, in commitment-based accounting, commitments include numerous subjective judgments and measurement errors. Both the information and measurement perspectives should be considered when examining accounting information.

This paper also has implications for securities regulation. Doing so will reduce the information asymmetry between informed and uninformed investors and lower stock market trading costs. The remainder of the paper is organized as follows.: Section 2 reviews the relevant literature. Section 3 presents the relevant background and posits hypotheses on the effects of commitment components on stock trading costs. The research design is discussed in Section 4. Section 5 concludes the paper.

2. Literature review

2.1Literature on commitment mispricing

Some studies present evidence to show that investors do not use the information available correctly in forecasting future firm performance and are naive (e.g., Bernard and Thomas, 1990; Maines and Hand, 1996). Recent studies provide further empirical evidence of investors' naive fixation on reported earnings by identifying the role of the information in

the commitment components of current earnings in future earnings forecasts. This is obvious that investors are unable to fully capture the information contained in various commitment metrics and components (Sloan, 1996; Xie, 2001; Richardson et al., 2005). Sloan (1996) reports an commitment anomaly in the stock market, presenting evidence showing that stock prices place too great a weight on commitments. Richardson et al. (2005) extend Sloan (1996) work by linking commitment reliability to earnings persistence. Also they show that less reliable commitments lead to less earnings persistence and that investors do not fully anticipate this lower degree of persistence, which leads to significant security mispricing. Chan et al. (2006) also investigate the market mispricing of commitments, finding that the mispricing of inventory commitments is most serious of all commitment components. Using the methods of Fama–MacBeth, Song and Li (2009) find that there is also an commitment anomaly in the stock market.

2.2 Iterature on commitments and stock trading costs

From commitments include many subjective judgments, thus leading to information asymmetry between investors and listed firms. Inner information acquisition theories hold that the incentives to acquire and exploit private information are inversely related to the informativeness of public information (Baiman and Verrecchia, 1996; Easley and O'Hara, 2004). The relationship between trading costs and commitment components depends on the extent to which commitments contain measurement error and the degree to which investors are unable to correctly interpret the basilar earnings component.

We can find only a few papers that examine the relationship between Commitment s and stock trading costs either directly or indirectly. Bhattacharya et al. (2008) illustrated when manifested in trading costs, and reduces liquidity in financial markets, poor earnings quality rise adverse selection risk. Both the innate and discretionary components of earnings quality contribute significantly to information asymmetry. Further, poor earnings quality embitter information asymmetry around earnings declaration, particularly for firms whose earnings represent the principal source of information available to market comrade. Several researchers Inquire the economic consequences of earnings quality using the bid-ask circumfuse and the price impact as dependent variables. Affleck-Graves et al. (2002), for example, track the relationship among information asymmetry, earnings predictability, and the behavior of the adverse selection cost component of the bid-ask spread around the quarterly earnings announcements of firms. They find a rise in this component on the day of and day prior to these Declarations for firms with less predictable earnings. However, they do not find any evidence of change among firms with more predictable earnings. Lang et al. (2012) investigate lower transaction costs and greater liquidity for firms with greater transparency, and find that the transparency–liquidity relationship is more pronounced when overall investor uncertainty is greater.

3. developing hypothesis and Institutional background

Dechow et al. (2010) illustrate that reported Commitment-based earnings are a function of unassertive basilar earnings and the accounting measurement error

term. Basilar earnings, alternatively referred to as eternal earnings, can be thought of as the expected cash flows generated during a period that can be beneficiary to get the basilar value of the firm. The error term pretends the ability of the accounting system to measure the firm's basilar earnings process. Similarly, the Commitment component of earnings also contains two components: basilar Commitments and error Commitments.

Abnormal commitments are an important type of accounting measurement error. Some researchers argue that managers communicate private information using abnormal commitments. Subramanyam (1996), for example, uses the modified Jones model to measure abnormal commitments and finds them to have incremental information content. He interprets this finding as evidence that abnormal commitments are not opportunistic, but rather communicate private information on equity value. However, most work in this arena reports that managers use abnormal commitments to manage earnings for their own private benefit, thereby increasing the firm's agency costs (Francis et al., 1999) and the degree of information asymmetry between investors. Abnormal commitments in China, in particular, appear to be opportunistic owing to the country's weak investor protection and special institutional arrangements (such as IPOs, SEOs, and ST). Also Zhang and Hu (2008) report that loss-making firms are more likely to take "a big bath" in fourth-quarter financial statements. Lei and Liu (2007) empirically test the relationship between controlling shareholders tunneling behavior and negative earnings management when firms experience a loss in their first year. They find that negative earnings management is serious when controlling shareholders occupy funds. Overall, abnormal commitments are opportunistic, which wastes information. Investors cannot correctly price vague abnormal commitments if they are naive and fixated on earnings (Xie, 2001), thereby leading to severe information asymmetry between informed and uninformed investors.

