温州肯恩大学
WENZHOU-KEAN UNIVERSITY

Abnormal accruals, normal accruals and stock trading costs

In Partial Fulfillment of the Requirements

for the Bachelor of Science in Accounting

by

WENG Yuxin

1025888

May, 2020

Abnormal Accruals, Normal Accruals and Stock Trading Costs

ABSTRACT

In this paper, the relation between accruals and stock trading costs is researched. Also, both abnormal accruals and normal accruals are found that they are related with stock trading costs. Meanwhile, this paper bases the measure on the extent to which daily quoted spreads and effective spreads change with abnormal accruals and normal accruals. The results show that accruals have positive association with stock trading costs. Further, investors can find out trusting information about companies and compare prices to determine whether the investment is worthy or not, and the assistance about making investment decisions transmits from this paper to investors and even government.

Keywords: Normal Accruals; Abnormal Accruals; Stock Trading Costs

JEL Classification System: G12, G14, M41

I. INTRODUCTION

The accruals, including abnormal accruals and normal accruals, have effects on information asymmetry, and then have effects on the stock trading costs. In this paper, the relation between abnormal accruals, normal accruals and stock trading costs is researched. To solve this issue, Lei's (2013) model is used in the paper, and it's also used to identify the positive association between them. Additionally, mispricing of accruals is somewhat reflected in the research.

After observing the whole economic system, even though the stock trading costs are always low, the volume of transactions is found to be unusual (Biais, Glosten, and Spatt 2005). Therefore, reducing the cost of trading needs more attention. In Chinese stock market, lots of investors try to find out trusting information about companies and compare prices to determine whether the investment is worthy or not. The issue is that mispricing of accruals may cause the investors unable to make the expected profits. In other words, if reducing the mispricing problem as much as possible and improving the equivalence of information, it will help investors, particularly help companies themselves to calculate their performance. Otherwise, accruals are useful for those investors because investors always want to find the information about the companies.

There are several evidences from other researchers discuss this kind of question. Sloan (1996) suggests how difficult for investors to get the correct information according to accruals. This kind of issue may lead to increase of costs in trading. In addition, Lei (2013) mentions in the paper that few researchers suggest the relation between accruals and stock trading costs; as well as the relation between the bid-ask spreads and accruals and accrual quality. That's why it's needed to do such a research. In the research, A-share listed companies in the year between 2000 and 2017 are used to examine the relation.

The results show that accruals, which includes abnormal accruals and normal accruals, have positive association with stock trading costs. Although information asymmetry in different companies is still existing, investors may get more information from the companies which have high level of information volatility, and if investors buy more in the company, the company will reduce the stock trading costs. Also, another evidence that provided in the paper shows that company's value sometimes has some errors in accruals because different investors always have different opinions.

This paper firstly uses the accounting information, such as balance sheet and income statement, to give researchers and investors some records that are reliable in a certain extent. Secondly, this paper can help investors to make the decisions relying on the idea of companies' disclosure. Otherwise, this paper can guide government in the management of investment. For example, companies in China have better to let investors to know more information about them, which includes but isn't limited to how to earn and what can help them earn. If companies can do that, the stock trading costs may decrease because investors know more about those companies.

The remainder of the paper is structured as follows:

Section two is the literature review which includes the relative information, including previous researches about accruals, stock trading price, and both of them. The hypothesis development is also in this section. Section three is the research methodology according to the hypothesis which made in section two. Section four has the empirical results, and Section five concludes the whole paper.

II. LITERATURE REVIEW

Accruals

Previous researches give plenty of evidence about accruals; for example, accruals quality and mispricing of accruals. Also, in accounting research, whether accruals play a role in summarizing company's performance is a necessary question (Subramanyam 1996).

Accruals quality in cash flows reflects accounting earnings and tells investors the degree of information security (Francis, LaFond, Olsson, and Schipper 2005). Meanwhile, according to one of Francis, LaFond, Olsson, and Schipper's (2005) contributions, accruals quality, which has two types, has effects on cost of capital. One of these two accruals quality is called discretionary accruals, which gives the evidence about future profitability's prediction (Subramanyam 1996).

Doyle, Ge, and McVay (2007) find out that the quality of accruals is related with internal controls, and this positive relation is caused by weak disclosure of information which is difficult for auditors to find out. The discretionary accruals are also estimated to have the similar results. Also, the auditors themselves don't tell the investors about problems about earnings and how accruals affect these problems, which also leads to weak information disclosure (Bradshaw, Richardson, and Sloan 2001).

