

Auditing Quality, Investor Sentiment and Earnings Response

---Evidence from the Chinese A-Share Market

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Abstract

The purpose of this study is to investigate whether auditing quality mitigates the impact of the investor's sentiment on share market response to earnings news. Auditing quality involves auditor reputation quality and auditor implicit quality. The high-quality of auditing work can not only enhance the investors' confidence, but also reduce the transaction costs. Using 12,345 observations from the Chinese A-share market over the period 2007 to 2014, the empirical results demonstrate that the different auditing quality signals generate the distinct influences on the investors. Specifically: (1) there is an insignificant relation between auditor reputation quality and the influence of investor sentiment on share market response to earning news; (2) there is a significant association between auditor implicit quality and the influence of investor sentiment on share market response to earning news.

Keywords: auditing quality, investor sentiment, earnings response, information asymmetry, signaling theory

1. Introduction

The behavioral finance theory illustrates that the over demand of the irrational investors results in the mispricing in share market. Baker and Wurgle (2006) document that the investors tend to invest the specific shares such as small shares, young shares, high volatility shares, unprofitable shares, non-dividend-paying shares, extreme growth shares, and distressed shares. Their empirical results indicate that the higher beginning-of-period proxies for investor sentiment the lower subsequent returns these categories of shares. The investor sentiment, broadly defined, plays a crucial role in the cross-section of share prices, realized returns, or expected returns. Therefore, the investor sentiment has a significant impact on share market response to earnings news.

Chinese A-share market is an emerging economy with a unique investing and governance environment. A variety of governance mechanisms such as auditors have been introduced into the Chinese share market from the developed countries to prevent minority investors from economic losses. A-share market is driven by market rumor and individual investor sentiment. Most investors in A-share market is in possession of little financial information and frequently follow the investing strategies of others. According, any unexpected news appears to contribute to the volatility of A-share market in China.

Using data on Chinese A-share listed firms from 2007 to 2011 Chang and Chen (2014) investigate whether internal control mitigates the impact of investor sentiment on share market response to earnings news. Their empirical findings are that for firms with low internal control quality, share market responses to earnings news are more likely to be influenced by investor sentiment. The high (low) investor sentiment increases with earnings response coefficients of good (bad) news. In contrast, for listed firms with high internal control quality, high (low) investor sentiment decreases with earnings response coefficients of good (bad) news. These findings seem to suggest that high internal control quality can mitigate the effect of investor sentiment on earnings response coefficients. There are more evident in small firms and non-state owned firms.

The extant studies (e.g. Mian and Sankaraguruswamy 2008; Yao et al. 2015) view the external audit as the effective

signal to mitigate asymmetric information between principals and agents. DeAngelo (1981) defines the auditing quality as the auditor's finding and reporting financial statements with material misstatement or omission of joint probability. Chen et al. (2009) mention that auditing quality includes two dimensions: the market perception of auditing quality and the auditor implicit quality. The former means the auditor reputation while the latter refers to the "supervision strength" and the "information quality" by the auditors. Fair auditing works are viewed as a signal to ease the information asymmetry between investors and firms. The influences of the investor sentiment on share market response to earnings news can be restrained by the good reputation of the auditors and the auditor implicit quality. Accordingly, this study aims to investigate whether auditing quality mitigates the impact of the investor's sentiment on share market response to earnings news in A-share market.

The remainder of the paper is organized as follows. In the following section, an overview of the auditing quality and prior research into accounting for investor sentiment and earning response are introduced. From this, hypotheses are developed in the third section. In Section 4 the research design is described and includes the various measures of the auditing quality and control variables used in the analyses. Section 5 provides some preliminary descriptive results and sets out the main results of the analysis regarding auditing quality and the influence of investor sentiment on share market response to earning news, together with robustness tests. Finally, the conclusions are presented in Section 6.

2. Related Literature

2.1 Auditing Quality

The existing studies find little difference between auditing quality and auditing independence. The high degree of auditing independence implies high auditing quality (DeAngelo 1981b). Auditing quality consists of market perception of auditing quality and the implicit auditing quality. The market perception of auditing quality is frequently viewed as being equal to the auditor implicit quality, while good reputation of auditors is regarded as an assurance to the high quality of accounting information in most developed capital markets. The auditors with good reputations are likely to provide high quality of financial information for litigation risks and reputation costs. Lin and Wang (2013) indicate that the auditing firms with higher reputation take higher risk and litigation costs. Lin and Wang provide the evidence of a positive association between auditor reputation and information quality for the international auditing firms. Guo and Huang (2015) document that there is a significant positive relation between auditor reputation and information quality over the period from 2007 to 2012.

However, Guo (2007) finds that the higher reputation of the auditing firms decreases with the implicit auditing quality during the year of 2007 to 2009 in the Chinese share market. Liu (2007) demonstrates that the international auditing firms enjoy the lower litigation costs and supervision costs. As the result, the higher the reputation of auditing firms leads to a lower information quality. Moreover, Liu and Liu (2007) regard the implicit auditing quality as both auditing opinion and the discretionary accruals. Gopal (2003) agrees the measure of the auditing quality as the accuracy of financial information which can be correctly reflected and predicted for the future cash flow and earnings.

