Changes in Accounting Standards and Accrual-based Earnings Management: Evidence from CAS 14

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Abstract: This research aims to explore the relationship between changes in accounting standards and accrual-based earnings management in Chinese listed A-share firms. Specifically, this paper focuses on CAS 14, an accounting standards amendment closely related to revenue recognition under IFRS 15, introduced by the Ministry of Finance of the People's Republic of China. By analyzing a comprehensive sample of 25,309 observations spanning the years 2014 to 2021, this paper reveals compelling evidence that Chinese firms exhibit reduced utilization of accrual-based earnings management after the adoption of CAS 14 in 2018.

Keywords: Changes in Accounting Standards, Accrual-based Earnings Management, CAS 14

1. Introduction:

As an exogenous triggering event, the changes of the accounting standards will have direct influences in many ways and that is why this is an interesting topic to scholars. Since January 2018, listed A-shares firms in China should adopt the new accounting standards that coordinated to International Financial Reporting Standards (IFRS). Prior studies have been conducted in order to investigate the different kinds of impacts from the changes in accounting standards. Factors like auditing process, internal control are proved by the research to be influenced after the adoption of new accounting standards.

Earnings management can be viewed as a kind of usage of manipulation to provide a perfect financial reporting. The managers' behaviors on accounting practice of the firms are crucial to the financial reporting quality. Financial reporting should be accurate and transparent as it is the information sources that provided for the market. As the financial reporting is the information that the firms decided to deliver, the information itself may be adjusted and manipulated by using techniques like earnings management. The problem of information asymmetry may be caused though this process.

The goals of amendment of accounting standards may be various and one of them may be the intension of improving the financial reporting quality. IFRS 15, revenue from contracts with customers, is an amendment that closely related to revenue recognition. Will the discretionary revenue that usually viewed as a target of accrual-based earnings management be influenced by the IFRS 15? In order to analyze the impact, this research intends to investigate the association between the changes in accounting standards and earnings management.

The study contributes to accounting literature about the evaluation of the effectiveness of the changes in the accounting standards. This research's results give empirical supports about hypothesis related to the adjustment in the earnings management after adoption of amendment of accounting standards. The rest of the article is structured as follows. Section 2 is the literature review and section 3 develops my research hypothesis. Section 4 is research design and section 5 shows the empirical results of this research. Conclusion is in the final section.

2. Literature Review

Different research focus on the various kinds of impacts of IFRS 15. Napier and Stadler (2020) conclude the impacts of the amendment of accounting standards as four categories: accounting effects, information effects, capital markets and real effects. This insight provides a general idea about the

ways to analyze the influence of amendment of the accounting standards. As IFRS 15 mainly focus on the revenue recognition, the authors focus on the research of the real effect. Based on the European companies, the results shows that the impact of the standard on accounting numbers was minimal for most companies. Also, Napier and Stadler (2020) call on the future research about the interpretation about the analysts' revenue information, which is also an important part about the analysis of accounting standards changes related to revenue recognition.

Onie et al. (2022) conduct research on the impact of IFRS 15 on financial reporting, specifically for the impact on earnings for the Australian listed firms. Relevance of earnings and revenue quality are chosen as the proxies to measure the impacts of the IFRS 15 financial reports. Also, Onie et al. (2022) make case studies about the actual companies to make further explanations. Company-focused and industry-focused are the methods commonly used to analyze the impact of accounting standards. Onie et al. (2022) mention that there was no material impact of IFRS 15 for most firms therefore call for more studies to analyze the related areas.

Since adoption of new accounting standards is an important part of the company, Ipino and Parbonetti (2016) conduct research on the trade-off between accrual-based and real earnings management after mandatory IFRS adoption. The authors point out that the effect of IFRS adoption on earning quality remains controversial. Future research is needed to evaluate the impacts about the different IFRS changes. Among the various impacts of changes in the revenue recognition, the authors focus on the transition from to accrual-based to real earnings management, which emphasizes the importance of tightening of regulatory regime. Mandatory IFRS adoption are seen as a strong legal enforcement that may lead to the changes in the earnings management. Thus, the company's incentives may be changed as well as the origin of the changes in the financial reporting.

ASC 606, an important amendment about revenue recognition under US GAAP, engaged in the same topic of IFRS 15. The literature investigates the impacts of ASC 606 also have important reference value. The comparison between ASC 606 and IFRS 15 may also provide guidance for future research. Hinson, Pundrich and Zakota (2022) focus on the impacts of ASC 606 on the revenue disaggregation and decision-usefulness of financial reporting. The authors point out that revenue will be disaggregated under the guidance of ASC 606. The empirical results show the improved decision-usefulness under the circumstance of revenue disaggregation is associated with detailed qualitative disclosures.

