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Earnings Management, Annual Report Patch and Accounting Comparability

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Abstract

Using the Chinese A-share listed firms over the period from 2005 to 2012, this paper examines the relationships between earnings management, annual report patch and accounting comparability. The empirical results indicate that Chinese listed companies tend to release their annual report patch after implementing accrual earnings management, but the Chinese listed companies are not likely to release their annual report patch after implementing real earnings management. Disclosing an annual report patch after implementing earnings management may have a positive impact on accounting comparability. This result indicates that an annual report patch published by sample firms may rectify disclosed errors or earnings management of a previous annual report, as a result accounting information quality will be improved.

Keywords: real earnings management (REM), accrual earnings management (AEM), annual report patch, accounting comparability

1. Introduction

A report patch is a unique phenomenon in China's capital market. Chinese scholars often equate it to financial restatements in the study of issues about a report patch, and study the phenomenon of report patch on China's capital market based on foreign literature reviews about financial restatements, but they do not deny that there are still some differences between the financial restatements and report patch. Financial reports of listed firms in the USA are publicly disclosed through the SEC's electronic data system (EDGAR). When financial restatements happened, the restated financial reports take the place of the original financial reports by the listed firms, while Chinese listed firms primarily supplement and correct the original financial reports through publishing temporary reports, such as a supplementary report, a correction report and reports of supplement and correction. The original financial reports aren't replaced, so these temporary reports are realistically called a "Report Patch". (Wei and Wang, 2007; Wang and Wei 2008). Existing studies show that implementing earnings management can lead to a report patch, the report patch can have an impact on accounting information quality, but existing studies only examine that the relationship of accrual earnings management and report patch, and the impact of a report patch on accounting information quality understood by investors (such as ERC). The relationship of real earnings management and report patch and the impact of report patch on accounting information quality itself have been researched systematically so far. This paper incorporates earnings management, report patch and accounting comparability into a research framework to study the effect of different earnings management activities to a report patch and the effect of the report patch on accounting information quality itself. We believe this study may help individual or corporate investors to better understand accounting information quality and Chinese capital market, also have more significant impact for regulatory authorities strengthening the supervision of earnings management and the report patch.

The rest of this paper is arranged as follows. Section 2 discusses the literature review and commentary. Section 3 is the theoretical analysis and empirical research hypotheses. Section 4 describes the research design. Section 5 presents the empirical analysis results. Section 6 concludes.

2. Literature Review

Kinney and McDaniel（1989）find that the sample companies that restate quarterly earnings in prior periods have a smaller scale, poor profitability, high debt ratio, slow growth and other economic characteristics relative to other companies in the same industry. Chen (2005) finds that when the performance of the patch companies is

getting worse, gross profit grows slower, debt ratio is higher and the quality of information disclosure is relatively poor. Abbott, Parker and Peters (2004) and Li and Chen (2006) find that the Audit committee and Financial Statements Restatement (patch bulletin) shows a significant negative correlation. Eilifsen and Messier (2000) think that whether setting the internal controls and whether the internal control operates efficiently or not, the external auditor's competence and diligence level can have an impact on the financial statements restatement. Romanus, Maher and Fleming (2008) find that the auditor's industry expertise helps to reduce the likelihood of financial statement restatements. Zhou (2007), Shang, Zhou and Bai (2013) and Wen, Zhang and Li (2012) studies' results indicate that checks and balance on a controlling shareholder independent director system can play an inhibitory effect on the annual report patch. Zhang and Ma (2011) and Ma and Zhang (2012) show that ownership concentration and the percentage of outstanding shares have a significant negative effect on the possibility of a report patch, while state-owned shares will significantly improve the possibility of a report patch being published, with the possibility between shareholding ratio of management and report patch presenting a U-shaped relationship.

2.1 Economic Consequences of Financial Statements Restatement (Report Patch)

Some scholars examine the impact of restatements on the capital market. GAO (2002), Anderson and Yohn (2002), Wu (2002), Palmrose, Richardson and Scholz (2004) and Gondhalekar, Joshi and McKendall (2012) studies show that the financial statement's restatement sparks significant negative market reaction and more serious economic consequences. Zhang and Xia(2013) find that the market has a negative reaction to a report patch of listed companies, the market has a significantly negative market reaction to a report patch of decreasing profit and relates significantly to a report patch about the core accounting indicators correction. But Callen, Livnat and Segal (2006) find that the market does not always punish the listed companies who issue financial statements' restatement, when financial statements restatement transfers a signal to the market of increasing reported earnings and the market does not give the company of the financial statement restatement, by negative performance. Zhou and Li (2007), Wei, Li, and Wang (2009), Li and Niu (2011), Liu and Wang (2013) find that good news has significant positive abnormal returns after a report patch is published, bad news having significant negative abnormal returns. Some scholars study of other financial markets found restatements caused economic consequences, for example the auction market and dealer market (Nguyen & Puri, 2014), the market of corporate control (Amel-Zadeh & Zhang, 2015) and bear (Drake, Myers, Scholz, & Sharp, 2015).

There are individual literature studies of the effects of the report patch in replacement of the external auditor, disclosure of internal control deficiencies and management reputation. Zhang, Zhang and Zhang (2012) find that after the state-owned enterprise published an annual report patch, the probability of the auditor being changed in patch companies is less than the non-patch companies; the non-state companies of a published report patch turn more easily to a small auditing firm, but if the auditing opinion issued is not standard, this tendency becomes more apparent. Liu, Li and Luo (2013) find that a report patch reduces management reputation and media coverage of management.

2.2 Financial Statements Restatement (Report Patch) and Accounting Information Quality

Jin, Wan and Li (2001) earlier studied the phenomena of the report patch on China's capital market. Their articles explain the investors' question about the quality of accounting information given by the report patch. Lei and Wu et al (2006) find that there is malicious behavior in that some listed companies make use of an annual report patch to flash financial information. Zhou (2007) finds that there is a lower quality of accounting information, less relevance of accounting earnings worth in the listed companies who publish a report patch. Chen (2009) finds that after a proactive report patch is published, earnings response coefficients rise, however after a passive report patch, earnings response coefficient declines. Wang (2013) uses the report patch of Chinese A-share listed firms over the period from 2006 to 2008 to examine if a report patch affects earnings persistence. It shows that patch companies' continued earnings are better than non-patch companies, and by constructing an investment portfolio that buys patch firms' stock and sells non-patch firms' stock, you can get about 6% return on investment in the coming year. Chen, Elder and Hung (2014) examine the listed firms which had a negative market reaction as to whether to adapt more prudent accounting policies to cope with the financial statements reliability crisis after restatement, and find that in the era of post-Sarbox, the listed firms with a negative market reaction indeed reduce earnings management activity after financial statements restatement, adapt more prudent accounting policies, and are more willing to hire accountants from large and more reputable firms to audit and produce a more robust financial report.

Defond and Jiambalvo (1991), Dechow, Sloan, and Sweeney (1996) and Richardson, Tuna and Wu (2003) find that accruals, as the characterization of earnings manipulation, led to the listed company restating its financial

statements. Peng, Alam, and Qi (2014) use the data of U.S. General Accounting Office's restatement database in 2002 to examine capital cost effects of the accruals quality after the restatement. They find that average accruals quality of listed companies is significantly reduced after financial restatements. Carver (2014) finds that after the financial statements restatement, due to the intervention and influence of the CEO, the Board of Directors did not leave because of the financial statements and restatements, which indicates that financial statements restatements of listed companies is the result of deliberately erroneous application of fair accounting standards. Chen (2009) whose empirical results show that the provision of non-audit services may make the external auditors neglect the quality of financial statements or help companies implement earnings management activities, which make publishing the report patch easily. Cao (2010) using A-share listed firms over the period from 2003 to 2006 who disclose previous significant accounting errors and adjust them by retraction in the report patch and the annual report, investigated the causes of the report patch and finds that the manipulation of earnings management, the ambiguity of guidelines, complexity of the business and internal control deficiencies are the main reason for publishing the report patch. The company size and the type of accounting firms used are also important determinants of publishing a report patch. Zhou and Zhou(2011) use the listed firms from 2004 to 2009 who because of accounting errors, publish a report patch to adjust historical earnings downward, to examine earnings management motivation affecting a report patch, and find that short-term operation accruals has a significant positive correlation with the report patch. Li, Chen and Lv (2011) select the A-share listed firms who have annual lower earnings and who publish a report patch, from 1999 to 2009 as a sample, and examine empirically the relationship between the report patch and real earnings management, and find that report patch companies overstate earnings by sales control and manufacturing control in the previous years leading up to a patch report.