Healy and Palepu (2001) give the idea that investors will take risks in predicting future returns with low information disclosure. Also, companies with high levels of disclosure, which means them hence low information risk. When this conclusion applies to accruals, less errors can help investors know the companies more.

As for the other example that mentions before, mispricing of accruals overestimates the value in the market (Xie 2001). Xie (2001) also finds that the judgment of management. the market overpricing of abnormal accruals blocks management's judgment. According to Chan, Chan, Jegadeesh, and Lakonishok (2006), in all the components of accruals, inventory mispricing is serious in market mispricing.

In a research from Francis and Krishnan (1999) about accounting accruals, mispricing of accruals is also revealed. Accruals can't be verified before auditing because they are all from companies', particularly company's managers' subjective estimates about their companies' future outcomes. They also find out that auditing is not certain in companies, and the estimation errors will be a concern problem.

Further, the mispricing of accruals happens in many accrual companies (Hribar and Collins 2002). Otherwise, Richardson, Sloan, Soliman, and Tuna (2005) also find some reasons that cause the mispricing of accruals, such as some accruals without enough reliable information, earning with low persistence, and unexpected problems that investors may face in the stock market.

Stock trading costs

Pagano, Randl, Röell, and Zechner (2001) investigate some exchanges which include stock trading costs correlate companies' choices. It gives the idea that stock trading costs is important in companies.

Stock trading costs is confirmed by a stock-split behavior model which is developed by Brennan and Copeland (1988) with stock prices, and this model can help researchers focus more on how stock trading costs exists and how can this cost affect the stock market. Otherwise, in the market, if focusing on stock trading costs, investors can find that the bid-ask spread is always ignored (Phillips, and Smith Jr 1980).

Korajczyk and Sadka (2004) also have researches about stock trading costs. They evaluate trading strategies in their methodology, and these strategies divide the costs into effective spreads and quoted spreads when the costs are proportional. They also mention that trading costs are important in these strategies because of the sensitivity. For example, even

though an extremely small investment is taken into account, trading costs will decrease sharply (Korajczyk and Sadka 2004). Moreover, another research from He and Niu (2009) also includes spreads, which is a measure to stock trading costs, and the spreads can affect the investment returns from the investors.

Accruals and stock trading costs

Accruals always cover some errors and some subjective judgements, which causes the asymmetric information between investors and companies and the difficulty of investors to understand the earnings (Lei 2013). The relation between accruals and stock trading costs relies on these accruals with errors, and there are only a few researches which investigate the relation below can be found.

Bhattacharya, Desai, and Venkataraman (2009) discuss the quality of earnings and how it reveals in trading costs, and then shows in the information asymmetry. To the companies who use their information to attract investors or to the companies who participate into market, poor quality's impact will be huge.

Meanwhile, some papers have used bid-ask spreads to research what will happen according to the quality of earning. A company with less earnings which can be predicted can find the relation between the level of predictability of earnings and bid-ask spreads; however, companies with high earnings which can be predicted can't find this kind of evidence (Affleck-Graves, Callahan, and Chipalkatti 2002).

As for the comparison between earnings and cash flow, Jayaraman (2008) finds whether earnings are more fluent, or earnings are more unstable, bid-ask spreads will be high. Jayaraman (2008) has another finding that the distortion of information is mostly due to managers and the optional choices they make, no matter earnings are more fluent or more

unstable. Further, Lang, Lins, and Maffett (2012) test when the uncertainty of investors in companies is high, if these companies' transaction costs is low, the transparency about earnings and companies themselves will be high.

Hypothesis development

Dechow, Ge, and Schrand (2010) reports that the accrual-based earnings connect with the growth of sales revenue, and two components of accruals, fundamental accruals and error accruals, both measure companies' earnings. The fundamental one seems like the expected cash flows which come into being during a while, and the error one can measure companies' basic process in earnings because it shows accounting system's ability (Dechow, Ge, and Schrand 2010; Lei 2013).

Error accruals have abnormal accruals as one of the important types of themselves, and several researchers estimate abnormal accruals and how abnormal accruals work for managers in companies to communicate private information. For example, Jones model is modified by Subramanyam (1996) to find out the relation between abnormal accruals and information content. Abnormal accruals are proved to use in communicating private information.

However, Francis and Krishnan (1999) discover that company's managers always use the abnormal accruals to make their own benefit, which will increase company's costs, particularly agency costs. Also, the way managers do will cause asymmetrical information level to investor.