Nevertheless, Carcello et al. (2014) critically pointed out that the traditional measures for the auditing independence (or the auditing quality) appear to lots of limitations that have no support the proposed relation between non-audit services and auditor independence. Using a new measure of goodwill impairments as the implicit auditing quality their empirical results reveal that the level of non-audit fees for a client is significantly and negatively related to the likelihood of recognizing the goodwill impairment in a setting where goodwill is impaired. The goodwill impairment costs the auditing firms more than the goodwill amortization. The goodwill impairment decreases with the share prices. The auditing firms likely manipulate the goodwill impairment for the self-interest or the intimidation by the clients. As the result, the goodwill impairment is an appropriate proxy for the auditing independence (or the auditing quality). Moreover, Wu and Liu (2015) demonstrate that there is a negative relation between the goodwill impairment and the share prices in the Chinese share market while Hsu and Hun (2011) indicate that the auditing firms with the good reputation tend to recognize the greater amount of goodwill impairment.

2.2 Investor Sentiment

The behavioral finance theory illustrates that investor sentiment has the greatest impact on asset prices. Stein (1996) argues that the investor sentiment is a manifestation of the irrationality. The irrational psychology leads the investors to overestimate or underestimate the share prices. Baker and Wurgler (2006) define the investor sentiment as the propensity for speculation and investigate the impact of investor sentiment on the cross-section of share returns in the Chinese A-share market. Baker and Wurgler mention that the arbitrage and the investor sentiment result in the

mispricing in share market. The arbitrage causes the mispricing for firm share with the specific characteristics such as the volatility while the investor sentiment has the significant impact on the pricing behavior.

The different investor sentiment leads the investor to invest the firms with the diverse characteristics such as the newly listed firms, the young firms, the high growth firms. In the study of Baker and Wurgler (2006) the empirical results reveal that the high investor sentiment earns the relatively lower subsequent return. When investor sentiment is high, shares of extreme growth, distressed, high-price, unprofitable and low book-market ratio earn the relatively lower returns and vice versa. The investors with high sentiment pay too much for the share with those specific characteristics. In addition, Baker and Wurgler (2006) provide the evidence of an insignificant relation between the cross-section effect of investor sentiment and its characteristic portfolio return for the capitalization, volatility and institutional ownership.

Cornell et al. (2014) investigate whether the firms with accounting information that are inherently difficult to value can mitigate sentiment-related mispricing. Their findings suggest that the sentiment-related mispricing decreases with the high quality of accounting information. They conclude that when investor sentiment is high the analysts give more favorable suggestions for firms with specific characteristics such as being more difficult to value, overestimated and negative subsequent abnormal share returns.

Moreover, Aissia (2016) examines whether home and foreign investor sentiment affect share returns. Using the total investor sentiment index of Baker and Wurgler (2006) and based on data of all the firms of the CAC All Tradable indexes over the period 2003 and 2013, Aissia finds that foreign and home sentiment are significantly related with the contrarian predictors of share returns. This finding provides evidence that home bias of share is an important component of investor sentiment. The results of Aissia (2016) are robust to the adoption of different measures of total investor sentiment.

2.3 Earning Response

Easton and Zmijewski (1989) define earnings response coefficient as the estimated relation between abnormal share returns and new information of accounting earnings announcements. Beaver et al. (1979) illustrate that the association between share prices and accounting earnings resulted from the different response on the same shares. Ball and Brown (1968) and Beaver (1968) are the first to investigate share market response to earning news. Using income numbers for 1946 through 1966 obtained from Standard and Poor's Compustat Ball and Brown (1968) finds that there is a significant association between accounting return and share market return. The useful information content of abnormal income can be essentially conveyed to the capital market and the share market typically has reacted in the same direction. Based upon a sample of annual earnings announcement released by 143 firms during the years 1961 through 1965 Beaver (1968) indicates that the erratic fluctuation of share returns and share turnover are associated with the reported earnings. This finding suggests that earnings reports involve information content.

Following Baker and Wurgler (2006), some prior studies (e.g. Mian and Sankaraguruswamy 2008; Yao et al. 2015) focus on the relation between the investor sentiment and the share market response to earning news. Jiang and Wang (2010) demonstrate that the investor sentiment has the significant positive impact on the share price. The investor's sentiment increases with the unexpected news. Mian and Sankaraguruswamy (2008), Yao et al. (2015), Jiang and Wang (2010) report that the investor sentiment systematically affects the share price. The investors tend to pay high prices when their sentiment is high. By contrast, the investors with low sentiment are merely willing to pay low share prices. Consequently, the high sentiment creates the positive reactions to the unexpected news while the low sentiment leads negative reactions to the unexpected news.