2.3 Factors of Accounting Comparability

Since May 1980, the accounting comparability has been one of characteristics of accounting information quality. The Basel Committee on Banking Supervision and the International Accounting Standards Board will also consider accounting comparability as an important feature of the quality of accounting information. The difficulty of measuring accounting comparability is that accounting comparability empirical research is not as extensive and in-depth as standardized research. Lang et al (2010) find that forcing the adoption of IFRS does not improve the comparability of financial reporting at the national level. Yip et al (2012), Li (2013), Brochet et al (2013) and Wang (2014) indicate that mandatory IFRS significantly improves the comparability of financial reporting among countries. Li, Li and Chen (2014) find that after mandatory of IFRS, accounting comparability has a positive effect on company value, stock liquidity and the analyst information environment. Xu and Liu (2014) show that the accounting comparability has a significant negative impact on accrued earnings management, but has a positive impact on real earnings management.

After summarizing research literature about economic consequences, factors of report patch or financial statements restatement and accounting comparability, it is not difficult to see that earnings management can lead to the listed company restating its financial statements or publishing report patch, financial restatement or report patch can spark significant negative market reaction, accounting information quality proxy by value-relevance or earnings response coefficient declines, these mean that investors evaluate negatively accounting information quality of the firms that restate their financial statements or publish report patches. But actually, accounting information quality proxy by earnings persistence and accounting conservatism of the firms restating financial statements or publishing report patches is higher. Existing research literatures about the relationship of earnings management and report patch or financial restatement is mainly about the relationship of accrual earnings management and report patch or financial restatement, only a few literatures study that the relationship of real earnings management and report patch or financial restatement. Research about economic consequences of report patch or financial restatement is mainly about the impact of report patch or financial restatement on market reaction and accounting information quality proxy by earnings response coefficient, earnings persistence and accounting conservatism. The measurement of accounting information quality is either from investors points of view or only use the data from single firm. Actually, investors make their investment decision by usually using the data of relevant firms, and assess financial status by lateral comparative between relative firms. Therefore, accounting comparability has a great advantage in this respect. But existing research about accounting comparability is not as extensive as other characteristics of the quality of accounting information, so this paper tries to incorporate earnings management, report patch and accounting comparability into a research framework, and expects to contribute to the literatures about the factors of report patch or financial restatement and the impact of report patch or financial restatement on accounting information quality, and then provides theoretical explanation and empirical evidence for investors and regulatory authorities evaluating appropriately accounting information quality and strengthening the supervision of earnings management and the report patch.

3. Theoretical Analysis and Hypothesis Development

Existing research literature suggests that annual report patch or financial restatements is due to the existence of false alarm and missed reports in previous periods, but the reason that may produce the phenomenon of false alarm or missed reports is the negligence of firms' management and the company's management to provide motivation to manage earnings. Existing research literature shows that earnings management motivation comes mainly from the capital markets, debt covenants and the motivation of political costs. These motivations prompt company management to adopt more aggressive accounting policies or by arranging for a deal to meet market expectations and analysts' expectations with debt covenants funds allocation and improve private interests of management or controlling shareholders of the listed company. However aggressive accounting policy can be easily identified and punished and real trading arrangements can also damage the long-term value, which means earnings management activities have a significant impact on whether or not there is publication of an annual report patch. Defond and Jiambalvo (1991) found that the incentives of debt covenants and a pay plan based on accounting profit, management companies are more willing to overstate accounting earnings, and with the company reporting higher earnings, there is also an increased likelihood of being discovered. Even tough the management value of the manager in the market will be damaged, the firms still have an incentive to restate financial reports on the premise that published reports have overstated earnings. Dechow, Sloan and Sweeney (1996), Wu (2002), Richardson, Tuna and Wu (2003) and Callen, Livnat, and Segal (2006) also showed that the main motive of earnings manipulation is getting lower cost integration of external funds. A listed company using aggressive accounting policies does so due to capital market pressure, with accruals as the characterization of earnings manipulation leading to the listed company restating its financial statements. Zhou and Zhou (2011) analyze the behavior of Chinese listed companies that publish a report patch, based on the motives of management earnings, after research finds that accruals are important means of earnings management. Indeed, earnings management motivation is the main reason to publish a report patch and compared to firms that have not published a report patch, the company that publishes a report patch has higher total accruals, and especially short-term business accruals are significantly higher. Li, Chen and Lv (2011) empirically test the impact of real earnings management on the likelihood that listed companies publish a report patch and they find that there is a release of the annual report patch after implementing real earnings management. But Zhang (2012) suggests that accrued earnings management activities and real earnings management activities have a cost, the costs of accrued earnings management are reversed and more easily detected by the auditors or regulators, and thus lead to litigation costs and punishment by regulatory authorities, however real earnings management is more flexible, hidden and not easily identified by market and regulatory advantages, but it is harmful to the long-term development of the company. Therefore, when the companies adopt accrual earnings management, they are willing to publish a report patch to adjust earnings in order to prevent investors CPA or regulators finding improper activity, and when the companies implement real earnings management activity, because real earnings management activity is not noticeable, they will choose not to publish report patch. According to the above theoretical analysis, we predict the following hypothesis:

H1: Under the other conditions remaining unchanged, when listed companies implement accrued earnings management activities, that will increase the likelihood of publishing a report patch.

H2: Under the other conditions remaining unchanged, when listed companies implement real earnings management activities, that will reduce the likelihood of publishing a report patch.

In the framework of the principal-agent theory, the interests function between management and shareholders of listed companies, the controlling shareholders of listed companies and minority shareholders are inconsistent. The management as trustee or the controlling shareholder behind the management generally have a strong incentive to use its advantages of control and information to pursue their maximization of private interests. Schipper (1989) finds that management of listed companies often implement accrual earnings management to control the process to disclose listed companies' financial reports in order to obtain personal benefit. Scott (2006) thinks that if the management has discretion of a free choice of accounting policy, for selfish motives, they will choose those accounting policies that are beneficial to their utility or corporate value maximization. For example, listed companies in the capital market tend to choose accounting policies to maximize earnings if they want to raise more funds. To circumvent the limitation of debt covenants, they often choose accounting policies to minimize earnings. New executives, in order to show their capacity, may make loss accounting policies in the first year in office; other listed companies choose earnings smoothing accounting policies in order to conceal the actual situation of earnings volatility. Different listed companies have different incentives of earnings management, so they choose different earnings management methods, thus reporting earnings after different ways of earnings manipulation will naturally vary, which will eventually lead to accounting information that

listed companies supply have a lack of comparability. There is less research literature showing that earnings management has a negative impact on the quality of accounting information of listed, or even that it may play a positive influence. Tucker and Zarowin (2006) think that when the listed company's annual accounting profit volatility is larger, adapting earnings smoothing to manage accounting earnings, can ease greater volatility of accounting earnings to a certain extent, while earnings smoothing can be used as a signal to transfer a company's future stable development prospects to the capital markets. It can also reveal private information about future profitability, and help to improve the information content of the stock. Their empirical results show that current stock price movements of listed companies who have high smooth earnings level include more information about the company's future earnings than the stock price of listed companies who have low smooth earnings level. After controlling firm size, growth capacity, future earnings volatility, private information search activities and cross-sectional correlation situation, this result has not changed, and can verify their hypothesis. Gassen, Uwe Fülbier and Sellhorn (2006) also find evidence that earnings smoothing can explain the international differences of accounting information conservatism. These findings suggest that earnings smoothing can produce a positive impact on the quality of accounting information. Thus, according to the theory analysis of earnings management impact on the quality of accounting information, we propose the following hypotheses:

H-3a: Under the other conditions remaining unchanged, earnings management behavior can produce a positive impact on the accounting comparability of listed companies.

H-3b: Under the other conditions remaining unchanged, earnings management behavior can produce a negative impact on the accounting comparability of listed companies.

