

# Is Available-For-Sale Financial Assets an Instrument for Earnings Management? Evidence from China's A-Share Listed Companies

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## ABSTRACT

We hold the idea that if companies had sold available-for-sale (AFS) securities for earning and capital management, it can only serve as the proof that these managers had opportunistic behavior instead of suggesting any defects in contemporary accounting standards. In this paper, we empirically identify that whether companies with profit goals would tend to increase its AFS assets to manage earning in intertemporal period. Using the panel data of listed companies in China's A-share market which had reported their investment income of selling AFS assets from 2007 to 2018, we provide evidence that even companies selling AFS to increase its book profit didn't intend to hold more of that in previous time. Our results show that AFS assets have not been the instruments of earning management and current accounting standards needn't to be updated.

**Keywords:** Available-for-sale assets; Earnings management; Accounting standards

## INTRODUCTION

Securities investment has been classified as trading financial assets, held-to-maturity investments, and available-for-sale financial assets in accordance with the Statement of Financial Accounting Standards 115 (SFAS 115) for "Debt and Equity Securities Investment" in 1993, the International Accounting Standards 39 (IAS 39) for "Financial instruments: Recognition and Measurement" in 1998, and the China Accounting Standards 22 (CAS 22) for "Recognition and Measurement of Financial Instruments" in 2006. Specifically, trading financial assets and available-for-sale financial assets are available for accounting stock investments and both consider fair value accounting for initial and follow-up measurements. In this case, trading financial assets count fair value changes (floating profits and losses) as the current profits and losses, whereas available-for-sale financial assets include fair value changes (floating profits and losses) into owner's equity on the balance sheet date and the number will be counted in the current profits and losses by the derecognition of disposal.

Quite many pieces of evidence for enterprises selling the currently-profitable available-for-sale financial assets for turning losses to gains or smoothing income. Clark and Li, Powers and Ivancevich noticed that the profits and losses due to the fair value changes of available-for-sale financial assets would be included in the balance sheet and the income statement during holding and disposal, and it is potential for available-for-sale financial assets to be considered

as an instrument for intertemporal earnings management. However, no consistent evidence has been suggested by empirical studies. Collins noted that there is, so far, no evidence indicating enterprises dispose of their available-for-sale financial assets to achieve income smoothing. Lifschutz found that gain trading (i.e., selling incremental available-for-sale financial assets rather than losing one's) is of a remarkable negative correlation with return on assets (ROA). Also, "Gain Trading" was referred to as "Cherry-Picking" by for they noticed that cherry picker tends to be those companies with institutional investors of a low shareholding ratio, non-professional auditors, and analysts who are inactive to take follow-up studies [1]. Proved that the transparency improvement of accounting statements reduces managers' earnings management behaviours significantly [2]. Provided evidence for the presence of earnings management using available-for-sale financial assets across American banks, and they discovered that the strength of earnings management is related to the value of available-for-sale financial assets [3]. Believed available-for-sale financial assets offer a "reservoir" for earnings management, a company with poor profitability may manage its available-for-sale financial assets for earnings management and earnings smoothing [6]. According to their statement, the listed companies whose actual earnings (net profit minus available-for-sale financial assets) are less than that in the last year are more likely to "dispose of available-for-sale financial assets". Found evidence for listed companies managing their earnings on the securities investment gains achieve based on

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the timing of selling [4]. They recommended that available-for-sale financial assets and trading financial assets shall both adopt the “Fair Value Changes” term to confirm the earnings intuitively to reduce earnings management. In this case, offered proof to the contrary for they found the percentage of available-for-sale financial assets in the total securities investment is irrelevant to the performance pressure index in listed companies [5].

Confronting the criticism from the academic community, the Financial Accounting Standards Board (FASB), the International Accounting Standards Board (IASB), and the Ministry of Finance do not revise the accounting method for available-for-sale financial assets. The current accounting standards remain including the fair value changes of available-for-sale financial assets during the holding period into owner's equity, and the value will be accounted for in the current profits and losses upon the disposal. Suppose the accounting standards are designed to improve the relevance and reliability of accounting information, then the suppression over earnings management shall be one of the objectives that the accounting standards aim to realize. Based on the present situation, the policymakers of accounting standards yet reject the “available-for-sale financial assets are used as an instrument for earnings management by enterprises” theory.