Dong et al. (2015) investigate the impact of investor sentiment on share market response to abnormal earning after the first-time going-concern modifications. Using a sample of 581 publicly accountable firms and the event study methodology, their results show that earnings response coefficients is featured by a significant downward trend in the quarters following the going-concern modifications. However, when the going-concern modifications is unexpected this finding appears to be driven by firms. Firms with high Z-scores prior to the going-concern modifications experience an immediate and prolonged decline in earnings response coefficients over the four quarters subsequent to the going-concern modifications while those firms with lower Z-scores have no change in earnings response coefficients. The results are consistent with the going-concern modifications potentially signaling that the earnings numbers generated by the firm are noisier or less persistent than was previously assumed. Their empirical finding makes an important contribution to the going-concern literature by demonstrating the going-concern modifications affect the pricing of earnings.

Furthermore, Hosseinia et al. (2016) aim to investigate the possible impact of earnings management incentives on the

earnings response coefficient. Using a sample of 100 listed firms in Tehran Stock Exchange over the year of 2007 through 2013 their empirical results show that there is no relation between earnings management incentives and earnings response coefficients. Mian and Sankaraguruswamy (2012) investigate the impact of market-wide investor sentiment on the share price sensitivity to firm-specific earnings news. Using the measure of investor sentiment by Baker and Wurgler (2006) the empirical results reveal that higher sentiment leads to higher share price sensitivity to good earnings news whereas lower sentiment results in higher share price sensitivity to bad earnings news. The investor sentiment has a significant impact on the earnings news of small shares, young shares, high volatility shares, non-dividend paying shares and shares with extremely high and low market-to-book ratios. Accordingly, the general mispricing of shares resulted from the sentiment-driven mispricing of earnings.

3. Hypothesis Development

The high auditing quality is viewed as a signal to prevent the investors from economic losses. Jensen and Meckling (1976) point out that there is the significant information asymmetric between managers and investors. The managers, whose motive, by the self-interest appear to transfer shareholder wealth to selves. Chow (1982) and Randolph (1982) implies that the investors are able to realize the self-interest of managers and are merely willing to pay low for the purchase of bonds and shares, leading both honest and dishonest managers have the same capital cost. The honest managers choose to hire the auditors with a good reputation as a signal for the investors to avoid inefficient financing activities because of the higher risk of litigation for the high quality auditors (Balachangon and Ramakriaman 1980; Cornell et al. 2014). Accordingly, the investors see the high quality auditors as being able to mitigate information asymmetries.

Cornell et al. (2014) and Chang and Chen (2014) illustrate that the information asymmetry causes the impact of investor sentiment on the share prices and earnings response. The more the information asymmetry, the more errors the estimation of future cash flow. Previous studies (e.g. Cornell et al. 2014) also document that the auditors can mitigate the information asymmetry. The high reputation of auditors is significantly and positively related to the high quality of the financial reports. Auditors with good reputation can help the investors accurately evaluate market share. The signal of the auditors with a good reputation is regarded as the reduction of the mispricing behavior and share market response to earning news. The high auditing quality can improve the accounting information quality and provide the investors with accurate recognition of share prices.

Chen et al. (2009) mention that auditing quality includes two dimensions: the market perception of auditing quality and the implicit auditing quality. The former means the auditors' reputation while the latter refers to the "supervision strength" and the "information quality" by the auditors. The high auditing quality contributes to the high quality of accounting information and transparent disclosure of accounting information. Fair auditing works are viewed as a signal to ease the information asymmetry between investors and firms. The influences of the investor sentiment on share market response to earnings news can be restrained by the good reputation of the auditors and the implicit auditing quality. Accordingly, this is reflected in the following hypotheses:

Hypothesis 1: The auditor reputation quality can mitigate the impact of the investor sentiment on share market response to earning news

Hypothesis 2: The implicit auditing quality can mitigate the impact of the investor sentiment on share market response to earning news.

4. Methodology

The tests are based on the empirical framework of Cornell et al. (2014). To test hypotheses, this study utilizes the following regression model:

$$CAR_{it} = \alpha_0 + \alpha_1 UEup_{it} + \alpha_2 UEup_{it} * SENT_{it} + \alpha_3 UEdown_{it} + \alpha_4 UEdown_{it} * SENT_{it} + \alpha_5 SIZE_{it} + \alpha_6 STATE_{it} + \sum YEAR + \sum INDUSTRY + \varepsilon \quad (1)$$

To confirm the stability and consistency of the empirical results, this study conducts model (2) for a sensitivity test.