As for abnormal accruals in China, Wang and Lian (2010) researches the abnormal accruals which increase after a sponsor system puts into force in China. In the same year, Zhang (2010) presents the type of earnings management and private offering is related. Otherwise, controlling the behavior of shareholders to hollow out and companies' loss in their first year

are related (Lei and Liu 2007). In general, abnormal accruals always have opportunity to lead to asymmetrical information in China.

However, not only mispricing of abnormal accruals, but also mispricing of normal accruals can make the accruals' identification to be inaccurate (Sloan 1996; Bradshaw, Richardson, and Sloan 2001). Chan, Chan, Jegadeesh, and Lakonishok (2006) research the mispricing normal accruals and find two possible aspects. One is about how normal accruals reflect based on past sales; the other is about how normal accruals affect company's operating conditions. A research reflects that normal accruals affect business conditions and net assets (Fairfield, Whisenant, and Yohn 2003).

To combine both abnormal accruals and normal accruals during information obtaining, some investors always get information faster than other investor; for example, institutional investors (Hand 1990). This may help these investors to know more about the companies they invest and help them decrease stock trading costs. Meanwhile, Lei (2013) investigates that abnormal accruals and normal accruals cause the information asymmetry, which will also have effects to stock trading costs.

Therefore, the hypothesis develops as follows:

H. The absolute value of both abnormal accruals and normal accruals both have positive association with the stock trading cost.

III. RESEARCH METHODOLOGY

According to Lei's model (2013), stock trading costs are calculated by daily quoted spreads and effective spreads, QSP and ESP. Also, in Korajczyk and Sadka's (2004) paper, these two spreads are also researched, and spreads are suitable for the measurement of stock

trading costs. Particularly, spreads can affect investment returns (He and Niu 2009). Therefore, QSP and ESP are used to calculate the stock trading prices.

The equations of QSP and ESP are in the following:

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

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

where,

QSP = the daily quoted spreads;

ESP = the daily effective spreads;

D = one year's trading days;

Bid = the highest bid price;

Ask = the lowest ask price;

Num = one day's transaction number;

P = the stock price.

When calculating daily quoted spreads (QSP) and daily effective spreads (ESP), they need to first be the average spreads in a day, and then they become daily average spreads by year. Nevertheless, Lei (2013) discusses when the highest bid price (Bid) is higher than the lowest ask price (Ask), the data need to be excluded. When the lowest ask price (Ask) is not positive, the data also need to be excluded.

Lei (2013) also uses modified Jones model (Dechow, Sloan, and Sweeney 1995) to calculate abnormal and normal accruals. The coefficients, α_1, α_2, α_3, and ε, in the following

first equation will be used to calculate the abnormal accruals (Abacc) for each industry in every fiscal year.

The equations are in the following:

$$\frac{TA_{i,t}}{TotA_{i,t-1}} = \alpha_1 \frac{1}{TotA_{i,t-1}} + \alpha_2 \frac{\Delta Sales_{i,t}}{TotA_{i,t-1}} + \alpha_3 \frac{FA_{i,t}}{TotA_{i,t-1}} + \varepsilon_{i,t}$$

$$Abacc_{i,t} = \frac{TA_{i,t}}{TotA_{i,t-1}} - \left(\alpha_1 \frac{1}{TotA_{i,t-1}} + \alpha_2 \frac{\Delta Sales_{i,t} - \Delta Rec_{i,t}}{TotA_{i,t-1}} + \alpha_3 \frac{FA_{i,t}}{TotA_{i,t-1}} + \varepsilon_{i,t} \right)$$

where,

TA = the total accruals, which equals to the operating profit minus operating cash flow;

TotA = the total assets;

Δ*Sales* = the changes in sales;

Δ*Rec* = the changes in receivables;

FA = the gross fixed assets;

Abacc = the abnormal accruals.

Meanwhile, the regression model is in the following. This paper uses the model developed by Lei (2013).

$$STC_{i,t} = \beta_0 + \beta_1 Acc_{i,t} + \beta_2 Size_{i,t} + \beta_3 Price_{i,t}$$

$$+ \beta_4 Volatility_{i,t} + \beta_5 Volume_{i,t} + Year + Industry + \varepsilon_{i,t}$$

where,

STC = the stock trading costs, which equals to the natural logarithm of *QSP* and *ESP*;

Acc = the accruals, which is the absolute value of abnormal accruals or normal accruals;

Size = the company size, which is the natural logarithm of total assets;

Price = the stock price, which is one year's average stock price;

Volatility = the return volatility, which is the standard deviation of one year's stock returns;

Volume = the stock trading volume, which is the natural logarithm of average trading volume;

Year = the year fixed effects;

Industry = the industry fixed effects.