Theoretically, suppose the stock market is no effective and management intends to profit using market inefficiency, then available-for-sale financial assets can be used as an instrument for intertemporal earnings management. Specifically, a company may increase the holdings of available-for-sale financial assets before earnings whitewashing, recording the open profits into the owner's equity, and then dispose of the available-for-sale financial assets during the whitewashing to recognize the open profits as the current profits and losses. In this case, the empirical research is holding two significant perspectives over “whether available-for-sale financial assets are used as an instrument for intertemporal earnings management by enterprises”: (1) verify whether any company would dispose of its available-for-sale financial assets for earnings management; and (2) verify whether those have disposed of their available-for-sale financial assets for earnings management increased the holdings of available-for-sale financial assets greatly before the event. However, the existing literature focuses merely on the former (i.e., whether enterprises would dispose of their available-for-sale financial assets for turn rounding or income smoothing) but lays less stress on the latter (i.e., whether they increased the holdings of available-for-sale financial assets before the event). Consequently, the evidence provided by the community is confronted with the absence of a vital element. In this case, it may only demonstrate the management has an opportunistic behaviour if a study discovers the evidence for an enterprise disposing of its available-for-sale financial assets for earnings management, and is inadequate to decide the companies have used the loopholes in the accounting standards to manage its earnings. Accordingly, it is unnecessary to revise the accounting standards involved. It may affirm that a listed company has considered available-for-sale financial assets as an instrument for earnings management using the loopholes in the accounting standards only if the company with the intention of earnings management have planned to manage its earnings in future by increasing its holding of available-for-sale financial assets. Specifically, disposing of available-for-sale financial assets can be a regular commercial activity if the management realizes that the company may achieve a turnaround or increase profit growth by the disposal of available-for-sale

financial assets because the investors would notice that as well. Thus, the approach may be an opportunistic behaviour but will not mislead the investors and creditors. Conversely, it is significant emphasizing whether those companies would increase the holdings of available-for-sale financial assets before the event to manage their earnings. If evidence is found to demonstrate any listed company would increase its holdings of available-for-sale financial assets significantly in a favourable situation and reduce the holdings when the company is having a bad performance to manipulate profits, then the problems resulting from the “managing earnings using available-for-sale financial assets” pattern may both significantly decrease the reliability of accounting reports and exacerbate the volatility of the stock market. If it is indeed the case, the accounting standards involved are required a revision.

Above, the paper attempts to present more reliable evidence to verify whether available-for-sale financial assets is an instrument for enterprises to realize intertemporal profit manipulation and whether the provisions concerning the accounting standards should be revised. As for the following parts, the second section discusses the analytical framework, followed by the introduction of identification strategy, regression model, and estimation method, the fourth part describes the data sources and statistical description, the fifth part presents the estimates and analysis, and the last part is the conclusion.

## ANALYTICAL FRAMEWORK

### Research background

Currently, the accounting standards in China and abroad are adopting the fair value measurement model to account financial assets, which is favourable for reducing the room for earnings management of enterprises and the timely reporting of the enterprises' finances. Heretofore, the historical cost measurement model was applied universally; however, the defect can be that it allows enterprises to reach intertemporal earnings management in a more latent way, resulting in that the external stakeholders may not understand the profitability over the enterprise's financial assets to tell whether the profit is in relation to selling financial assets. Based on the fair value measurement model, the fair value changes of the financial assets may be reported in the “Fair Value Variable Loss and Profit” (the accounting is based on the “trading financial assets” subject) on the balance sheet date or in the “Other Comprehensive Income” (the accounting is based on the “available-for-sale financial assets” subject) in the owner's equity column of balance sheets. In this case, external stakeholders may understand the profitability of a company for its financial assets, reducing the room for earnings manipulation.

For the policymakers of accounting standards and business management, how to account for financial assets can be a dilemma. Applying the “trading financial assets” subject may make corporate profits vulnerable to financial market fluctuations. A research report for “2008 Bank Closures was irrelevant to fair value accounting” to Congress by Laux and Leuz noted that there is no convincing evidence to support fair value accounting do not have a contagion effect. The existing accounting standards in various nations allow enterprises to use the “available-for-sale financial assets” subject to account their financial assets to relieve the impact of financial assets price fluctuations on the business profit. For enterprises, they should adopt the “available-for-sale financial assets” subject to count stock investment if they do not want to be impacted by the

stock market volatility. However, as mentioned in the introduction, the accounting method leaves room for intertemporal earnings management for enterprises.