$$CAR_{it} = \beta_0 + \beta_1 down_{it} + \beta_2 UEup_{it} + \beta_3 UEdown_{it} + \beta_4 SENT_{it} + \beta_5 UEup_{it} * SENT_{it} + \beta_6 UEdown_{it} * SENT_{it} + \beta_7 SIZE_{it} + \beta_8 UEup_{it} * SIZE_{it} + \beta_9 UEdown_{it} * SIZE_{it} + \beta_{10} STATE_{it} + \beta_{11} LEV_{it} + \beta_{12} Beta_{it} + \beta_{13} TQ_{it} + \beta_{14} DA_{it} + \beta_{15} IMP_{it} + \beta_{16} UEup_{it} * SIZE_{it} + \beta_{17} UEdown_{it} * SIZE_{it} + \beta_{18} UEup_{it} * SENT_{it} * IMP_{it} + \beta_{19} UEdown_{it} * SENT_{it} * IMP_{it} + \sum YEAR + \sum INDUSTRY + \varepsilon \quad (2)$$

where a CAR denotes the cumulative abnormal return. Following Ball and Brown (1968) the normal return for the

firm i in year of t is $E(R_{it}) = \alpha_i + \beta_i R_{mt}$ while the abnormal return for firm i in the year of t is $AR_{it} = R_{it} - E(R_{it})$. The cumulative abnormal return for firm i during the period from t_1 to t_2 is $CAR(t_1, t_2) = \sum_{t_1}^{t_2} AR_{it}$. α_i is the intercept whereas β_i indicates the systematic risk for firm i . R_{mt} represents the market daily average return.

Based on Baker and Wurgler (2006) and Chang and Chen (2014) SENT indicates the investor sentiment index. The index is composed of three concurrent proxies and their lagged proxies for each. The three proxies include closed-end fund discount rate, new accounts in A-share market and the market turnover rate. IMP is the natural logarithm of goodwill impairment. SIZE denotes the natural logarithm of the book value of the asset. The STATE is a dummy control, 1, if the property right is controlled by the government, 0 otherwise. UE represents the unexpected earnings and is $\Delta EPS/P$. ΔEPS indicates the change earnings per share, while P denotes the opening price. Up is a dummy variable and the good news, 1 if $UE > 0$, 0 otherwise. Down indicates a dummy variable and the bad news, 1 if $UE < 0$, 0 otherwise. LEV is the financial leverage ratio representing as the book value of the debt divided by the book value of total assets. Beta is the share systematic risk in the current year. TQ is the Tobin's Q denoting as the market value of equity plus the book value of debt and the amount of non-tradable shares divided by the book value of the assets. DA is the absolute value of discretionary accruals sorted by each industry and each year. YEAR and INDUSTRY are the control variables. ε indicates the random disturbance term.

The reputation information of the auditing firms is obtained from the Chinese Institute of Certified Public Accountants (CICPA). The remaining data are gained from WIND database. All continuous variables are winsorized at the level of 1 per cent.

5. Results

5.1 Descriptive Statistics

Table 1 reports the descriptive statistics for the various variables in the sample. The sample consists of 12,345 observations over the period from 2007 to 2014. All continuous variables are winsorized at the level of 1 per cent and 99 per cent of distribution for the mitigation of outliers. The dependent variable, cumulative abnormal returns, CAR, is from -15.354 to 19.640. The mean and medium for cumulative abnormal returns are -0.396 and -0.831 respectively. The investor sentiment index, SNET, ranges from -1.630 to 5.034. The mean for SENT is close to 0. The independent variable, goodwill impairment, IMP, is from 0 to 16.323. In addition, this study divides the total sample into two sub-groups. There are 515 observations which record goodwill impairment over the period from 2007 to 2014. The mean and medium for IMP are 14.888 and 15.251 respectively, indicating that most IMP is on material impairment.

5.2 Multivariate Analysis

The regression results of the model (1) for the tests of auditor reputation are reported in Tables 2 through 4. In Table 2, the high reputation group indicates the Big 4 auditing firms or the top 10 Chinese auditing firms, low reputation group otherwise. In Table 3, the high reputation group represents the Big 4 auditing firms, low reputation group otherwise. In Table 4, without all top 10 Chinese auditing firms the high reputation group denotes the Big 4 auditing firms, low reputation group otherwise. Table 2 primarily focuses on the chow-test for $UEup*SENT$ and $UEdown*SENT$ that capture the impact of investor sentiment on earnings response coefficient between high reputation group and low reputation group. There is a positive (or negative) association between the earnings response of good (or bad) news and the investor sentiment. The coefficient for the interaction variables, $UEup*SENT$ (or $UEdown*SENT$) indicates the significantly positive (negative) values. This finding is consistent with Mian and Sankaraguruswamy (2008) and seems to imply that the good news (or bad news) results in an optimistic (or a pessimistic) valuation.

The coefficients for the interaction variables, $UEup*SENT$ and $UEdown*SENT$, of the low reputation group are -3.242 with a t-statistic of -1.01 and 3.938 with a t-statistic of 2.01 respectively. The corresponding values for the interaction variables, $UEup*SENT$ and $UEdown*SENT$, of the high reputation group, are -2.719 with a t-statistic of -1.03 and -0.329 with a t-statistic of -0.22 respectively. Importantly, the coefficient for the interaction variable, $UEdown*SENT$, is the positive significance at the level of 5 per cent for low reputation group. This finding implies that the impact of investor sentiment is more pronounced for low reputation group.