Wu (2002) finds that earnings response coefficient of the company whose financial statements were restated after the financial restatement, decreased significantly. Zhou (2007) finds that there is a lower quality of accounting information with less relevance of accounting earnings worth in the listed companies who publish report patch. Chen, Hu and Zhou (2010) show that the report patch makes patch companies, especially the patch companies that relate to the core accounting indicators have a lower earnings response coefficient. But there are also studies which suggest that listed firms publishing a report patch and restating financial statements means that the early financial statements showing traces of earnings manipulation or other major errors, do so because of poor quality reporting. It does not mean that financial statements after restatement is poor or the report patch does not fix the error occurs, omissions or traces of earnings management in the early financial statements, on the contrary, the financial statements restatement or report patch play a repair role, that is, to correct the errors of the pre-transactions metering or reporting, which will improve the quality of accounting information.. Wei et al (2009) find that the proportion of bad news in a report patch of Chinese listed companies is only one-third. A considerable number of report patches of listed companies belong to a group of companies which were required to reply to the inquiry letters of the Commission about investment projects, capital transactions or complex transactions. These published report patches will no doubt give the market more useful information. Wang (2013) also shows that the patch company's continued earnings is better than non-patch companies. Chen, Elder and Hung (2014) find that in the era of post-Sarbox, the listed firms which had a negative market reaction indeed reduced earnings management activity after financial statements restatement, adopting more prudent accounting policies, and are more willing to hire accountants from reputable firms to audit and produce a more robust financial report. Peng, Alam and Qi (2014) find that the average accruals quality of listed companies is significantly reduced after financial restatements. Based on the above analysis, we propose the following hypotheses.

H4-a: Under the other conditions remaining unchanged, disclosing an annual report patch after implementing earnings management may have a positive impact on accounting comparability.

H4-b: Under the other conditions remaining unchanged, disclosing an annual report patch after implementing earnings management may have a nagative impact on accounting comparability.

4. Research Design

4.1 Sample Selection and Data

The data of Chinese A-share listed (non-insurance) firms are chosen in this study from 2005 to 2012, excluding firms that are newly listed, have been delisted or have a non-continuous presence over the sample period. We collect 9526 observations of earnings management and an annual report patch and 7368 observations of accounting comparability. The data of the proportion of institutional ownership is from a financial database Wind Information Co., Ltd (Wind Info), the data of annual report patch is collected and arranged from the CNINFO website, and other data is from the CSMAR database. To control possible effect of the outliers, the continuous variables were winsorized at the 1% level in this paper.

4.2 Design Variables and Research Model

(1) Accounting Comparability

De Franco, Kothari and Verdi (2011) build an accounting comparability model at corporate level, which lays a solid foundation the for the measurement of company-level accounting comparability, but the model requires the equity capital markets return data, therefore the model is more suitable to measure accounting comparability of listed firms of strong or semi-strong capital market. China's capital market is considered weak efficient, therefore the accounting comparability model of De Franco, Kothari and Verdi (2011) may not measure the comparability of accounting information of Chinese listed firms accurately, which may affect the reliability of related conclusions of research. The accounting comparability econometric model was modified by De Franco, Kothari and Verdi (2011), by constructing the accrual model of accounting comparability that uses accounting figures to measure accounting comparability, which may be more suitable for the weak-form efficient capital market in China. Thus, this paper draws the research of Cascino et al (2015) and, Neel (2016) in adopting the accrual model of accounting comparability to measure accounting comparability of Chinese listed firms. The model is expressed as:

$$\mathrm{COMP}_{\mathrm{ijt}} = -\frac{1}{4} * \sum_{t-3}^{t} \left| E(\mathrm{ACC}_{iit}) - E(\mathrm{ACC}_{ijt)} \right| \quad (1)$$

Where $\mathrm{COMP}_{\mathrm{ijt}}$ denotes accounting comparability; ACC denotes accruals of listed companies accruals , which is equal to the difference between the net cash flow from operating activities and operating profit in the amount; $\mathrm{E}(\mathrm{ACC}_{\mathrm{iit}})$ denotes the i company's expected accruals, calculated by the model (2) ; $\mathrm{E}(\mathrm{ACC}_{\mathrm{ijt}})$ denotes j company's expected accruals, calculated by the model (3).

$$\mathrm{E}\ （\mathrm{ACC}_{\mathrm{iit}}) = \hat{\alpha}_i + \hat{\beta}_i * \mathrm{CFO}_{it} \quad (2)$$

$$\mathrm{E}\ （\mathrm{ACC}_{\mathrm{ijt}}) = \hat{\alpha}_j + \hat{\beta}_j * \mathrm{CFO}_{jt} \quad (3)$$

Where $\mathrm{CFO}_{\mathrm{it}}$ denotes net cash flow from operating activities of the i company; ACC and CFO have been deduced from the opening balances of assets, α_{i} and β_{i} are i company's OLS estimates of t-3 to t totaling 4 period's data through regression model; α_{j} and β_{j} are j company's OLS estimates of t-3 to t totaling 4 period's data through regression model.

After estimating COMP for each company i – company j combination, we rank all the j values of COMP for each firm i from the highest to lowest. The average COMP of the four firms j with the highest comparability to firm i during period t is used to measure the accounting comparability of firm i during period t.

When calculating accruals ACC, it is necessary to take into account the implementation of the new accounting standards in 2007 as they have a significant impact on the calculation of operating profit, so operating profit has been adjusted, operating profit before 2007 plus investment income get the operating profit adjusted, operating profit after 2007 has been deducted from changes in fair value.

(2) Earnings Management

Earnings management includes accrued earnings management and real earnings management. This paper's measure of accrued earnings management (AEM) refers to modified setting discretionary accruals (DA) as an alternative variable to measure real earnings management (REM) according to the model of Roychowdhury (2006) and Sohn (2011).

(3) Annual Report Patch

There are six variables related to the report patch, namely supplementary report (PATCH), correction report (CHANGE), report on supplement and correction (PATCHC), supplementary notice (PATCH), correction notice (CHANGE), supplementary correction notice (PATCHC), report patch of increasing profit (INCREASE), report patch of reducing profit (DECREASE) and report patch having no effect on profit (NOEFFECT). Variables of

report are dummy variables. When sample companies publish a supplementary report, the supplementary report (PATCH) variable is equal to 1, and 0 otherwise. When companies publish a correction report, the correction report (CHANGE) variable is equal to 1, and 0 otherwise. When companies publish a supplementary report or correction report, the report on supplement and correction (PATCHC) variable is equal to 1, and 0 otherwise. When companies publish a report patch of increasing profit, the report patch of increasing profit (INCREASE) variable is equal to 1, and 0 otherwise. When companies publish a report patch of reducing profit, the report patch of reducing profit (DECREASE) variable is equal to 1, and 0 otherwise. When sample companies publish a report that is difficult to determine the direction of adjusting profit and a report patch as having no effect on profit, a report patch having no effect on profit (NO EFFECT) variable is equal to 1, and 0 otherwise.

(4) Other Control Variables

In order to prevent ignoring the possible influence control variables exert upon regression analysis, this paper also introduces board size (BOD), the proportion of independent directors (INDEPEND), the Board of Auditors (AU), the former four major accounting firms (TOP-4), the shareholding ratio of the largest shareholder (FIRST), Herfind-5 index (Herfind5), shareholding ratio of the management (MANAGE), shareholding ratio of institutional investors (INSTITUTE), the ultimate shareholder is government or not (STATE), company size (SIZE), asset-liability ratio (LEV), return on assets (ROA), total asset growth (ASSGROW), market supervision status (ST), the listed companies' financial crisis situation (Z-SCORE) to control the influence of these factors.