Choi, Kim and Wang (2022) use an industry-focused approach to investigate the impact of changes of accounting standards, which provides insights about the approach needed to be used to measure the impacts. According to the authors, software industry is the one of the fastest-growing segments of the economy. Software and electronic computer industries are chosen to make comparisons and check the impacts of ASC 606. Improvement in comparability, informativeness, and mapping of revenue accruals to cash collections of financial reporting is found based on the narrow sample of the research conducted by Choi, Kim and Wang (2022).

Along with the existing literature, we can see the general impacts of the IFRS 15 and ASC 606. This paper intends to investigate the adoption of IFRS 15 in China, which is mainly viewed as CAS 14. Hao, Sun and Yin (2019) mainly focus on the convergence of IFRS in China and evaluation of accounting quality. Authors mention that the convergence of IFRS in China is based on the background of transition from a regulated economy to a market-oriented economy. The study investigates the extent the convergence to IFRS impacted Chinese firms' accounting quality. The study results show a lower likelihood of reporting large negative income for Chinese firms after the convergence to IFRS. The impacts of the convergence of different IFRS in China remains to be a valuable topic needed to be discussed.

The financial reporting quality may be influenced in many ways. Earnings management is one of the important factors that will significantly impact the quality. There are two major kinds of earnings management: accrual-based earnings management and real earnings management. This research intends to focus on the first one. Jones (1991) conducts research about exogenous triggering events: import relief investigations. The empirical results supported the hypothesis about the earnings

management incentives of managers during the import relief investigations. The research provided insights about how to analyze exogenous events' impacts and empirical model for calculating discretionary accruals. A modified Jones Model (1995) will be used in this research for calculation.

Das, Kim and Patro (2011) link the earnings management and expectation management together and conduct research on the relations between them. Authors point out that earnings management and expectation management are used to meet or beat the earnings targets. Therefore, both two things can be viewed as a kind of subjective incentive of manipulating under the specific goals. Though the managers may rely on both two instruments, this research focus on the tradeoffs when using two of them. The findings of this research show that the substitutions of using these two instruments depended on the constraints. As a result, managers need to make careful choices and consideration on to what extent they decide to use the earnings management.

Beuselinck et al. (2019) provide an example of measuring the earnings management within multinational corporations by using a large and cross-country sample. This research focus on the association between the location and earnings management. From this research, the differences in earnings management across the different countries may provide inspirations about the measure of the earnings management and exploration of the earnings management incentives of corporations' managers. Beuselinck et al. (2019) conclude that earnings management are used as a regulatory arbitrage for multinational corporations and point out the importance of better policy coordination.

3. Hypothesis Development

IFRS 15, revenue from contracts with customers, provided new guidance for revenue recognition for the country adopted IFRS. As for the related convergence edition in China, the Ministry of Finance of the People's Republic of China introduced CAS 14 in 2017.The new accounting standards may influence the revenue recognition process in the following aspects. For example, a unified framework that combined CAS 14 is used after the adoption of CAS 14 in China. There will no longer be different and various type of transactions. Transactions like sales of goods and construction contracts will no longer be differentiated. Also, "performance obligations" are introduced to identify separate performance obligations and allocate transaction price. This new requirement may significantly influence the contract obligation and forms between the companies. Along with the introduction of performance obligations, the new CAS 14 gives guidance about the determination of the transaction price. Like the requirement of IFRS 15, the new CAS 14 introduces a five-step model framework for revenue recognition. More details are required, and this change may lead to the revenue accuracy in the financial reporting.

The existing literature represents the current research focus on the different impacts of the amendment of accounting standards related to revenue recognition like IFRS 15 and ASC 606.Basically, the update of the accounting standards may increase the financial reporting quality as more details are mandatory to set the higher requirement for the disclosure. Though this kind of higher financial reporting quality may at the cost of more resources needed like time and energy of the accountants for the new accounting standards treatment. As for the related edition in China, the impacts of CAS 14 on earnings management are remained to be discussed. According to the information mentioned above, the CAS 14 set higher requirements for the accounting treatment and disclosures about revenue recognition. As the changes in accounting standards may change the managers understandings and interpretation of the revenue recognition, the management team of the firms may view the CAS 14 as a sign of stricter and tighter environment for earnings management. Therefore, these changes may restrain and limit the managers' earnings management behavior. Based on the analysis mentioned above, this paper develops the hypothesis as follows:

H: The adoption of CAS 14 would decrease the usage of accrual-based earnings management of Chinese listed A-share firms.