In addition, the results of the Chow-test present a significant difference between high reputation group and low reputation group. The t-statistic and p-value for $UEdown*SENT$ between high reputation group and low reputation group are 1.32, 0.188 while the corresponding values for $UEup*SENT$ are 0.11 and 0.909 respectively. Unexpected bad news ($UEdown$) and firm scales ($SIZE$) are significantly and positively associated with the cumulative abnormal return, whereas unexpected good news ($UEup$) and Property rights ($STATE$) have no significant influence on the cumulative abnormal return for both high and low reputation groups. Accordingly, the results of Table 2 seem to

suggest that the auditor reputation quality fails to mitigate the impact of the investor sentiment on share market response to earning news and there is no support for H1.

In Table 3, the high reputation group represents the Big 4 auditing firms, low reputation group otherwise. The coefficient for firm scales (SIZE) is significantly and positively associated with the cumulative abnormal return (CAR) for low reputation group, but has an insignificant impact on the cumulative abnormal return (CAR) for the high reputation group. The property rights (STATE) is insignificantly and negatively related to the cumulative abnormal return (CAR) for a low reputation group while the property rights (STATE) have a statistically negative influence on the cumulative abnormal return (CAR) for the high reputation group.

The coefficients for the interaction variables, UEup*SENT and UEdown*SENT, of the low reputation group, are -3.242 with a t-statistic of -1.01 and 1.691 with a t-statistic of 1.39 respectively. The corresponding values for the interaction variables, UEup*SENT and UEdown*SENT, of the high reputation group are 9.131 with a t-statistic of 1.71 and -4.327 with a t-statistic of -0.79 respectively. The results for Chow-test provide a significant difference between high reputation group and low reputation group. The t-statistic and p-value for UEup*SENT between high reputation group and low reputation group are 0.95 and 0.34 respectively. The corresponding values for UEdown*SENT between high reputation group and low reputation group are 0.01 and 0.992 respectively. This finding indicates that auditor reputation quality has no significant difference between low reputation group and high reputation group. Accordingly, Table 3 provides the consistent findings with Table 2. The quality of auditor reputation appears to fail to mitigate the impact of the investor sentiment on share market response to earning news.

This study deletes all top 10 Chinese auditing firms of sample for the high reputation group in Table 4. Accordingly, the high reputation group denotes the Big 4 auditing firms without all top 10 Chinese auditing firms, low reputation group otherwise. The coefficients for the interaction variables, UEup*SENT and UEdown*SENT, of the low reputation group are -2.583 with a t-statistic of -0.80 and 3.770 with a t-statistic of 1.91 respectively. The corresponding value of the high reputation group are 9.131 with a t-statistic of 1.71 and -4.327 with a t-statistic of -0.79 respectively.

The results for Chow-test provide a significant difference between high reputation group and low reputation group. The t-statistic and p-value for UEup*SENT between high reputation group and low reputation group are 0.75 and 0.454 respectively, whereas the corresponding values for UEdown*SENT between high reputation group and low reputation group are 0.01 and 0.992 separately. This finding indicates that there is no significant association between auditor reputation and investor sentiment.

The coefficients of UEup*SENT and UEdown*SENT between high reputation group and low reputation group are insignificant. Accordingly, the auditor reputation fails to mitigate the impact of the investor sentiment on share market response to earning news. Again, there is no support for H1. In addition, SIZE has a significant positive influence on the cumulative abnormal return (CAR) for a low reputation group. In contrast, STATE is significantly and negatively associated with the cumulative abnormal return (CAR) for high reputation groups. The findings imply that the control variables are more sensitive to the auditor reputation.

As mentioned above prior studies (e.g., Mian and Sankaraguruswamy 2008) demonstrate that the good news (or bad news) results in an optimistic (or a pessimistic) valuation and there is a positive (or a negative) association between the earnings response of good news (or bad news) and the investor sentiment. Table 5 shows the regression results of the model (1) for the test of implicit auditing quality. The coefficient for the interaction variable, UEup*SENT, is insignificant with a t-statistic -0.45. However, the coefficient of UEdown*SENT is the positive significance at the 5 percent level (t-statistics = 2.20). The results provide support for the H2 and reveal that there is a significant (insignificant) association between the implicit auditing quality and the earning response coefficient of bad (good) news. Accordingly, the negatively unexpected earnings news results in the mitigation of the information asymmetry and the earnings response coefficient while the positively unexpected earnings news leads the auditing quality signal to dissatisfaction.

5.3 Robustness Test

As a sensitivity test, this study conducts the following tests which primarily focus on the coefficients for the interaction variable, UEup*SENT*IMP and UEdown*SENT*IMP. The UEup*SENT*IMP and UEdown*SENT*IMP capture the differences of UEup*SENT and UEdown*SENT between low quality group and high quality group. The variable for IMP is the natural logarithm of goodwill impairment. The significantly negative (positive) coefficient for UEup*SENT*IMP (UEdown*SENT*IMP) implies that the high auditing quality indeed mitigates the impact of investor sentiment on share market response to earnings news.