However, the commitment anomaly identified by Sloan (1996) cannot be explained by the mispricing of abnormal commitments alone. Normal commitments (non-discretionary commitments) can also be mispriced (Thomas and Zhang, 2002; Bradshaw et al., 2001). Chan et al. (2006) highlights two possible interpretations of the mispricing of normal commitments. First, the psychology perspective suggests that individuals extrapolate past trends from short histories too far into the future (Shleifer, 2000). For example, analysts and investors tend to weigh past growth too heavily in their forecasts and valuations (e.g., De Bondt and Thaler, 1990; Chan et al., 2003). Normal commitments (non-discretionary commitments) capture the influence of business conditions (Chan et al., 2006) and reflect changes in firms' net assets (Fairfield et al., 2003; Zhang, 2007). A high (low) level of normal commitments may be a reflection of strong (weak) past sales growth and investors wrongly infer that such high (low) growth trends will last for a long time. Second, the behavioral finance perspective suggests that individuals may be too slow in updating their beliefs when new evidence arrives (Edwards, 1968). A high level of normal commitments makes a firm look good even when it is facing difficulties in its operating conditions. If investors cannot extrapolate a firm's operating conditions from the components of commitments, such as changes in inventories, receivables,

and payables, then the mispricing of normal commitments is likely to occur.

If investors are naive and fixated on earnings, they generally cannot understand the real value or relevance of the information embedded in commitment components (whether abnormal or normal). However, not all investors are naive. Some are able to acquire information before others and grasp the implications of public news (Lakonishok et al., 1992; Hand, 1990). For example, institutional investors are more sophisticated than individual investors and have a stronger capacity to acquire and process information (Grinblatt and Titman, 1989; Nofsinger and Sias, 1999; Wermers, 2000). Therefore, these informed investors are likely to be able to correctly price abnormal and normal commitments, thus leading to information asymmetry with their less sophisticated counterparts. This informed trading by informed investors increases stock trading costs.

A high absolute value of abnormal commitments generally means high levels of earnings management and information asymmetry, which lead to high trading costs. Similarly, a high absolute value of normal commitments generally means that firms are experiencing a high or low rate of growth, which renders it easy for investors to misestimate the tendency of earnings performance to reverse.

Accordingly, the first set of hypotheses arise as follows.

H1a. A higher absolute value of abnormal commitments is associated with a higher stock trading cost.

H1b. A higher absolute value of normal commitments is associated with a higher stock trading cost.

Informed investors may thus engage in different forms of arbitrage depending on whether firm value is underestimated or overestimated. When it is underestimated, these investors can benefit from buying the firm's stocks. When it is overestimated, in contrast, they are unable to benefit from short-selling in the stock market. Hence, more informed trading takes place when firm value is underestimated, which leads to higher stock trading costs.

The sign of abnormal commitments can be positive or negative because managers can manage earnings upward or downward. Informed investors are unable to benefit from positive abnormal commitments because of short-selling constraints, thus leading to less active informed trading. The stock trading costs incurred by adverse selection risk are low in this case. However, when abnormal commitments are negative, firm value is underestimated. Informed investors can benefit from buying these firms' stocks, which leads to losses for uninformed investors.

Similarly, there are positive and negative normal commitments. Firm may be enjoying sales growth when normal commitments are positive, meaning that investors may overestimate the persistence of that growth and, accordingly, overestimate firm value (Chan et al., 2006). When these commitments are negative, in contrast, firms may be experiencing weak sales growth, meaning that investors may overestimate the persistence of such weak growth and, accordingly, underestimate firm value. Hence, negative normal commitments attract more informed trading, leading to higher stock trading costs.

The second set of hypotheses arise thus as follows.

H2a. In the short- selling-constrained stock market, negative abnormal commitments have a greater influence

on stock trading costs than positive abnormal commitments.

H2b. In the short- selling-constrained stock market, negative normal commitments have a greater influence on stock trading costs than positive normal commitments.