Due to the analysis above, the coefficient of accruals (Acc), β_1, is predicted to be positive. Also, stock trading costs (STC) is the dependent variable, and accruals (Acc) is the independent variable. The other variables, size, price, volatility, volume, year and industry, are all the control variables.

Based on Lang and Lundholm (1993), company size has positive relation with information disclosure. Companies with large company size theoretically have higher earnings transparency, and then these companies will have lower stock trading costs. Therefore, the coefficient of size, β_2, is expected to be negative. As for stock price, companies with higher stock price have lower level of information disclosure, so the coefficient of stock price, β_3, is also expected to be negative (Venkatesh, and Chiang 1986).

Kanagaretnam, Lobo, and Whalen's research (2007) give the idea about the coefficient of volatility, β_4. Companies which have higher volatility is established to have higher market risk; therefore, this volatility, β_4, is willing to be positive. On the basic of positive relation with volume and liquidity, the coefficient of volume, β_5, is expected to be negative. Other two control variables, year and industry, also help the regression model work.

Table 1 in the appendix of this paper is the total definition of variables, which also includes the arithmetic of some variables.

IV. EMPIRICAL RESULTS

Sample selection

The research is based on a sample of 18 sample years from 2000 to 2017. The China Stock Market and Accounting Research (CSMAR) Solution will help the research about the sample data, and all the missing values are excluded. The sample includes all A-share companies from CSMAR, and there are 7,187,357 observations in the sample after eliminating missing variables.

Descriptive statistics

Table 2.1: Summary statistics.

Variables	N	Mean	Sd	Min
STC	7187357	7.480999	2.286092	-10.20179
Acc	7187357	.1219011	3.963983	2.97e-07
Size	7187357	21.61264	1.294987	10.8422
Price	7187357	13.83794	12.77702	.0963712
Volatility	7187357	.0317064	.0270207	0
Volume	7187357	15.11851	1.309126	6.180017

Table 2.1: Summary statistics cont.

Variables	Max	P25	P50	P75
STC	14.82236	6.413257	8.722822	9.08812
Acc	1207.112	.02811	.0602337	.102334
Size	28.85721	20.74905	21.4637	22.30121
Price	380.9627	6.604886	10.41364	16.6945
Volatility	2.55924	.0229467	.0281737	.0356174
Volume	20.68415	14.18719	15.18358	16.04209

Table 2.1 and table 2.2 show the summary statistics. STC here represents QSP's natural logarithm and ESP's natural logarithm. The mean value of STC is 7.480999; however, the minimum value is -10.20179, and the maximum value is 14.82236, which shows that different companies have highly different of the stock trading costs. Meanwhile, the minimum value of

accruals has a far cry from the maximum value, which represents different earning management from different companies.

As for those control variables, the mean value of size is 21.61264, which is similar as Lei's (2013) result, 21.3690. The mean value of stock price is 13.83794, which is a little bit higher than previous date, 9.0480, by Lei (2013). The return volatility's mean value is 0.0317064, which is similar as the previous research from Lei (2013) with the mean value of 0.0340 and is higher than data from US's NYSE or AMEX companies (Chung, Elder, and Kim 2010).

Variable correlation

Table 3: Correlations between variables.

Variables	STC	Acc	Size	Price	Volatility	Volume
STC	1.0000					
Acc	-0.0046*	1.0000				
Size	0.0501*	-0.0753*	1.0000			
Price	0.0439*	-0.0040*	-0.0472*	1.0000		
Volatility	0.0289*	0.0039*	-0.0930*	0.1409*	1.0000	
Volume	-0.0135*	0.0003	0.5283*	-0.0375*	0.1239*	1.0000

*** p<0.01, ** p<0.05, * p<0.1

Table 3 is the correlations between different variables. The correlations between stock trading costs and accruals, stock trading costs and volume, accruals and size, accruals and price, size and price, size and volatility, price and volume are negative. Also, the other correlations are positive.

Regression analysis

Table 4: Regressions of accruals on stock trading costs.