5.3.1 Goodwill Impairment at Random Tests

Carcello et al. (2014) define a sample of high independent auditors as the number of impairment over 0.5 percent of sales income and ratio of market to book value less than one. However, the sample is limited in this study as the result of the accounting standard of goodwill impairment implemented in China since 2007. Accordingly, this study utilizes the model (2) for a sensitivity test. The model (2) contains more control variables with the inclusion of financial leverage ratio (LEV), Tobin's Q (TQ), the yearly systematic risk of share market (Beta), the absolute value of discretionary accruals (DA), property rights (STATE). The results are presented in column A of Table 6.

5.3.2 Professional Competence Tests

Consideration was given to whether the introduction of new accounting standard for goodwill impairment in China in the year 2007 affects the auditors' professional competence. This study, then deletes the sample firms of 2007. The results are shown in column B of Table 4.

5.3.3 ST and ST* Share

This study removes the sample firms with ST or ST* shares for the robustness test. The sample firms with ST or ST* shares might affect the empirical results. The sensitivity results are shown in column C of Table 6.

5.3.4 Cluster in Property Right Attribute

Based on WIND database a cluster of the property right attributes in this study consists of the central state-owned firms, the local state-owned firms, the collectively-owned firms, the private firms, the public firms, the foreign-funded firms and others. The robustness results are presented in column D of Table 6.

5.3.5 Another Measure of Implicit Quality

Carcello et al. (2014) point out that the proxy variables for the auditing quality appear to include the counterfactual observations. This study re-defines the natural logarithm of goodwill impairment as 0 if the auditors give a "clear" opinion and 1 otherwise. The robustness results are shown in column E of Table 6. The coefficient for UEdown*SENT*IMP is negative significance at the 1 per cent level. The results seem to suggest that the negatively unexpected earnings news results in the information asymmetry. In addition, consistent with prior studies (e.g. Dong et al., 2015 and Wang, 2014) the finding indicates that the "unclear" opinion given by the auditor's results in the information asymmetry.

Moreover, the coefficient for UEdown*SENT*IMP is significant in all sensitivity tests, whereas the coefficient of UUp*SENT*IMP is insignificant in Table 6. The coefficient of UEdown*SENT*IMP is 0.755 ($t=2.32$) in column A while the coefficient estimate for UEdown*SENT*IMP in column B is 0.751 ($t=2.36$). The coefficients of UEdown*SENT*IMP remain the positive value of 0.685 with a t-statistic 1.95 in column C and the value of 0.755 with a t-statistic of 3.72 in column D. Interesting, the coefficient estimate for UEdown*SENT*IMP is negative significance at the 1 per cent level of column E. The coefficient of UEdown*SENT*IMP is -6.404 with a t-statistic of -2.61 in column E.

However, the coefficient for UUp*SENT*IMP is -0.08 ($t=-0.13$) in column A of Table 6, while the coefficient estimate for UUp*SENT*IMP in column B of Table 6 is -0.167 ($t=-0.27$). The coefficient of UUp*SENT*IMP remains insignificance in the rest of the columns. Furthermore, the control variables such as LEV, Beta, DA and STATE are insignificant in all columns of Table 6. In contrast, the control variables, TQ and SIZE are significant in all columns of Table 6. This finding seems to suggest that the firm scales and market evaluation raise the additional explanatory effect on the cumulative abnormal return. The control variable, SIZE, has a significant positive relation to the cumulative abnormal return (CAR) in all robustness tests. Accordingly, the majority of sensitivity results in Table 6 is consistent with the regression results of the model (1) for the tests of implicit auditing quality. This finding demonstrates that the results of this study are robust.

6. Conclusions

The objective of this study is to evaluate the association between auditing quality and the impact of the investor's sentiment on share market response to earnings news. The irrational investors contribute to the volatility in the Chinese share market. The investors with little financial knowledge appear to follow others. Unexpected news easily leads the irrational investors to change investing targets. The auditors are viewed as a neutral third party which can effectively improve the problems of asymmetric information between principals and agents. The high-quality of auditing work can not only enhance the investors' confidence, but also reduce the transaction costs. Auditing quality involves auditor reputation quality and auditor implicit quality.

Using 12,345 observations from the Chinese A-share market over the period 2007 to 2014, this study examines whether auditing quality mitigates the impact of the investor's sentiment on share market response to earnings news. The empirical results demonstrate that the different auditing qualities generate the distinct influences on the investors in the Chinese A-share market. Specifically, there is an insignificant relation between auditor reputation quality and the influence of investor sentiment on share market response to earnings news. Both positively and negatively unexpected earnings news fails to mitigate the information asymmetry and the impact of the investor sentiment on share market response to earnings news. Accordingly, there is no support for H1.