(5) Research Model

This paper intends to construct a report patch model (4) and accounting comparability study model (5), in which the report patch model use logistic regression to test the impact of earnings management practices on annual report patch, and the accounting comparability study model tests the impact that earnings management report patch practices have on accounting comparability. Model (4) and the model (5) as follows:

$$\mathrm{PC}_{\mathrm{it}} = \alpha_0 + \alpha_1 \mathrm{EM}_{it} + \alpha_2 ST_{it} + \alpha_3 FIRST_{it} + \alpha_4 HERFIND5_{it} + \alpha_5 \mathrm{MANAGE}_{\mathrm{it}}$$

$$+\alpha_6 INSTITUTE_{it} + \alpha_7 BOD_{it} + \alpha_8 INDEPEND_{it} + \alpha_9 \mathrm{AU}_{\mathrm{it}} + \alpha_{10} \mathrm{TOP\text{-}4}_{\mathrm{it}} + \alpha_{11} \mathrm{CONTROL}_{\mathrm{it}} + \varepsilon \quad (4)$$

$$\mathrm{COMP}_{\mathrm{it}} = \beta_0 + \beta_1 \mathrm{EM}_{\mathrm{it}} + \beta_2 \mathrm{PC}_{\mathrm{it}} + \beta_3 \mathrm{EM}_{\mathrm{it}} * \mathrm{PC}_{\mathrm{it}} + \beta_4 ST_{it} + \beta_5 FIRST_{it} + \beta_6 HERFIND5_{it}$$

$$+\beta_7 \mathrm{MANAGE}_{\mathrm{it}} + \beta_8 INSTITUTE_{it} + \beta_9 BOD_{it} + \beta_{10} INDEPEND_{it} + \beta_{11} \mathrm{AU}_{\mathrm{it}}$$

$$+\beta_{12} \mathrm{TOP\text{-}4}_{\mathrm{it}} + \beta_{13} \mathrm{CONTROL}_{\mathrm{it}} + \varepsilon \quad (5)$$

Where $\mathrm{PC}_{\mathrm{it}}$ denotes the report patch, namely supplementary report (PATCH), correction report (CHANGE), report on supplement and correction (PATCHC), supplementary notice (PATCH), correction notice (CHANGE), supplementary correction notice (PATCHC), report patch of increasing profit (INCREASE), report patch of reducing profit (DECREASE) and report patch having no effect on profit (NOEFFECT); $\mathrm{EM}_{\mathrm{it}}$ denotes accrued earnings management (AEM) and real earnings management (REM).

5. Empirical Analysis

5.1 Descriptive Statistics

Table 1 presents listed firms' descriptive statistics of the main variables from 2005 to 2012 in the regression model for the full sample. From the table, we can see that the mean accrual earnings management (AEM) is 0.006, the median is 0.009, this shows the Chinese listed companies tend to implement positive accrual earnings management; the mean real earnings management (REM) is -0.086, the median is -0.085, indicating that more than half of the Chinese listed companies tend to implement negative real earnings management to manipulate financial report earnings. The mean accounting comparability (COMP) is -0.010, the median is -0.004, the maximum is 0.000, the minimum is -0.127, the mean is closer to the maximum value. This result indicates that accounting comparability of these sample companies is better. The mean of supplementary report, correction report, report of supplement and correction, report patch of increasing profit, report patch of reducing profit and report patch having no effect on profit respectively are 0.061, 0.023, 0.081, 0.009, 0.023 and 0.050. This shows that of the 9266 sample companies, 6.1% publish a supplementary report, 2.3% a correction report, 8.1% a report on supplement and correction, 0.9% a report patch of increasing profit, 2.3% a report patch of reducing

profit and 5% a report patch having no effect on profit.

Table 1. Descriptive statistics of main variables from 2005 to 2012

VARIABLES	N	MEAN	SD	MIN	AVERAGE	MAX
AEM	9256	0.006	0.093	-0.310	0.009	0.298
REM	9256	-0.086	0.114	-0.443	-0.085	0.371
COMP	7368	-0.010	0.019	-0.127	-0.004	0.000
PATCH	9256	0.061	0.239	0.000	0.000	1.000
CHANGE	9256	0.023	0.150	0.000	0.000	1.000
PATCHC	9256	0.080	0.272	0.000	0.000	1.000
INCREASE	9256	0.009	0.093	0.000	0.000	1.000
DECREASE	9256	0.023	0.149	0.000	0.000	1.000
NO EFFECT	9256	0.050	0.217	0.000	0.000	1.000
ST	9256	0.018	0.132	0.000	0.000	1.000
FIRST	9256	0.361	0.157	0.000	0.337	0.852
HERFIND5	9249	0.170	0.125	0.000	0.136	0.726
MANAGE	9253	0.001	0.009	0.000	0.000	0.079
INSTITUTE	9256	0.291	0.243	0.000	0.250	0.856
BOD	9243	2.232	0.212	1.609	2.197	2.944
INDEPEND	9247	0.347	0.046	0.000	0.333	0.600
AU	9249	0.855	0.352	0.000	1.000	1.000
TOP-4	9256	0.018	0.133	0.000	0.000	1.000
ZSCORE	9254	4.095	4.826	-2.931	2.775	32.441
STATE	9256	0.675	0.468	0.000	1.000	1.000
AGE	9256	11.020	3.878	0.000	11.000	22.000
ROA	9255	0.029	0.073	-0.299	0.029	0.238
CFO	9256	0.132	0.621	-1.482	0.034	2.932
ASSGROW	9246	0.112	0.239	-0.435	0.078	1.210
LEV	9254	0.549	0.246	0.082	0.543	1.806
SIZE	9254	21.710	1.248	18.666	21.647	25.195

Figure 1 shows the trend of AEM and REM of listed firms from 2005 to 2012. From the figures, we can see that REM of sample companies from 2005-2012 are below 0 each year, AEM are more than 0 each year, except the one in 2005, 2008 and 2012, indicating that the sample companies on average tend to implement negative real earnings management and positive accrual earnings management to manipulate financial report earnings. Figure 1 also shows that the trends of accrual earnings management and real earnings management are more consistent, basically at the same increase and the same decrease rate, indicating that the sample firms implement accrual earnings management and real earnings management in the same year.

Figure 2 presents the ratio that the sample firms publish supplementary report, correction report, report on supplement and correction from 2005 to 2012. From Figure 2, we can see that the sample firms publishing a supplementary report presents the type of "W", this shows a downward trend from 2005 to 2006 and 2008 to 2012, and a upward trend from 2006 to 2008 It may be related to the new accounting standards from 2007 and the financial crisis in 2008. The ratio that the sample firms publish a supplementary report has grown rapidly, reaching 10.23%. The ratio that the sample firms publish a correction report rises steadily from 2005 to 2011, with less volatility, increases sharply, reaching 9.55%. Overall, the ratio that the sample firms publish a correction report also presents the type of "W".

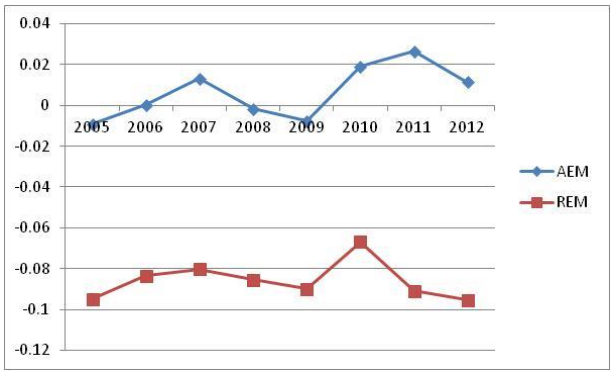

Figure 1. The trend of AEM and REM of listed firms from 2005 to 2012

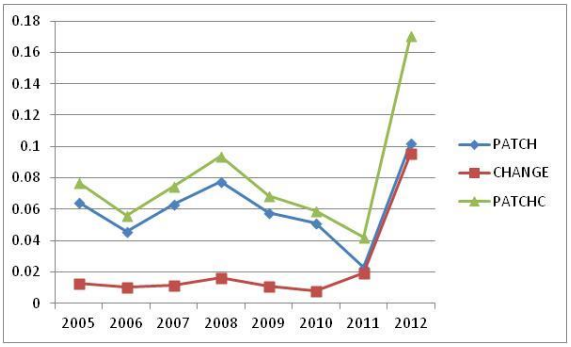

Figure 2. Ratio that sample firms publish report patch from 2005 to 2012

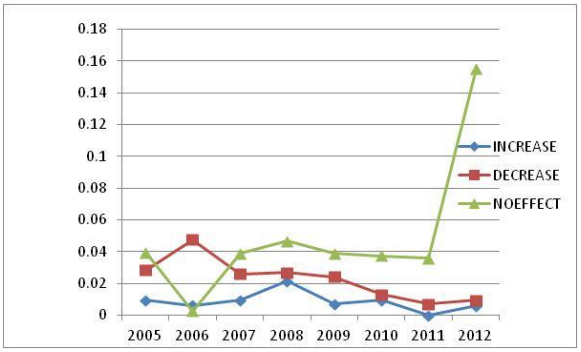

Figure 3. Ratio that sample firms publish report patch of adjusting profit from 2005 to 2012

Figure 3 reports the ratio that sample firms publish a report patch of increasing profit, a report patch of reducing profit and a report patch having no effect on profit from 2005 to 2012. From Figure 3, we can see that from 2005 to 2008, the ratio that sample firms publish report patch of increasing profit growing year on year, is at the maximum in the 2008 and shows a down trend from 2008 to 2012. Although there is some volatility, the volatility is small. The ratio that sample firms publish report a patch of reducing profit increases from 2005 to 2006, then it is a declining trend after 2006. The ratio that sample firms publish report patch having no effect on profit reduces from 2005 to 2006, then increases year by year after 2006 with rapid growth from 2011 to 2012.