4. Research Design

4.1 Sample selection and period

This paper focuses on the impact of CAS 14 on changing usage of earnings management. CAS 14 was introduced by the Ministry of Finance of the People's Republic of China in July 2017. For Chinese Firms listed both domestically and internationally and adopted International Financial Reporting Standards (IFRS) or Accounting Standards for Business Enterprises to prepare financial statements, CAS 14 should be implemented from January 1, 2018. In order to analyze the effect of adoption of CAS 14 among the Chinese firms, this research's test period is from 2014-2021. The period of years 2014-2017 represents the pre-adoption of CAS 14 period, and the period from years 2018-2021 forms the post-adoption of CAS 14 period. The sample that contains listed A-share firms in China in this research is obtained from the China Stock Market & Accounting Research (CSMAR) database. Initially, after dropping banks and financial institutions, all the remaining listed A-share firms in China are selected. Also, this research sets two requirements for the data used in this research: all firm-year observations have the necessary data to calculate the discretionary accruals proxies and have enough available data to calculate the control variables in the analysis. There are 25309 observations that all meet the data requirements mentioned above.

4.2 Empirical Model

This research calculates discretionary accruals based on the modified Jones Model (1995). A model that is commonly used in the earnings management literature. Following the existing studies, discretionary accruals will be used as a proxy to capture the changes in earnings management usage after adoption of CAS 14 in the Chinese listed A-share firms. This research intends to use the accrual-based earnings management of modified Jones Model (1995) to capture the managers' changes in accounting choices after the adoption of CAS 14 in China. For each year from 2014-2021, this research estimates the following model:

Accrual-based Earnings Management = β_0 + β_1 CAS 14 + $\Sigma\beta_2$CONTROLS+ $\Sigma\beta_3$ FIXED EFFECTS+ ε

In this empirical model, the dependent variable, Accrual-based Earnings Management, represents the discretionary accruals and accrual-based earnings management proxies. For companies adopted CAS 14 in 2018, the indicator variable CAS 14 is 1 and 0 otherwise. This variable is set to evaluate the average earnings management effects after the adoption of CAS 14 in China. CAS 14 is an indicator variable. CONTROLS are a group of firm-level of control variables. FIXED EFFECTS represents fixed effects such as industry, firm and year to capture of potential effects around the CAS 14 adoption time.

4.3 Control Variables

The regressions include several control variables that are supposed to influence the progress of earnings management. Generally, following a paper that also conducts research on the accounting standards and earnings management (Ipino & Parbonetti, 2016), this paper controls the variables in two aspects: financial variables and corporate governance variables. Financial variables contain SIZE, PPE, OCF and LEV.As for the effect of firm size on earnings management, this paper uses the natural logarithm of total assets (SIZE). This paper uses operating cash flows divided by total assets (OCF) because related literature points out that accruals usually firmly connected with operating cash flows. For the sake of evaluating the assets and liabilities conditions of the firms, gross property, plant and equipment divided by total assets (PPE) and total liabilities divided by total assets (LEV) are two chosen control variables in this research. In order to investigate the corporate governance factors that may influence the discretionary accruals, this paper uses natural logarithm of independent director number divided by total director number (INDEP) and natural logarithm of total director number (BOARD). Firm, Year and Industry are three variables in the empirical model used to control the fixed effect in the regression. Table 1 provides details about the variables definitions.

Table 1 Variables Definitions

Variable	Definitions
CAS 14	Indicator variable that equals 1 after the firms adopted CAS 14 in fiscal year 2018 and 0 otherwise
DisAcc	Discretionary Accruals calculated based on the modified Jones model (1995)
SIZE	Natural logarithm of total assets at the end of the year
PPE	Gross property, plant and equipment divided by total assets
OCF	Cash from operating activities divided by total assets
LEV	Total liabilities divided by total assets
INDEP	Natural logarithm of independent director number divided by total director number
BOARD	Natural logarithm of total director number
Firm	Firm fixed effects
Year	Year fixed effects
Industry	Industry fixed effects

5. Empirical Results

5.1 Descriptive Statistics

Table 2 shows descriptive statistics for the main variables related in this research. In order to avoid the effect of extreme observation, this paper winsorizes all variables at 1% and 99%. The average value of discretionary accruals though period of 2014-2021 is 0.002 and the standard deviation is 0.105 for all 25309 observations in this research. The minimum value of DisAcc is -0.396 and the maximum value is 0.313. As for the control variables, the mean value of SIZE is 22.273. SIZE has the highest value of standard deviation among all the control variables. The relatively high value of standard deviation shows a significant amount of variation in SIZE, with the 25th percentile at 21.357 and the 75th percentile at 23.01.