In addition, the empirical results of this study illustrate that there is a significant association between implicit auditing quality and the influence of investor sentiment on share market response to earnings news. The negatively unexpected news results in the mitigation of the information asymmetry and the earnings response coefficient while the positively unexpected news leads the auditing quality signal to dissatisfaction. The reason is likely the accounting policies. Chinese accounting standards of 2006 prohibit the reversion of long-lived asset impairment. The investors perceive the bad news when a material goodwill impairment is reported for a firm. Both the material goodwill impairment reported and negatively unexpected earnings news lead the investors to unwillingly invest the firms. The investors appear to get confused for a firm reporting the material goodwill impairment and the positively unexpected earnings news. Such a news fails to mitigate the information asymmetry and the earnings response coefficient.

There are a number of limitations in this study. While the association between auditing quality and the impact of the investors sentiment on share market response to earnings news is considered, this is inconsistent with Ball and Brown (1968) who remove "noises" for the estimated period. Issues with extending the analysis to include this are the extent to which the news such as dividend declaration and new shares issue is exclusive, and concerns about the major economic cycles during the sample period on the results. No attempt was made to quantify the goodwill impairment. This was not considered possible as the regulation does not prescribe a framework for quantifying such impairments, and there is inconsistency in the labeling applied to such impairments. Furthermore, the limited sample size constrained analysis that further reduced the sample size.

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Table 1. Descriptive statistics

Variables	Max	Min	Mean	P50	S.D.	N
CAR	19.640	-15.354	-0.396	-0.831	6.117	12345
UEup	0.132	0.000	0.007	0.000	0.019	12345
SENT	5.034	-1.630	0.373	-0.274	1.677	12345
UEdown	0.000	-0.181	-0.013	0.000	0.029	12345
IMP	16.323	0.000	0.621	0.000	2.995	12345
IMP>0	16.323	2.397	14.888	15.251	1.648	515
IMP=0	0.000	0.000	0.000	0.000	0.000	11830
SIZE	11.126	8.240	9.439	9.368	0.556	12345
LEV	1.208	0.042	0.450	0.444	0.234	12345
STATE	1.000	0.000	0.420	0.000	0.423	12345
TQ	15.644	0.937	3.026	2.290	2.400	12345
DA	5.819	0.000	0.398	0.081	0.955	12345
Beta	1.632	0.000	0.626	0.786	0.527	12345

All variables as previously defined.

Table 2. The impact of auditor reputation (BIG 4 or TOP 10) on earnings response

Variables	Low reputation			High reputation		
	Coefficient	Sig.	t	Coefficient	Sig.	t
UEup	-2.344		-0.51	5.469		1.39
UEdown	5.997	*	1.87	9.145	***	3.51
UEup*SENT	-3.242		-1.01	-2.719		-1.03
Chow-test	t=0.11	p=0.909				
UEdown*SENT	3.938	**	2.01	-0.329		-0.22
Chow-test	t=-1.32	p=0.188				
SIZE	0.522	***	2.72	0.441	***	3.16
STATE	-0.293		-1.53	-0.188		-1.14
_CONS	-5.196		-2.81	-4.210	***	-2.76
N	5533			6812		
Adj. R	0.99%			1.48%		
INDUSTRY	Control			Control		
YEAR	Control			Control		

All variables as previously defined. ***, **, and * represent the statistical significance at the 1%, 5%, and 10% level respectively.

Table 3. The impact of auditor reputation (BIG 4) on earnings response

Variables	Low reputation			High reputation		
	Coefficient	Sig.	t	Coefficient	Sig.	t
UEup	1.764		0.57	-11.29		-1.12
UEdown	8.410	***	4	8.696		1.35
UEup*SENT	-4.172	*	-1.92	9.131	*	1.71
Chow-test	t=0.95	p=0.34				
UEdown*SENT	1.691		1.39	-4.327		-0.79
Chow-test	t=0.01	p=0.992				
SIZE	0.441	***	3.52	0.379		0.97
STATE	-0.206		-1.60	-1.109	**	-2.28
_CONS	-4.771	***	-3.95	-3.237		-0.78
N	11674			671		
Adj. R	1.02%			6.78%		
INDUSTRY	Control			Control		
YEAR	Control			Control		

All variables as previously defined. ***, **, and * represent the statistical significance at the 1%, 5%, and 10% level respectively.

Table 4. The impact of auditor reputation (BIG 4 without TOP 10) on earnings response

Variables	Low reputation			High reputation		
	Coefficient	Sig.	t	Coefficient	Sig.	t
UEup	-1.505		-0.33	-11.29		-1.12
UEdown	5.795	*	1.8	8.696		1.35
UEup*SENT	-2.583		-0.8	9.131	*	1.71
Chow-test	t=0.75	p=0.454				
UEdown*SENT	3.77	*	1.91	-4.327		-0.79
Chow-test	t=0.01	p=0.992				
SIZE	0.552	***	2.79	0.379		0.97
STATE	-0.298		-1.55	-1.109	**	-2.28
_CONS	-5.466	***	-2.89	-3.237		-0.78
N	5460			671		
Adj. R	0.96%			3.17%		
YEAR	Control			Control		

All variables as previously defined. ***, **, and * represent the statistical significance at the 1%, 5%, and 10% level respectively.