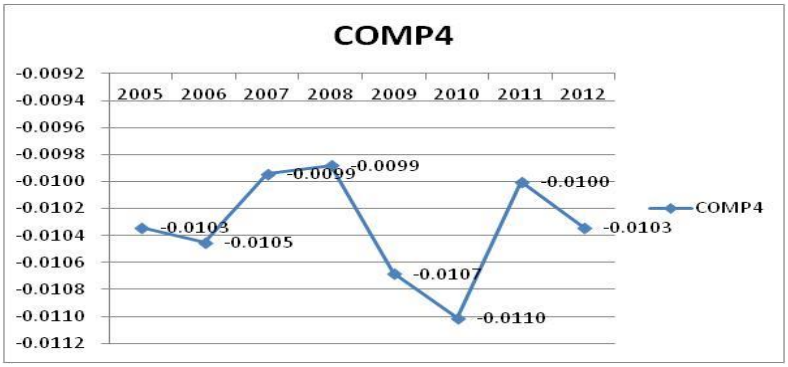

Figure 4. The trend of comparable mean of the industry's top four comparability

Comparability from 2005 to 2012. It is not difficult to see that accounting comparability show a downward trend from 2005 to 2006, 2008 to 2010, 2011 to 2012, but improves from 2006 to 2008, 2010 to 2011. Among them, improvement of accounting comparability may be related to the new accounting standards from 2007, realizing the substantial convergence with international accounting standards, which have an impact on improvement of accounting comparability. But as it coincided with the international financial crisis, listed firms may face greater pressure, so they tend to publish a report patch of increasing profit or reducing profit after annual financial reports, which may have a negative impact on accounting comparability. All report patch are published in the next year of annual financial reports, with some delayed effect, so it may result in a substantial decline of accounting comparability from 2008 to 2012. Overall, comparable means of the industry's top four comparability from 2005 to 2012 is unstable and volatile.

5.2 Multiple Regression Analysis

(1) The impact of real earnings management to report patch

We use the logistic regression model to test the impact of accrual earnings management and real earnings management on report patch. Table 2 reports the regression analysis results. According to the results, the coefficients of AEM are significantly positive at the 1% level in the regression model for PATCH, significantly positive at the 5% level in the regression model for PATCHC, significantly positive at the 10% level in the regression model for INCREASE, indicating that the firms tend to publish a supplementary report and a report patch of increasing profit after implementing accrual earnings management. This is consistent with Dechow, Sloan and Sweeney (1996). This result also supports hypothesis 1. The coefficients of REM are significantly negative at the 5% level in the regression model for PATCHC, INCREASE and NOEFFECT. This implies that the companies are not likely to release reports on supplement and correction, report patch of increasing profit and report patch having no effect on profit after implementing real earnings management, consistent with hypothesis 2.

Table 2. The impact of earnings management to report patch

	(1) PATCH	(2) CHANGE	(3) PATCHC	(4) INCREASE	(5) DECREASE	(6) NOEFFECT
AEM	1.764***	0.089	1.427**	2.401*	0.272	1.014
	(2.90)	(0.10)	(2.45)	(1.80)	(0.31)	(1.53)
REM	-0.508	-1.117	-0.933**	-2.146**	1.161	-1.337**
	(-1.03)	(-1.56)	(-2.04)	(-1.98)	(1.53)	(-2.50)
ST	4.271***	3.061***	6.456***	2.705***	3.380***	3.799***
	(19.84)	(11.94)	(13.71)	(7.56)	(15.21)	(18.32)
FIRST	-0.074	-2.598	-0.955	-4.120	2.518	-0.973
	(-0.06)	(-1.50)	(-0.90)	(-1.53)	(1.26)	(-0.78)
Herfind5	-0.799	2.980	0.404	3.894	-5.481**	1.298
	(-0.52)	(1.37)	(0.30)	(1.12)	(-2.02)	(0.83)
Manage	-4.395	-2.466	-6.899	-15.708	-65.321	0.025
	(-0.85)	(-0.33)	(-1.44)	(-0.92)	(-1.13)	(0.00)
INSTITUT	-0.235	-1.486***	-0.565**	-0.848	-0.821*	-0.374

	(-0.86)	(-3.51)	(-2.26)	(-1.24)	(-1.67)	(-1.29)
BOD	0.113	-0.364	-0.054	-0.557	0.435	-0.051
	(0.45)	(-0.93)	(-0.24)	(-0.91)	(1.11)	(-0.19)
Independ	1.106	0.270	0.708	0.777	4.127**	-0.728
	(1.02)	(0.16)	(0.72)	(0.30)	(2.48)	(-0.61)
AU	-0.029	0.076	0.058	-0.018	0.108	-0.020
	(-0.18)	(0.29)	(0.39)	(-0.04)	(0.48)	(-0.10)
TOP4	-0.118	0.432	-0.065	-0.064	-1.094	0.177
	(-0.27)	(0.75)	(-0.17)	(-0.06)	(-1.06)	(0.42)
Zscore	-0.002	0.001	-0.007	-0.041	0.009	-0.003
	(-0.18)	(0.05)	(-0.55)	(-0.97)	(0.41)	(-0.22)
state	-0.163	0.023	-0.155	0.417	-0.147	-0.237**
	(-1.49)	(0.13)	(-1.56)	(1.53)	(-0.86)	(-1.97)
AGE	-0.100***	-0.074***	-0.098***	-0.138***	-0.042	-0.086***
	(-6.06)	(-2.97)	(-6.51)	(-3.46)	(-1.59)	(-4.83)
ROA	-1.931**	-0.325	-2.047**	-0.134	-1.221	-1.802**
	(-2.40)	(-0.28)	(-2.55)	(-0.08)	(-1.17)	(-2.04)
CFO	0.203**	-0.299**	0.033	-0.049	-0.107	0.055
	(2.29)	(-2.07)	(0.40)	(-0.21)	(-0.63)	(0.58)
ASSGROW	-0.157	0.991***	0.228	0.478	-0.366	0.414
	(-0.63)	(2.90)	(0.97)	(0.94)	(-0.95)	(1.57)
LEV	-0.172	0.045	-0.242	0.139	0.650**	-0.803***
	(-0.70)	(0.13)	(-0.99)	(0.26)	(2.07)	(-2.87)
Size	-0.003	-0.023	0.002	-0.052	0.049	0.001
	(-0.06)	(-0.29)	(0.05)	(-0.39)	(0.56)	(0.02)
CONS	-2.455*	-3.458*	-2.074*	-2.502	-7.723***	-1.766
	(-1.83)	(-1.67)	(-1.68)	(-0.76)	(-3.63)	(-1.23)
Industry	Control	Control	Control	Control	Control	Control
Year	Control	Control	Control	Control	Control	Control
N	9221	9107	9221	7994	9221	9221
LR chi2(37)	681.36***	404.45***	1035.52***	100.78***	365.33***	691.81***
Pseudo R2	0.1624	0.2039	0.2025	0.1137	0.1865	0.1915
Log pseudo	-1756.9704	-789.46653	-2038.8782	-392.96245	-796.5294	-1460.8266

Notes. T-values are in parentheses( ),***, **, * respectively denote significance at 1%, 5% and 10% levels, respectively.