## Hypotheses

The “enterprises use available-for-sale financial assets as an instrument for intertemporal earnings management” theory has two implicit hypotheses:

First, assume the management has opportunistic behaviour. Opportunistic behaviour derives from the profit-seeking nature of humans; some may abuse informational asymmetry for private gains. Most scholars tend to accept the hypothesis of “the management has opportunistic behaviour”.

Second, assume the market does not meet semi-strong form market efficiency; in other words, the price does not reflect the exposed company information. Suppose investors do not learn the floating profit and loss of available-for-sale financial assets based on the changes of owner's equity (e.g., Other Comprehensive Income) and investment returns (the Investment income disclosed in the accounting report caused by selling available-for-sale financial assets), then the management may exploit market inefficiency to manage its earnings and make a profit. If the market is efficient or approaches to semi-strong form market efficiency, then it would be meaningless for the managers to conduct intertemporal earnings management based on available-for-sale financial assets. The emergence of earnings management suggests that at least a part of readers of accounting reports are unable to or cannot perceive the reports are with earnings management behaviour. The assumption for whether the market is efficient has been one of the most controversial topics among financial researchers, and there is nearly the same considerable amount of evidence to support the market is efficient and inefficient.

## Testable propositions

As mentioned in the introduction, using any empirical evidence to demonstrate that the listed companies regarding financial assets as an instrument for earnings management may involve two questions: (1) whether any listed company manipulate profits via disposing of available-for-sale financial assets; and (2) whether those listed companies had achieved their earnings management objectives are marked by the increased holdings of available-for-sale financial assets before the event. The conditions are both necessary. A listed company can be judged to be using the loopholes of the accounting standards to consider available-for-sale financial assets as an instrument for earnings management if it is with a motivation for earnings management and has increased its holdings of available-for-sale financial assets before the event for the future earnings management. Therefore, we shall verify the following 2 propositions:

**Proposition 1:** Earning management behaviour urges listed companies reduce the holdings of available-for-sale financial assets.

**Proposition 2:** The listed companies with a motivation for earnings management would increase their holdings of available-for-sale financial assets before the disposal.

We shall verify Proposition 2 to support the concept that available-for-sale financial assets have been considered as an instrument for earnings management in listed companies based on the prerequisite that Proposition 1 is valid. It needs to be emphasized that if any

empirical evidence supports Proposition 2, then the evidence also indicates China's A-share market does not meet semi-strong form market efficiency. Instead, if Proposition 2 fails, then it can be interpreted that the A-share market meets semi-strong form market efficiency.

## Testing strategy

We built the panel data consisting of the companies that have disposed of financial assets to gain Investment income and the net returns are positive that disclosed in the 2007-2018 annual reports of China's A-share listed companies and divided the samples into two groups to test the propositions above: (1) disposal group, who is with earnings management behaviour; and (2) baseline group; who is without earnings management behaviour. As for how we verify Proposition 1, the criterion can be that all else being equal, whether the group with earnings management behaviour would sell more financial assets relative to the baseline group; and that for Proposition 2 can be that whether the group with earnings management behaviour would increase the holdings of financial assets before the event relative to the baseline group if Proposition 1 stands.

We adopted two diverse dependent variables for robustness test on each proposition, intending to optimize the robustness of the estimated results. From the estimation method perspective, we have tested which one of the three estimation methods for panel data (i.e., fixed effects model, random effects model, and mixed OLS) is more conform to the requirements over each equation considering effectiveness and consistency.

## MODELS AND VARIABLES

### Model

The econometric model was designed to be:

$$Y_{(i,j,t)} = \beta_0 + \beta_1 \text{manipulate}_{(i,j,t)} + \beta_2 X_{(i,t)} + \varepsilon_{(i,j,t)} \quad (1)$$

Where,  $Y_{(i, j, t)}$  is a dependent variable, where  $i, j, t$ , represents industry, firms and time, respectively.  $\text{manipulate}_{(i,j,t)}$  Is a key explanatory variable for earnings management,  $X_{(i,t)}$  represents control variables of firms' characteristics,  $\beta_0$  is a constant term,  $\beta_1$  is the estimated coefficient we concern, which describes the average variance between the treatment group and the control group.  $\beta_2$  is the estimated coefficient of the control variable,  $\varepsilon_{(i, j, t)}$  is the error term.

We designed three regression models (i.e., baseline regression, robustness test, and placebo test) to verify Proposition 1 and two regression models (i.e., baseline regression and robustness test) for Proposition 2. In the next section, we will introduce the construction of the dependent and explanatory variables in each model.