Variables	(1) STC	(2) STC	(3) STC	(4) STC	(5) STC
Acc	0.001***	0.001***	0.001***	0.001***	0.001***
	(16.323)	(16.323)	(16.323)	(16.323)	(16.323)
Size	0.159***		0.159***	0.159***	0.159***
	(172.406)		(172.406)	(172.406)	(172.406)
Price	0.007**	0.007**		0.007**	0.007**
	(125.640)	(125.640)		(125.640)	(125.640)
Volatility	3.346***	3.346***	3.346***		3.346***
	(46.789)	(46.789)	(46.789)		(46.789)
Volume	-0.112***	-0.112***	-0.112***	-0.112***	
	(-133.728)	(-133.728)	(-133.728)	(-133.728)	
Constant	5.546***	5.546***	5.546***	5.546***	5.546***
	(318.205)	(318.205)	(318.205)	(318.205)	(318.205)
Observations	7,187,357	7,187,357	7,187,357	7,187,357	7,187,357
R-squared	0.008	0.008	0.008	0.008	0.008
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
Pseudo R-sq					

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4 shows the regression's results of accruals on the stock trading costs. The coefficient of the absolute number of accruals, β_1, is positive, which is the same as the hypothesis developing in the section after literature review. As for other control variables, the coefficients of volatility, β_4, is positive, and volume, β_5, is negative, which are both consistent with the expectations.

The coefficients of volatility, β_4, is positive, so companies with high return volatility have high trading price, suggesting that investors may gain more information from companies with low stock volatility, and companies are perhaps established to have higher market risk. Meanwhile, the relation between stock volume and stock trading price is negative, suggesting

that low stock trading volume will increase the stock trading costs, and increase both daily quoted spreads and daily effective spreads.

However, the coefficients of size, β_2, and price, β_3, are positive, which are both not consistent with the expectations. These results perhaps signify small companies or companies with low stock price sometimes may have low stock trading price.

V. CONCLUSIONS

The investors always find the information about the companies that they are interested in by the value of the companies, which means that accruals are useful for those investors. However, if investors have a little bit knowledge about the accruals or any other technical information about the value of companies, this paper will give them some ideas about it. The higher absolute value of accruals has, including abnormal accruals and normal accruals, the higher stock trading costs will appear. Lei (2013) also finds that Chinese investors are not understandable about both abnormal accruals and normal accruals.

This paper firstly uses the accounting information; for example, the balance sheet of the companies and the income statement of the companies. Also, all the values that find in these two sheets give not only researchers but also investors some records that are reliable in a certain extent. In the security markets, if the investors know lots of information about the companies, the stock trading costs will decrease because of the reliability.

This paper secondly shows the idea about disclosure in companies. Investors always trust companies with high level of disclosure. However, companies will never put all the information about them in public. Therefore, this paper can help investors to make the decisions about whether invest or not. If companies' information can be considered by company's managers to show as more as it can to the investors in the stock market, investors may know

more about the companies and their economic reality.

This paper finally suggests that investors should focus on these two components of accruals, abnormal accruals and normal accruals, to make sure they will not lose their money as much as possible. The government can also guide the investment in some degrees; for example, analyzing stock market for investors and managing the level of shareholding. Meanwhile, future researches are necessary about Chinese stock market.

APPENDIX

Table 1 is the total definition of variables, which includes all the equations.

Table 1: Variable definitions.

QSP	The daily quoted spreads
ESP	The daily effective spreads
D	The number of trading days in a year
Bid	The highest bid price
Ask	The lowest ask price
Num	The number of transactions in a day
P	The stock price
TA	Total accruals = operating profit – operating cash flow
TotA	Total assets
$\Delta Sales$	Changes in sales
ΔRec	Changes in receivables
FA	Gross fixed assets
STC	Stock trading costs = natural logarithm of QSP and ESP
Acc	Accruals = the absolute value of abnormal accruals or normal accruals
Abacc	Abnormal accruals
Size	Company 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
Year	Year fixed effects
Industry	Industry fixed effects

REFERENCES

Affleck-Graves, J., C. M. Callahan, and N. Chipalkatti. 2002. Earnings predictability, information asymmetry, and market liquidity. *Journal of Accounting Research* 40(3), 561–583.

Bhattacharya, N., H. Desai, and K. Venkataraman. 2009. Earnings quality and information asymmetry. Edwin L. *Cox School of Business, Southern Methodist University, Working paper.*

Biais, B., L. Glosten, and C. Spatt. 2005. Market microstructure: a survey of microfoundations, empirical results and policy implications. *Journal of Financial Markets* 8(2), 217–264.