(2) Earnings Management, Annual Report Patch and Accounting Comparability

Table 3 reports the impact of AEM and patch report on accounting comparability. From Table 3, we can find that implementing accrual earnings management have a negative impact on accounting comparability under the condition of controlling other factors, consistent with existing literatures about the impacts of accrual earnings management on accounting information quality, and also testify hypothesis 3-a; publishing a supplementary report can significantly improve accounting comparability; publishing a correction report can significantly reduce accounting comparability; but disclosing a correction report after implementing accrual earnings management may have a positive impact on accounting comparability; disclosing a report on supplement and correction after implementing accrual earnings management may have a positive impact on accounting comparability. The coefficients of DECREASE are significantly positive at the 10% level in the regression model for accounting comparability, indicating that publishing a report patch of reducing profit can have a significant positive impact on accounting comparability; disclosing a report patch having no effect on profit after implementing accrual earnings management also may have a positive impact on accounting comparability, consistent with existing literatures about report patch having a positive impact on accounting information quality, such as Wang (2013) and Chen et al.(2014), and also testify hypothesis 4-a.

Table 3. The impact of AEM and patch report on accounting comparability

	(1)	(2)	(3)	(4)	(5)	(6)
AEM	-0.139	-0.278***	-0.284***	-0.131	-0.136	-0.276***
	(-1.57)	(-3.22)	(-3.18)	(-1.51)	(-1.56)	(-3.14)
PATCH	0.076**					
	(2.28)					
AEMP	0.068					
	(0.22)					
CHANGE		-0.158***				
		(-3.20)				
AEMC		5.633***				
		(11.81)				
PC			0.002			
			(0.08)			
AEMPC			1.749***			
			(6.57)			
INCREASE				0.050		
				(0.60)		
AEMIN				0.090		
				(0.11)		
DECREASE					0.089*	
					(1.74)	
AEMDE					0.121	
					(0.26)	
NOEFFECT						-0.042
						(-1.16)
AEMNO						2.772***
						(8.20)
ST	-0.261***	-0.112*	-0.161**	-0.215***	-0.236***	-0.123**
	(-4.20)	(-1.91)	(-2.50)	(-3.72)	(-3.98)	(-2.01)
FIRST	-0.112	-0.104	-0.113	-0.113	-0.114	-0.117
	(-0.67)	(-0.63)	(-0.68)	(-0.67)	(-0.68)	(-0.70)
HERFIND5	0.120	0.107	0.125	0.117	0.122	0.126
	(0.58)	(0.52)	(0.60)	(0.56)	(0.58)	(0.61)
MANAGE	0.829	0.232	0.712	0.845	0.858	0.617
	(0.49)	(0.14)	(0.42)	(0.50)	(0.50)	(0.36)
INSTITUT	0.053	0.053	0.052	0.053	0.054	0.049
	(1.37)	(1.39)	(1.36)	(1.38)	(1.41)	(1.29)
BOD	0.029	0.033	0.035	0.029	0.029	0.032
	(0.82)	(0.95)	(1.00)	(0.84)	(0.84)	(0.92)
INDEPEND	-0.515***	-0.529***	-0.518***	-0.512***	-0.519***	-0.521***
	(-3.18)	(-3.30)	(-3.21)	(-3.17)	(-3.21)	(-3.23)
AU	-0.006	-0.008	-0.005	-0.006	-0.006	-0.004
	(-0.25)	(-0.36)	(-0.19)	(-0.25)	(-0.28)	(-0.19)
TOP4	-0.067	-0.076	-0.070	-0.067	-0.065	-0.070
	(-1.19)	(-1.37)	(-1.25)	(-1.19)	(-1.16)	(-1.25)
ZSCORE	-0.016***	-0.015***	-0.016***	-0.016***	-0.016***	-0.016***
	(-8.32)	(-8.00)	(-8.23)	(-8.32)	(-8.33)	(-8.19)
STATE	0.015	0.013	0.014	0.014	0.015	0.015
	(0.92)	(0.78)	(0.88)	(0.87)	(0.90)	(0.93)
AGE	0.006**	0.007**	0.006**	0.006**	0.006**	0.006**
	(2.29)	(2.44)	(2.40)	(2.20)	(2.22)	(2.34)
ROA	0.382***	0.368***	0.382***	0.376***	0.378***	0.387***
	(3.15)	(3.06)	(3.15)	(3.10)	(3.12)	(3.20)
CFO	0.032**	0.028**	0.031**	0.033**	0.033**	0.031**
	(2.49)	(2.18)	(2.34)	(2.52)	(2.51)	(2.35)

ASSGROW	-0.304***	-0.293***	-0.302***	-0.305***	-0.304***	-0.298***
	(-8.63)	(-8.39)	(-8.59)	(-8.66)	(-8.65)	(-8.50)
LEV	-0.281***	-0.285***	-0.282***	-0.283***	-0.284***	-0.282***
	(-7.63)	(-7.81)	(-7.69)	(-7.68)	(-7.71)	(-7.70)
SIZE	0.030***	0.031***	0.031***	0.030***	0.030***	0.031***
	(4.03)	(4.21)	(4.16)	(4.00)	(4.00)	(4.15)
Industry	Control	Control	Control	Control	Control	Control
Year	Control	Control	Control	Control	Control	Control
cons	-0.348*	-0.374**	-0.380**	-0.338*	-0.338*	-0.368**
	(-1.87)	(-2.03)	(-2.05)	(-1.82)	(-1.82)	(-1.99)
N	7351	7351	7351	7351	7351	7351
F	9.48***	13.38***	10.56***	9.34***	9.41***	11.24***
Adj R-squ	0.0409	0.0587	0.0459	0.0403	0.0406	0.0490

Notes. T-values are in parentheses( ),***,**, * respectively denote significance at 1%, 5% and 10% levels, respectively.

Table 4 reports the impact of REM and patch report on accounting comparability. From Table 4, we can find that implementing real earnings management has a positive impact on accounting comparability under the condition of controlling other factors; publishing a correction report can significantly improve accounting comparability; disclosing a correction report after implementing real earnings management may have a positive impact on accounting comparability. The coefficients of PATCHC are significantly positive at the 1% level in the regression model for accounting comparability, indicating that publishing a report patch on supplement and correction can have a significant positive impact on accounting comparability. Publishing a report patch having no effect on profit has a positive impact on accounting comparability; disclosing a report patch having no effect on profit after implementing real earnings management also may have a positive impact on accounting comparability. These finds consistent with existing literatures about report patch having a positive impact on accounting information quality, such as Wang (2013) and Chen et al.(2014), and also testify hypothesis 4-a.

Table 4. The impact of REM and patch report on accounting comparability

	(1)	(2)	(3)	(4)	(5)	(6)
REM	0.586***	0.468***	0.482***	0.570***	0.573***	0.470***
	(8.24)	(6.71)	(6.74)	(8.15)	(8.15)	(6.65)
PATCH	0.042					
	(1.06)					
REMP	-0.399					
	(-1.40)					
CHANGE		0.401***				
		(6.27)				
REMC		5.259***				
		(11.87)				
PC			0.135***			
			(3.75)			
REMPC			1.344***			
			(5.48)			
INCREASE				0.024		
				(0.21)		
REMIN				-0.370		
				(-0.38)		
DECREASE					0.057	
					(1.01)	
REMDE					-0.345	
					(-0.87)	
NOEFFECT						0.221***
						(4.76)