4. Sample selection and research design

4.1 Measurement of trading costs

Trading costs constitute one measure of liquidity. If brokerage fees and transfer taxes are excluded, there are two kinds of trading costs (Korajczyk and Sadka, 2004): proportional (quoted and effective spreads) and non-proportional (price impact). Proportional trading costs are independent of the size of the portfolio traded, whereas non-proportional costs increase with the size of the portfolio.

Spreads are a more suitable measure of trading costs in the context because of the country's low degree of institutional ownership. Most trades are initiated by individual investors and are small in scale. Zhang and Liu (2006) argue that spreads can be a direct measure of trading costs when investors make small trades. He and Niu (2009) also suggest that spreads are a typical metric of trading costs, which affect investors' investment returns. This paper therefore uses quoted and effective spreads to measure trading costs in the stock market. High-frequency data are used to construct these spreads, as follows.

$$QSP_i = \frac{1}{D_i}\sum_{d=1}^{D}\frac{1}{T}\sum_{t=1}^{T}\frac{Ask_{i,t} - Bid_{i,t}}{(Ask_{i,t} + Bid_{i,t})/2} \quad (1)$$

$$ESP_i = \frac{1}{D_i}\sum_{d=1}^{D}\frac{1}{T}\sum_{t=1}^{T}2 \times \frac{\left|Price_{i,t} - (Ask_{i,t} + Bid_{i,t})/2\right|}{(Ask_{i,t} + Bid_{i,t})/2} \quad (2)$$

where D_i is the number of trading days in the year for stock i, $Bid_{i,t}$ is the highest bid price for stock i at time t, $Ask_{i,t}$ is the lowest ask price for stock i at time t, T is the number of transactions in a day for stock i, and $Price_{i,t}$ is the price of stock i at time t.

The daily spread is first calculated as the average intraday spread. QSP and ESP are the averages of the daily spreads by year. To compute the quoted and effective spreads more effectively and accurately, high-frequency data are first selected according to several institutional features: (1) trades in the call auction period are excluded because of the different character of call and continuous auctions and (2) trades that hit up or down limits are excluded because the spreads of these trades are abnormal, and (3) trades that seem to be incorrectly recorded, such as those for which the highest bid price is larger than the lowest ask price or for which the lowest ask price is negative, are excluded.

4.2 Measurement of abnormal and normal Commitments

Dechow et al. (1995) find the modified Jones model to exhibit the greatest power in detecting earnings management. This model is thus used to obtain abnormal and normal Commitments in this paper. Model (3) is estimated for each year-industry in the sample, and the abnormal Commitments in model (4) are then calculated for each firm year in the sample using the coefficients estimated in model (3).

$$\frac{TA_{i,t}}{Asset_{i,t-1}} = a_1\frac{1}{Asset_{i,t-1}} + a_2\frac{\Delta REV_{i,t}}{Asset_{i,t-1}} + a_3\frac{PPE_{i,t}}{Asset_{i,t-1}} + \varepsilon_{i,t} \quad (3)$$

$$\mathrm{Tbacc}_{i,t} = \frac{\mathrm{TA}_{i,t}}{\mathrm{Asset}_{i,t-1}} - \left(a_1 \frac{1}{\mathrm{Asset}_{i,t-1}} + a_2 \frac{\Delta\mathrm{REV}_{i,t} - \Delta\mathrm{REC}_{i,t}}{\mathrm{Asset}_{i,t-1}} + a_3 \frac{\mathrm{PPE}_{i,t}}{\mathrm{Asset}_{i,t-1}} + \varepsilon_{i,t}\right) \quad (4)$$

In models (3) and (4), TA is total Commitments, which equal operating profits minus operating cash flow, Asset is total assets, ΔREV is changes in sales, ΔREC is changes in receivables, and PPE is gross fixed assets.

4.3 Regression models

The following multivariate regressions are used to test the hypotheses.

$$\mathrm{Tradingcost} = \beta_0 + \beta_1 \mathrm{Commitment} + \beta_2 \mathrm{Size} + \beta_3 \mathrm{Price} + \beta_4 \mathrm{Volatility} + \beta_5 \mathrm{Volume} + \beta_6 \mathrm{State} + \mathrm{Year} + \mathrm{Industry} + \varepsilon \quad (5)$$

$$\mathrm{Tradingcost} = \beta_0 + \beta_1 |\mathrm{abacc}| + \beta_2 \mathrm{Dum1} + \beta_3 |\mathrm{abacc}| \times \mathrm{Dum1} + \beta_4 \mathrm{Size} + \beta_5 \mathrm{Price} + \beta_6 \mathrm{Volatility} + \beta_7 \mathrm{Volume} + \beta_8 \mathrm{State} + \mathrm{Year} + \mathrm{Industry} + \varepsilon \quad (6)$$

$$Tradingcost = \beta_0 + \beta_1 |Noracc| + \beta_2 Dum2 + \beta_3 |noracc| \times Dum2 + \beta_4 Size + \beta_5 Price + \beta_6 Volatility + \beta_7 Volume + \beta_8 State + Year + Industry + \varepsilon \quad (7)$$