Table 5. The impact of implicit auditing quality on earnings response

Variables	Low reputation			High reputation		
	Coefficient	Sig.	t	Coefficient	Sig.	t
UEup	1.633		0.54	0.140		0.01
UEdown	8.495	***	4.12	11.875		1.25
UEup*SENT	-2.862		-1.38	-9.533		-0.86
Chow-test	t=-0.45	p=0.655				
UEdown*SENT	0.815		0.67	12.396	**	2.11
Chow-test	t=2.20	p=0.028**				
SIZE	0.483	***	4.23	0.290		0.45
STATE	-0.259	**	-2.04	0.2149		0.30
_CONS	-4.969	***	-4.45	-6.426		-1.01
N	11830			515		
Adj. R	1.05%			0.84%		
INDUSTRY	Control			Control		
YEAR	Control			Control		

All variables as previously defined. ***, **, and * represent the statistical significance at the 1%, 5%, and 10% level respectively

Table 6. ROBUSTNESS TESTS

Variables	A			B			C			D		
	Coefficient	Sig.	t	Coefficient	Sig.	t	Coefficient	Sig.	t	Coefficient	Sig.	t
down	-0.336	**	-2.49	-0.260		-1.92	-0.367	***	-2.70	-0.336		-1.58
UEup	9.529		0.23	8.561		0.20	6.863		0.16	9.529		0.46
SENT	-0.260	***	-3.99	-0.263	***	-4.13	-0.265	***	-4.03	-0.026		-1.67
UEup*SENT	-1.505		-0.72	-1.480		-0.72	-2.813		-1.29	-1.505		-1.02
UEdown	-12.751		0.23	-12.506		-0.42	-22.253		-0.73	-12.751		-0.76
UEdown*SENT	-0.178		-0.14	-0.172		-0.14	-0.589		-0.42	-0.178		-0.31
IMP	0.018		0.79	0.016		0.71	0.021		0.88	0.018		0.52
UEdown*IMP	0.056		1.00	0.008		0.01	-0.769		-0.53	0.056		0.05
UEup*IMP	-0.697		-0.60	-0.064		-0.05	-0.334		-0.66	-0.697		-0.57
UEup*SENT*IMP	-0.080		-0.13	-0.167		-0.27	-0.017		-0.03	-0.080		-0.12
UEdown*SENT*IMP	0.755	**	2.32	0.751	**	2.36	0.685	*	-1.95	0.755	***	3.72
SIZE	0.897	***	5.81	0.878	***	5.58	0.879	***	5.61	0.897	***	9.86
UEup*SIZE	-1.229		-0.28	-1.125		-0.26	-0.973		-0.22	-1.229		-0.54
UEdown*SIZE	1.971		0.65	1.972		0.65	2.839		0.90	-1.971		1.20
LEV	-0.039		-0.13	-0.151		-0.50	0.076		0.25	-0.039		-0.10
TQ	0.169	***	5.82	0.165	***	5.56	0.175	***	5.80	0.169	***	13.37
Beta	-0.059		-0.47	0.035		0.28	-0.064		-0.50	-0.059		-1.19
DA	0.014		0.18	-0.022		-0.27	0.004		0.50	0.014		0.20
STATE	-0.200		-1.57	-0.170		-1.27	-0.164		-1.23	-0.200		-1.22
_CONS	-9.306	***	-6.20	-7.871	***	-5.15	-9.222	***	-6.05	-9.306	***	-22.28
Adj. R	1.45%			1.84%			1.46%			1.80%		

Table 6. ROBUSTNESS TESTS (continued)

Variables	E		
	Coefficient	Sig.	t
down	-0.378	***	-2.78
UEup	0.095		0.00
SENT	-0.252	***	-3.88
UEup*SENT	-2.998		-1.33
UEdown	-41.195		-1.32
UEdown*SENT	2.056		1.41
IMP	-0.632		-1.49
UEdown*IMP	13.687	**	2.35
UEup*IMP	6.058		0.68
UEup*SENT*IMP	7.477		1.43
UEdown*SENT*IMP	-6.404	***	-2.61
SIZE	0.866	***	5.54
UEup*SIZE	-0.343		-0.07
UEdown*SIZE	4.557		1.42
LEV	0.179		0.58
TQ	0.181	***	6.08
Beta	-0.042		-0.33
DA	0.015		0.19
STATE	-0.192		-1.46
_CONS	-9.156	***	-6.05
Adj. R	1.92%		

All variables as previously defined. ***, **, and * represent the statistical significance at the 1%, 5%, and 10% level respectively.