REMNO						2.543***
						(7.86)
ST	-0.271***	-0.251***	-0.250***	-0.224***	-0.241***	-0.225***
	(-4.42)	(-4.31)	(-3.97)	(-3.89)	(-4.09)	(-3.73)
FIRST	-0.122	-0.083	-0.121	-0.125	-0.126	-0.117
	(-0.74)	(-0.50)	(-0.73)	(-0.75)	(-0.76)	(-0.71)
HERFIND5	0.135	0.082	0.138	0.137	0.140	0.132
	(0.65)	(0.40)	(0.67)	(0.66)	(0.68)	(0.64)
MANAGE	0.562	0.655	0.582	0.568	0.577	0.574
	(0.33)	(0.39)	(0.34)	(0.34)	(0.34)	(0.34)
INSTITUT	0.077**	0.076**	0.073*	0.076**	0.077**	0.070*
	(2.01)	(2.00)	(1.90)	(1.98)	(2.01)	(1.83)
BOD	0.035	0.037	0.038	0.037	0.036	0.041
	(1.02)	(1.08)	(1.10)	(1.06)	(1.04)	(1.19)
INDEPEND	-0.481***	-0.469***	-0.479***	-0.481***	-0.484***	-0.474***
	(-2.99)	(-2.94)	(-2.98)	(-2.98)	(-3.01)	(-2.95)
AU	-0.006	-0.007	-0.006	-0.006	-0.007	-0.007
	(-0.28)	(-0.32)	(-0.28)	(-0.27)	(-0.29)	(-0.30)
TOP4	-0.059	-0.061	-0.057	-0.059	-0.057	-0.055
	(-1.06)	(-1.10)	(-1.02)	(-1.05)	(-1.02)	(-0.99)
ZSCORE	-0.015***	-0.015***	-0.015***	-0.015***	-0.015***	-0.015***
	(-7.50)	(-7.72)	(-7.56)	(-7.50)	(-7.52)	(-7.62)
STATE	0.027	0.025	0.028*	0.026	0.027*	0.027*
	(1.64)	(1.57)	(1.75)	(1.62)	(1.65)	(1.71)
AGE	0.008***	0.007***	0.007***	0.007***	0.007***	0.007***
	(2.78)	(2.69)	(2.73)	(2.70)	(2.70)	(2.61)
ROA	0.397***	0.393***	0.390***	0.392***	0.395***	0.394***
	(3.44)	(3.43)	(3.38)	(3.39)	(3.42)	(3.43)
CFO	0.055***	0.053***	0.054***	0.055***	0.055***	0.053***
	(4.37)	(4.29)	(4.31)	(4.37)	(4.37)	(4.21)
ASSGROW	-0.403***	-0.395***	-0.399***	-0.404***	-0.403***	-0.395***
	(-11.25)	(-11.13)	(-11.16)	(-11.26)	(-11.23)	(-11.04)
LEV	-0.247***	-0.249***	-0.246***	-0.248***	-0.249***	-0.245***
	(-6.74)	(-6.87)	(-6.74)	(-6.77)	(-6.81)	(-6.70)
SIZE	0.026***	0.025***	0.025***	0.025***	0.025***	0.025***
	(3.46)	(3.40)	(3.41)	(3.45)	(3.43)	(3.40)
industry	Control	Control	Control	Control	Control	Control
Year	Control	Control	Control	Control	Control	Control
cons	-0.283	-0.282	-0.292	-0.279	-0.275	-0.301
	(-1.53)	(-1.54)	(-1.58)	(-1.51)	(-1.49)	(-1.63)
N	7351	7351	7351	7351	7351	7351
F	11.33***	15.26***	12.01***	11.15***	11.22***	12.90***
Adj R-squ	0.0494	0.0670	0.0525	0.0486	0.0489	0.0565

Notes. T-values are in parentheses( ),***, **, * respectively denote significance at 1%, 5% and 10% levels, respectively

5.3 Robustness Test

In order to evaluate the reliability of the results, this paper also uses the following ways for robustness tests:

(1) Robustness test of accounting comparability

We also use the average COMP for all companies j in the same industry as firm i during period t to replace the average COMP of the four firms j with the highest comparability to firm i during period t. After this replacement, the main conclusion of this study did not change significantly.

(2) Robustness test of earnings management

We compute AEM according to performance adjusting method of Kothari et al（2005）. Calculated according to

Kothari et al (2005) and using the proposed method of performance adjustment accrual earnings management, put the company's performance into the Jones model, in which corporate performance is replaced by ROA. After replacement of such variables, the conclusion of the study did not change significantly. The calculation process model (6) as follows:

$$\mathrm{TA}_{\mathrm{it}} / \overline{\mathrm{A}}_{\mathrm{it}} = \alpha_1(1/\overline{\mathrm{A}}_{\mathrm{it}}) + \alpha_2(\Delta\mathrm{REV}_{\mathrm{it}} - \Delta\mathrm{REC}_{\mathrm{it}})/\overline{\mathrm{A}}_{\mathrm{it}} + \alpha_3(PPE_{it}/\overline{A}_{it}) + \alpha_4(ROA_{it-1}) + \varepsilon \quad (6)$$

We calculate the real earnings management by model (7), after the replacement of the above variables, we find that the study conclusion do not change significantly. Model (7) as follows:

$$\mathrm{REM}_{\mathrm{it}} = -Abcfo_{it}/TA_{i,t-1} - Ab\exp_{it}/TA_{i,t-1} \quad (7)$$

From all above analysis, we found unlike previous studies, Chinese companies not release annual report patch after implementation of real earning management. These findings have been from literatures which can be a benefit for any relevant future studies.

6. Conclusion

This paper incorporates earnings management, report patch and accounting comparability into a research framework based on relevant foreign literature about financial restatements and domestic literature about report patch and examines the relationships between earnings management, annual report patch and accounting comparability. This paper examines the relationships between earnings management, annual report patch and accounting comparability by using the Chinese A-share listed firms over the period from 2005 to 2012. The empirical results indicate that the Chinese listed companies tend to release their annual report patch after implementing accrual earnings management, but the Chinese listed companies are not likely to release annual report patch after implementing real earnings management. Disclosing annual report patch after implementing earnings management may have a positive impact on accounting comparability. This result indicates that annual report patch published by sample firms may rectify disclosed errors or earnings management of previously annual report, as a result, accounting information quality will be improved. Results of this paper indicate that publishing a report patch is not necessarily a negative feature. The regulatory authorities should strengthen the supervision of the report patch, especially the correction report, report patch of adjusting profit and report patch of reducing profit.

The research has some limitation. First, this paper does not use earnings-return comparability model built by De Franco, Kothari and Verdi (2011) but uses accrual comparability model built by Cascino et al (2015) to measure accounting comparability. So the conclusions may be only suitable for companies on the weak-efficient capital market, and may not be generalizable to companies on the strong-efficient capital market. Second, the utterance of report patches published by several firms is not clear, report patches may be classified improperly, so leading to biased results.

This paper not only contributes to the research literature on the relationship between earnings management, annual report patch and accounting comparability from a new angle; it also provides regulatory authorities and individual investor with policy. We believe it can be a milestone for future studies to similar academic researches, this study may be a valuable for practicing professional as well.

References

Abbott, L. J., Parker, S., & Peters, G. F. (2004). Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory*, *23*(1), 69-87.

Amel-Zadeh, A., & Zhang, Y. (2015). The Economic Consequences of Financial Restatements: Evidence from the Market for Corporate Control. *The Accounting Review*, *90*(1), 1-29.

Anderson, K. L., & Yohn, T. L. (2002). The effect of 10K restatements on firm value, information asymmetries, and investors' reliance on earnings. *Information Asymmetries, and Investors' Reliance on Earnings* (September 2002).

Brochet, F., Jagolinzer, A. D, and Ried, E J. (2013) .Mandatory IFRS adoption and financial statement comparability. *Contemporary Accounting Research*, 30(4): 1373-1400.

Callen, J. L., Livnat, J., & Segal, D. (2006). Accounting Restatements: Are They Always Bad News for Investors? *Journal of Investing*, 15(3): 57-68.

Cao, Q. (2007). Causes of Financial Restatement for Chinese Listed Companies. *Economic Management Journal*,

32(10), 119-126.

Carver, B. T. (2014). The retention of directors on the audit committee following an accounting restatement. *Journal of Accounting and Public Policy*, *33*(1), 51-68.

Cascino, S., & Gassen, J. (2015). What drives the comparability effect of mandatory IFRS adoption? *Review of Accounting Studies*, *20*(1), 242-282.

Chen, K. Y., Elder, R. J., & Hung, S. (2014). Do post-restatement firms care about financial credibility? Evidence from the pre-and post-SOX eras. *Journal of Accounting and Public Policy*, *33*(2), 107-126.

Chen, L. (2005). Capital Market Information Disclosure Quality Study-Preliminary evidence from complementary and Correction Notice of the Annual Report. *Fujian Tribune (The Humanities & Social Sciences Bimonthly)*, 9, 14-18.