Endogeneity bias is prevalent in regression analyses. In the studies adopting listed companies' data, endogeneity bias tends to be caused by the unobservable heterogeneity and explanatory variables. If the heterogeneity is time invariant, then the endogeneity bias problem may be solved using panel data. Therefore, we established panel data and determined a specific equation shall be applied with fixed effects, random effects, or mixed OLS model via statistic testing to address or ease the bias due to the omitted variables.

## Variables

**Explained Variables:** The study designed three dependent variables to test Proposition 1: ① in baseline regression, we used “disposal rate of available-for-sale financial assets” as the dependent variable, “disposal rate of available-for-sale financial assets” is characterized via dividing “investment income from disposing of available-for-sale financial assets” by “initial available-for-sale financial assets”. According to Proposition 1, we expected that the earnings management variable has a significant positive effect on the disposal rate. ② In robustness test, we adopted “change rate of capital reserves” as the dependent variable. When financial assets are sold, the fair value changes of available-for-sale financial assets will be included in the “Other Capital Reserves” subject and the float earnings formed may be included in the current profits and losses, thus we expected that Estimated Coefficient  $\beta_{-1}$  of earnings management would be negative. And ③ in placebo test, we considered “disposal rate of trading financial assets” as the dependent variable. Since the disposal of trading financial assets is irrelevant to earnings management, we expected Estimated Coefficient  $\beta_{-1}$  of earnings management to be insignificant.

**Key Explanatory Variables:** According to the objectives of earnings management, we defined 5 dummy variables for earnings management using available-for-sale financial assets. All earnings management objectives and the design approaches for dummy variables are as follows:

**Earnings Management 1:** Considering turn rounding as the objective. Setter: eliminating the Investment income due to the disposal of available-for-sale financial assets, it takes 1 if the company's net profit  $< 0$ , otherwise it takes 0.

**Earnings Management 2:** Considering profit growth as the objective. Setter: eliminating the Investment income due to the disposal of available-for-sale financial assets, it takes 1 if the company's current net profit growth rate is less than that of last year, otherwise it takes 0.

**Earnings Management 3:** Considering profit growth measurement surpassing the industry's average as the objective. Setter: eliminating the Investment income due to the disposal of available-for-sale financial assets, it takes 1 if the company's net profit growth rate is less than the average, otherwise it takes 0.

**Earnings Management 4:** Considering the return on equity (ROE) measurement growth as the objective. Setter: eliminating the Investment income due to the disposal of available-for-sale financial assets, it takes 1 if the company's ROE is less than that of last year, otherwise it takes 0.

**Earnings Management 5:** Considering ROE measurement surpassing the industry's average as the objective. Setter: the dummy variable takes 1 if the profit growth rate of investment income due to the disposal of available-for-sale financial assets is less than the average profit growth rate in the industry, otherwise it takes 0.

We introduced the five earnings management variables into the baseline regression, robustness test, and placebo test for the verification of Proposition 1.

## Control Variables

The intentions of using control variables and the computational methods are as follows: ① firm characteristics variables: including company scale (take natural logarithm for total firm assets),

monetary fund ratio (the proportion of monetary fund to total assets), current ratio (the proportion of current assets to current liabilities), revenue growth rate (the revenue growth rate of the listed company's primary businesses), financial assets ratio (the proportion of the sum of available-for-sale and trading financial assets to total assets), cash flow ratio (the proportion of cash flow to total assets), ROE, and net profit growth rate. ② Time fixed effects: setting a dummy variable for year to control the time fixed effects from 2007 to 2018. ③ Industry fixed effects: setting a dummy variable for industry; according to the industrial classification by the China Securities Regulatory Commission's new standard, the control variables cover 18 industries except for finance. We will adopt every control variable on each regression equation.

## Variables in Testing Proposition 2

**Dependent Variables:** Two dependent variables were designed to verify Proposition 2: ① in baseline regression, we applied “growth rate of quarterly available-for-sale financial assets” as the dependent variable, which is obtained by dividing the available-for-sale financial assets balance at the beginning of the quarter by the available-for-sale financial assets balance at the end of the quarter minus 1. ② in robustness test, we used “ratio of available-for-sale financial assets to trading financial assets (in logs)” as the dependent variable. According to Proposition 2, we expected that the treatment group's “growth rate of available-for-sale financial assets” or “ratio of available-for-sale financial assets to trading financial assets” would exceed the control group significantly in one or multiple quarters before the earnings management.