Table 2 Descriptive Statistics

Variable	N	Mean	SD	Min	25th	Median	75th	Max
DisAcc	25309	0.002	0.105	-0.396	-0.041	0.009	0.054	0.313
SIZE	25309	22.273	1.303	19.741	21.357	22.102	23.01	26.276
PPE	25309	0.204	0.158	0.002	0.081	0.171	0.293	0.688
OCF	25309	0.046	0.069	-0.172	0.008	0.045	0.086	0.241
LEV	25309	0.434	0.211	0.062	0.267	0.421	0.582	0.973
INDEP	25309	0.419	0.483	0.214	0.235	0.25	0.267	2.5
BOARD	25309	2.578	0.536	0.693	2.708	2.773	2.833	2.833

5.2 Regression Results

According to the empirical model mentioned before, this research runs linear regressions with fixed effects. Table 3 shows the first and second regression results to test the association between discretionary accruals（DisAcc）and multiple variables. In the first two regressions, this paper controls for year and industry fixed effects. Column (2) shows that the coefficient of indicator variable CAS

14 is -0.015 and significantly negative at 1% level when all the control variables are not controlled in regression. Column (3) shows that when the multiple control variables include SIZE, PPE, OCF, LEV, INDEP, BOARD are all controlled in the regression model, the coefficient of indicator variable CAS 14 is -0.009 and significantly negative at 1% level. In the first two regressions, both the results support the hypothesis mentioned in the hypothesis development. The results shows that usages of accrual-based earnings management of the listed A-share firms in China in this sample decrease. The adoption of CAS 14 after 2018 influenced the accounting choice of the Chinese listed A-share firms. Table 3 also reveals significant control variables. According to the regression results of Column (3), the coefficients on OCF and LEV are significantly negative at 1% level. Moreover, the coefficient of the following three control variables SIZE, PPE and BOARD are significantly positive at 1% level.

Table 3 Regression Results

Variables (1)	DisAcc (2)	DisAcc (3)
CAS14	-0.015***	-0.009***
	(-11.24)	(-7.51)
SIZE		0.017***
		-31.41
PPE		0.015***
		-3.47
OCF		-0.707***
		(-79.89)
LEV		-0.164***
		(-50.62)
INDEP		0.015**
		-2.44
BOARD		0.015***
		-2.66
Intercept	0.010***	-0.307***
	-10.25	(-15.46)
N	25309	25309
R-squared	0.022	0.251
Industry FE	Control	Control
Year FE	Control	Control

Note: *, **, and *** represent significance at the 1%, 5% and 10% level (two-tailed).

In the third and fourth regressions of this research, this paper controls for firm and year fixed effects. Generally, the results show the same effect of the adoption of CAS 14 after 2018. Table 4 shows the assosiations between discretionary accruals（DisAcc）and multiple variables. Column (2) shows that the coefficient of indicator variable CAS 14 is -0.023 and significantly negative at 1% level when all the control variables are not controlled in regression. Column (3) shows that when the multiple control variables include SIZE, PPE, OCF, LEV, INDEP, BOARD are all controlled in the regression model, the coefficient of indicator variable CAS 14 is -0.016 and significantly negative at 1% level. As for results for control variables, the coefficients of OCF and LEV are significantly negative at 1% level from Column (3). The empirical results provide evidence about the decreasing incentives about the earnings management of the firm's management team. According to the results

showed above, the earnings management was less used. Moreover, these four regressions result in this research are all consistent with the hypothesis as all the coefficients of the indicator variable CAS 14 are significantly negative at 1% level.

Table 4 Regression Results

Variables (1)	DisAcc (2)	DisAcc (3)
CAS14	-0.023***	-0.016***
	(-16.39)	(-12.89)
SIZE		0.023***
		-16.37
PPE		0
		-0.05
OCF		-0.891***
		(-85.18)
LEV		-0.223***
		(-38.94)
INDEP		0.001
		-0.12
BOARD		0.004
		-0.51
Intercept	0.014***	-0.364***
	-14.08	(-9.50)
N	24923	24923
R-squared	0.058	0.327
Firm FE	Control	Control
Year FE	Control	Control

Note: *, **, and *** represent significance at the 1%, 5% and 10% level (two-tailed).

6. Conclusion

This research examines the impact of changes of accounting standards on the accrual-based earnings management of Chinese listed A-shared firms excluded for banking and financial institutions adopted CAS 14 after 2018.This research's sample contains 25309 observations over the period of 2014-2021. According to the empirical results of the regression, the usage of accrual-based earnings management was negatively related to the changes of accounting standards of CAS 14. The impacts of changes of accounting standards can be various and one of the numerous impacts is that it will help to influence the accounting choices of the firm's management team and consequently improve the quality of the financial reporting as the earnings management were less used after the adoption of CAS 14 for Chinese listed A-share firms.

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