Chen, L. (2009). Non-audit Services and Financial Restatements——Evidence from Chinese Listed Companies. *Journal of Shanxi Finance and Economics University*, *3*, 112-117.

Chen, L. (2009). Research on Information Content of Complementary and Correcting Bulletins for Annals. *Journal of Xiangtan University (Philosophy and Social Sciences)*, (5), 93-99

Chen, X., Hu, Y., & Zhou, Q. (2010). Research on the Economic Consequences of the Financial Restatements Review. *Foreign Economics & Management*, 6, 59-64.

De Franco, G., Kothari, S. P., & Verdi, R. S. (2011). The benefits of financial statement comparability. *Journal of Accounting Research*, *49*(4), 895-931.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the sec. *Contemporary Accounting Research*, *13*(1), 1-36.

DeFond, M. L., & Jiambalvo, J. (1991). Incidence and circumstances of accounting errors. *The Accounting review*, *66*(3), 643-655.

Drake, M. S., Myers, L. A., & Scholz, S. et al. (2015). Short Selling Around Restatement Announcements When Do Bears Pounce? *Journal of Accounting, Auditing & Finance*, *30*(2), 218-245.

Eilifsen, A., & Messier, W. F. (2000). The incidence and detection of misstatements: A review and integration of archival research. *Journal of Accounting Literature*, *19*, 1-43.

GAO. (2002). Financial Statements restatements: Trends, Market Impacts, Regulatory Responses, and Remaining Challenges. *General Accounting Office*, 103-138.

Gassen, J., Uweülbier, R., & Sellhorn, T. (2006). International differences in conditional conservatism–the role of unconditional conservatism and income smoothing. *European Accounting Review*, *15*(4), 527-564.

Gondhalekar, V., Joshi, M., & McKendall, M. (2012). Short-and Long-Term Share Price Reaction to Announcements of Financial Restatements. *Advances in Financial Economics*, 15, 149-172.

Jin, Y., Wan, J., & Li, R. (2001). Report patch, how much holes can you patch: checkup the supplementary report of Chuan Changjiang in 2000 based on the new accounting law? *Finance and Accounting*, (3), 43-45.

L, P., Li, X., & Chen, X. (2014). The Effect of Mandatory IFRS Adoption on Firm Value, Stock Liquidity and Analysts' Information Environment: From the Perspective of Accounting Comparability. *Journal of Shanxi Finance and Economics University*, *2*, 104-112.

Lang, M. H, Maffett, M. G., and Owens, E. L. (2010). *Earnings comovement and accounting comparability: The effects of mandatory IFRS adoption.* Rochester, NY: Simon Graduate School of Business, University of Rochester.

Li, B., & Chen, L. (2006). Research on Effectiveness of Audit Committees in Chinese Listed Companies: Evidence from Patches on Annual Reports. *Finance and Trade Research*, (3), 121-127.

Li, P. (2013). Compulsively using IFRS to study the influence of information environment—based on the comparability and quality of accounting information. *Journal of China University of Mining & Technology (Social Science)*, *2*, 41-49.

Li, W., Chen, L., & Lv, H. (2011). Earnings Restatement and Real Activity Manipulation: An Empirical Research on the Overstatement Companies Claiming Higher Earnings. *Journal of Audit & Economics*, *26*(4), 69-76.

Li, X., & Niu, J. (2011). Research on market reaction of report patch. *Finance & Trade Economics*, (12), 69-74.

Liu Y., Li, Y., & Luo, Y. (2013). Economic Consequences of Corporate Financial Restatement: An Empirical Analysis of Managerial Reputation. *Contemporary Accounting Review*, *4*(2), 67-82.

Liu, Y., & Wang, S. (2013). Research on market reaction of listed firms' correction report patch. *Macroeconomics*, (9), 98-118

Ma, C., & Zhang, J. (2012). Management Shareholding, Leadership Structure and Financial Restatement. *Nankai Business Review*, *2*, 143-150.

Neel, M. (2016), Accounting Comparability and Economic Outcomes of Mandatory IFRS Adoption. *Contemporary Accounting Research*. http://dx.doi.org/10.1111/1911-3846.12229

Nguyen, D., & Puri, T. N. (2014). Information asymmetry and accounting restatement: NYSE-AMEX and NASDAQ evidence. *Review of Quantitative Finance and Accounting*, *43*(2), 211-244.

Palmrose, Z. V., Richardson, V. J., & Scholz, S. (2004). Determinants of market reactions to restatement announcements. *Journal of Accounting and Economics*, *37*(1), 59-89.

Peng, S., Alam, P., & Qi, Y. (2014). The Cost of Capital Effects of Accruals Quality before and after Restatements-A Revisit of Francis ET AL. (2005) in a Restatement Setting. *Advances in Quantitative Analysis of Finance and Accounting*, (12), 153-177.

Richardson, S. A., Tuna, A., & Wu, M. (2003). Predicting earnings management: The case of earnings restatements. *Unpublished working paper. University of Michigan*.

Romanus, R. N., Maher, J. J., & Fleming, D. M. (2008). Auditor industry specialization, auditor changes, and accounting restatements. *Accounting Horizons*, *22*(4), 389-413.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(3), 335-370.

Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons*, *3*(4), 91-102.

Scott, W. R. (2006). *Financial Accounting Theory* (4th ed). Prentice Hall.

Shang, H., Zhou, D., & Bai, Y. (2013). Research on the Influence Factors of Financial Restatement——Based on the Financial Reports of Beijing Listed Companies. *Research on Economics and Management*, (2),122-128

Sohn, B. C. (2011). *The Effect of Accounting Comparability on Earnings Management.* Retrieved from http://ssrn.com1927131.

Tucker, J. W., & Zarowin, P. A. (2006). Does income smoothing improve earnings informativeness? *The Accounting Review*, *81*(1), 251-270.

Wang, B. (2013). Annual Financial Restatements, Earnings Persistence and Investment Portfolio Return. *Economic Survey*, *2*, 111-115.

Wang, C. (2014). Accounting standards harmonization and financial statement comparability: Evidence from transnational information transfer. *Journal of Accounting Research*, *52*(4), 955-992.

Wang, Y., & Wei, Z. (2008). A review of financial restatement. *Securities Market Herald*, (3), 55-60.

Wei, Z. et al. (2009). An Empirical Study on Market Reactions to Restatement Announcements of Annual Reporting of Chinese Listed Companies. *Accounting Research*, (8), 31-39.

Wei, Z., & Wang, Y. (2007). A review of financial restatement based on corporate governance. *Foreign Economics & Management*, *29*(11), 32-37.

Wei, Z., Li, C., & Wang, Y. (2009). An Empirical Study on Market Reactions to Restatement Announcements of Annual Reporting of Chinese Listed Companies. *Accounting Research*, (8), 31-39; 95.

Wen, X., Zhang, H., & Li, J. (2012). Study on the Relationship between Characteristics and Correction Notice of Annual Report. *Commercial Accounting*, (15), 109-110.

Wu, M. (2002). Earnings Restatements A Capital Market Perspective. *Working Paper*. New York University.

Xu, C., & Liu, R. (2014). Can Accounting Comparability Reduce Earnings Management? *Accounting Research*, *7*, 50-57; 97.

Yip, R., & Young, D. (2012). Does mandatory IFRS adoption improve information comparability? *The Accounting Review*, *87*(5), 1767-1789.

Zhang, J., & Ma, C. (2011). Ownership Structure and Financial Restatement. *Journal of Audit & Economics*, (2),

63-72.

Zhang, L., & Xia, Y. (2013). Market Reaction of Supplement & Correction announcement of the Annual Report. *Finance and Accounting Monthly*, (1), 7-10.

Zhang, M., Zhang, Z., & Zhang, W. (2012). Corporate Property Rights, Accounting Restatements and Auditor Switching: Evidence from Listed Companies in China. *Journal of Finance and Economics*, (5), 134-143.

Zhou, X., & Zhou, Q. (2011). Research on report patch based on Earnings Management Motivation. *Contemporary Finance & Economics*, (2), 109-117.

Zhou, Y. (2007). *Market reaction, value relevance and Determinants*. Fudan University working paper.

Zhou, Y., & Li, R. (2007). Characteristic and Market Reaction of the Annual Report Patch of listed Companies. *Auditing Research*, (4), 67-73.