## Key Explanatory Variables

The key explanatory variables remain the dummy variables for earnings management.

## Control Variables

The control variables are in accordance with those applied for testing Proposition 1. The differences may be (1) using quarterly data; (2) the control variables and dependent variable are synchronous in a specific quarter before the earnings management behaviour.

## Data

Considering the information concerning the investment income from selling available-for-sale financial assets is only revealed in annual reports, we had to use panel data over Proposition 1, the time span is 2007-2018. Also, based on the fact that the acquisition and disposal of financial assets may be finished within a fiscal year, we used quarterly panel data to test Proposition 2, the time span is from Q 1 2007 to Q 3 2018.

The paper chooses A-share listed companies that have been disclosed for the disposal of available-for-sale financial assets to form investment income and whose net profits were positive in 2007-2018 annual reports. For the data selection, the research has screened the subjects according to the following procedures: (1) excluding the listed companies involving the financial, insurance, and securities industries; (2) excluding the listed companies that have not purchased any available-for-sale financial assets during the research period; (3) excluding the listed companies whose net profit was less than 0; and (4) excluding the listed companies whose investment income from disposing of available-for-sale and trading financial assets were both negative. Eventually, the sample size of

the annual panel data was 802, the sample size of the quarterly panel data was 3,181. Besides, all continuous variables in this study have been winsorized by 1% to control the impact of extreme values on the regression results. All data in this paper came from CSMAR and iFinD.

Table 1 presents the statistical descriptions for all variables. It can be found from Table 1 that the available-for-sale financial assets held by the listed companies are more than the trading financial assets. The disposal rate of available-for-sale financial assets is significantly less than that of trading financial assets, indicating higher liquidity of the latter. Relatively, the holding period of available-for-sale financial assets can be longer. (Table 1.1 and 1.2)

Table 1 (in the appendix) offers a correlation Analysis for the variables. In light of Table A 1, it can be known that the correlation coefficients of all five earnings management patterns to the disposal rate of available-for-sale financial assets are positive, which is consistent with the expectation in Proposition 1. The correlation coefficients of all five earnings management patterns to the L 1. Change rate of available-for-sale financial assets are lower, suggesting, to some extent, the listed companies with earnings management behaviour did not increase the holdings before the disposal. In addition, the correlation coefficients of the disposal rate of available-for-sale financial assets, the change rate of capital reserves, and the L 1. Change rate of available-for-sale financial assets to the control variables, including company scale, current ratio, monetary fund ratio, securities investment ratio, and stock index growth rate, is no more than 0.5, indicating no significant multicollinearity between various major variables.

## Empirical Analysis

Whether Earnings Management Behaviour Induces Listed Companies to Dispose of More Available-For-Sale Financial Assets

**Baseline Regression:** The empirical results of Proposition 1 are shown in Table 3. The dependent variable is the disposal rate of available-for-sale financial assets; the key explanatory variable is a

dummy variable for earnings management. Column 1-5 indicate whether the specific earnings management pattern will result in listed companies reducing the holdings of available-for-sale financial assets. We adopted three estimators (i.e., fixed effects model, random effects model, and mixed OLS model) and apply the empirical results from fixed effects model and random effects model in different equations according to F-test, Hausman test, and BP-LM test. Due to space limitations, the paper presents only the results achieved by the most appropriate estimator and the relevant test statistics.

Table 2 suggests the estimated coefficient of earnings management 1, 3, and 5 are significantly positive, demonstrating listed companies would sell more available-for-sale financial assets for turn rounding, higher net profit growth rate than the average, and higher ROE than the average. Also, the estimated coefficient of earnings management 2 and 4 are positive, but the values are tantamount to zero statistically. The symbols and magnitudes of all control variables' estimated coefficients conform to our expectations.

Above, listed companies are likely to dispose of available-for-sale financial assets to include the floating profits of financial assets in the current earnings, for avoiding losses or realizing higher profit growth rate or ROE than the competitors' goals; in other words, they have earnings management behaviour. (Table 2)

**Note:** The parenthesis indicates the adjusted R-squared and the bracket indicates p-value. \*\*\*, \*\*, and \* mean that being significant at 1%, 5%, and 10% level, respectively. Fixed effects F statistics are used to verify whether fixed effects model is superior to mixed OLS model.  $p=0$  means fixed effects model surpasses mixed OLS model. According to the research by Lian et al. Fixed effects model is more credible than random effects model if the chi-square value is negative via Hausman Test. BP-LM Test is for demonstrating whether random effects model is superior to mixed OLS model. The p values of all BP-LM multipliers are no less than 0.1, suggesting mixed OLS model surpasses random effects model [7]. Similarly hereinafter.