In the regressions, $Tradingcost$ is the stock trading cost, which equals the natural logarithm of QSP and ESP, Commitment is the components of Commitments, which is equal to the absolute value of abnormal Commitments ($|abacc|$) or normal commitments ($|noracc|$). On the basis of the foregoing analysis, the sign of Commitment is predicted to be positive in Eq. (5). Eqs. (6) and (7) examine the influence of short-selling constraints in the stock market on the relationship between commitment components and stock trading costs. $Dum1$ and $Dum2$ are dummy variables.

When $abacc$ is negative, $Dum1$ is 1, and otherwise 0. Similarly, when $noracc$ is negative, $Dum2$ is 1, and otherwise 0. As previously noted, when normal and abnormal commitments are positive, there is little informed trading by investors because of short-selling constraints. When they are negative, in contrast, more informed trading takes place. Therefore, negative abnormal and normal commitments exert a greater influence on stock trading costs than positive abnormal commitments. Thus, the coefficients on $|abacc| \times Dum1$ and $|noracc| \times Dum2$ are expected to be positive.

Last research finds a positive relationship between firm size and disclosure. More analysts absorb in large firms than their smaller counterpoints. Larger firms also feature a higher degree of information transparency, less severe information asymmetry, and lower trading costs. The coefficient on $Size$ is therefore expected be negative. More severe information asymmetry in firms with a low stock price than in those with a high stock price is docketed by Venkatesh and Chiang (1986). Hence, the coefficient of Price is expected to be negative. Moreover, firms with greater volatility face a higher market risk, suggesting a positive coefficient for Volatility. Firms with a large trading volume have a higher level of liquidity, and thus, the predicted coefficient of Volume is negative. The dummy variable State is included to capture the difference in properties between state-owned

enterprises (SOEs) and non-SOEs. Year and industry fixed effects are also included in the multivariate regressions.

Table 1 is the variable definitions.

Table1. Variable definitions.

Dependent variable	
$Tradingcost$	Stock trading cost = natural logarithm of QSP and ESP, which are calculated according to Eqs. (1) and (2)
Independent variables	
$Abacc$	Abnormal commitments, calculated according to Eq. (4)
$\|abacc\|$	The absolute value of abnormal commitments.
$Noracc$	Normal commitments, calculated according to Eq. (3)
$\|noracc\|$	The absolute value of normal commitments
$Dum1$	Dummy variable; when $abacc$ is negative, $Dum1$ is 1, otherwise 0
$Dum2$	Dummy variable; when $noracc$ is negative, $Dum2$ is 1, otherwise 0
Control variables	
$Size$	Firm size = natural logarithm of total assets
$Price$	Stock price = average stock price in the year
$Volatility$	Return volatility = standard deviation of stock returns in the year
$Volume$	Stock trading volume = natural logarithm of average trading volume in the year
$State$	Dummy variable; when the firm is state-owned, State is 1, otherwise 0
$Year$	Year fixed effects
$Industry$	Industry fixed effects

5. Conclusion

Commitments purvey investors with useful information about firm value. However, not all investors can understand commitment information because of the country's low degree of market efficiency. A higher absolute value of abnormal (normal) commitments is associated with higher stock trading costs. Moreover, under the short-selling constraints that triumph in the stock market, negative abnormal (normal) commitments have a greater effect on stock trading costs than positive abnormal (normal) commitments.

This paper has symbolization for accounting theory, securities regulation, and investment. First, we can find that the basic function of accounting is not only to provide a reliable record (of abnormal commitments, for example), but also to reflect economic reality. Trading costs will increase in the securities market if investors cannot understand a firm's economic reality (such as normal commitments). Both the information and measurement viewpoints should be considered when providing accounting information in a weak efficiency market. Second, I find market efficiency can be weak and investors are naive and fixated on earnings. Thus, to help investors to correctly price earnings, the government should increase the number of security analysts and the ownership level of institutional investors. In future research, we can consider the effects of short selling constraints on the other economic consequences of earnings quality in Iran.

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