Bradshaw, M.T., S. A. Richardson, and R. G. Sloan. 2001. Do analysts and auditors use information in accruals?. *Journal of Accounting research* 39(1), 45-74.

Brennan, M.J., and T.E. Copeland. 1988. Stock splits, stock prices, and transaction costs. *Journal of financial economics* 22(1), 83-101.

Chan, K., L. Chan, N. Jegadeesh, and J. Lakonishok. 2006. Earnings quality and stock returns. *Journal of Business* 79(3), 1041–1082.

Chung, K.H., J. Elder, and J. Kim. 2010. Corporate governance and liquidity. *Journal of Financial and Quantitative Analysis* 45(2), 265–291.

Dechow, P. 1994. Accounting earnings and cash flow as measures of firm performance: the role of accounting accruals. *Journal of Accounting and Economics* 18, 3–42.

Dechow, P., W. Ge, and C. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50, 344–401.

Dechow, P.M., R.G. Sloan, and A. P. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70, 193–225.

Doyle, J.T., W. Ge, and S. McVay. 2007. Accruals quality and internal control over financial reporting. *The accounting review* 82(5), 1141-1170.

Fairfield, P., S. Whisenant, and T. Yohn. 2003. Accrued earnings and growth: implications for future profitability and market mispricing. *The Accounting Review* 78, 353–371.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of accounting and economics* 39(2), 295-327.

Francis, J. R., and J. Krishnan. 1999. Accounting accruals and auditor reporting conservatism. *Contemporary accounting research* 16(1), 135-165.

Hand, J. 1990. A test of the extended functional fixation hypothesis. *The Accounting Review* 65, 740–763.

Healy, P. M., and K. G. Palepu. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics* 31(1-3), 405-440.

He, X., and H. Niu. 2009. The externality of liquidity and inverse selection. *Management World* 7, 56–66.

Hribar, P., and D.W. Collins. 2002. Errors in estimating accruals: Implications for empirical research. *Journal of Accounting research* 40(1), 105-134.

Jayaraman, S. 2008. Earnings volatility, cash flow volatility, and informed trading. *Journal of Accounting Research* 46(4), 809–851.

Kanagaretnam, K., G. Lobo, and D. Whalen. 2007. Does good corporate governance reduce information asymmetry around quarterly earnings announcements? *Journal of Accounting and Public Policy* 26, 497–522.

Korajczyk, R.A., and R. Sadka. 2004. Are momentum profits robust to trading cost? *The Journal of Finance* 59(3), 1039–1082.

Lang, M., K. Lins, and M. Maffett. 2012. Transparency, liquidity, and valuation: international evidence on when transparency matters most. *Journal of Accounting Research* 50, 729–774.
Lang, M., and R. Lundholm. 1993. Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of Accounting Research* 31(2), 246–271.
Lei, G., and H. Liu. 2007. Nature of controlling shareholders, tunneling and magnitude of earnings management. *China Industrial Economy* 8, 90–97.
Lei, Q. 2013. Accrual components and stock trading costs. *China Journal of Accounting Research* 6(4), 287-300.
Pagano, M., O. Randl, A.A. Röell, and J. Zechner. 2001. What makes stock exchanges succeed? Evidence from cross-listing decisions. *European Economic Review* 45(4-6), 770-782.
Phillips, S.M., and C.W. Smith Jr. 1980. Trading costs for listed options: The implications for market efficiency. *Journal of financial economics* 8(2), 179-201.
Richardson, S., R. Sloan, M. Soliman, I. Tuna. 2005. Accrual reliability, earnings persistence and stock prices. *Journal of Accounting and Economics* 39, 437–485.
Shleifer, A. 2000. Inefficient Markets: An Introduction to Behavioral Finance. *Oxford University Press, Oxford.*
Sloan, R.G. 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review* 71(3), 289–315.
Subramanyam, K.R. 1996. The pricing of discretionary accruals. *Journal of accounting and economics* 22(1-3), 249-281.
Venkatesh, P., and R. Chiang. 1986. Information asymmetry and the dealer's bid-ask spread: a case study of earnings and dividend announcements. *Journal of Finance* 41(5), 1089–1102.
Wang, K., and P. Lian. 2010. Does the sponsor system improve the earnings quality of IPO firms? *Management World* 8, 21–34.
Xie, H. 2001. The mispricing of abnormal accruals. *The accounting review* 76(3), 357-373.
Zhang, W. 2010. Private offerings and earnings management. *Management World* 1, 54–63.