Table 1-1. Descriptive Statistics of Major Variables (Annual Data).

	Unit	Obs.	Mean	S.D.	Min	Max
Available-For-Sale Financial Assets	CNY	802	4.69E+08	8.72E+08	0	4.03E+09
Trading Financial Assets	CNY	802	2.95E+07	7.64E+07	0	4.05E+08
Company Scale	Logarithm	802	22.70448	1.482173	19.4731	26.40454
Monetary Fund Ratio	Proportion	802	0.172882	0.11041	0.01046	0.612517
Current Ratio	Proportion	802	1.570739	1.162847	0.20585	9.069984
Revenue Growth Rate	Percentage	802	0.146539	0.331463	-0.57634	2.207888
Cash Flow Ratio	Proportion	793	0.01807	0.070715	-0.20078	0.283319
Securities Investment Ratio	Proportion	802	0.056132	0.088748	0	0.393807
ROE	Proportion	802	0.093649	0.068444	-0.52845	0.380811
Profit Growth Rate	Percentage	802	0.355275	1.903351	-10.5382	12.1472
Capital Reserves	Proportion	802	2.71E+09	5.90E+09	741299	3.11E+10
Investment Income of Available-For-Sale Financial Assets	Proportion	802	7.25E+07	1.80E+08	239.42	2.63E+09
Investment Income of Trading Financial Assets	CNY	655	1.56e+07	6.66e+07	618.04	9.57e+08
Disposal Rate of Available-For-Sale Financial Assets	Proportion	750	0.380811	0.515223	2.55E-06	2.793898
Disposal Rate of Trading Financial Assets	Proportion	462	5.67001	24.36933	.000146	174.9307
Capital Reserves Growth Rate	Percentage	794	0.086706	0.584018	-0.67196	5.924304
Stock Index Growth Rate	Percentage	802	0.10911	0.385809	-0.21675	0.799825

Table 1-2. Descriptive Statistics of Major Variables (Quarterly Data).

	Unit	Obs.	Mean	S.D.	Min	Max
Available-For-Sale Financial Assets	CNY	3181	3.95E+08	6.11E+08	0	2.15E+09
Trading Financial Assets	CNY	3181	2.57E+07	6.45E+07	0	3.19E+08
(Available-For-Sale Financial Assets+1/ Trading Financial Assets +1)in logs	Logarithm	3181	8.859583	9.52596	-18.67488	21.05654
Company Scale	Logarithm	3181	22.62497	1.439575	19.46422	25.9407
Monetary Fund Ratio	Proportion	3181	0.1667628	0.109828	0.006302	0.703149
Current Ratio	Proportion	3181	1.615205	1.421497	0.183883	16.19191
Revenue Growth Rate	Percentage	3181	0.151131	0.705646	-0.86053	5.303802
Cash Flow Ratio	Proportion	3121	0.0046309	0.050682	-0.15393	0.292956
Securities Investment Ratio	Proportion	3181	0.0576189	0.093631	0	0.743841
ROE	Proportion	3181	0.0243517	0.034964	-0.21802	0.228947
Profit Growth Rate	Percentage	3181	0.2498718	4.66819	-22.7573	27.29907
Capital Reserves	CNY	3181	2.36E+09	4.67E+09	846882.7	2.32E+10
Stock Index Growth Rate	Percentage	3181	0.0212351	0.129816	-0.2286	0.303381

Table 2. Baseline Regression: The Impact Earnings Management on Disposal Rate of Available-For-Sale Financial Assets.

Dependent Variable: Disposal Rate of Available-For-Sale Financial Assets					
	Earnings Management 1	Earnings Management 2	Earnings Management 3	Earnings Management 4	Earnings Management 5
Earnings Management	0.263*** (3.95)	0.058 (1.08)	0.129*** (2.60)	0.062 (1.35)	0.137*** (3.70)
Company Scale	0.038 (0.46)	0.203 (1.26)	0.008 (0.25)	0.021 (0.21)	-0.026 (-1.14)
Monetary Fund Ratio	-0.09 (-0.24)	0.427 (0.42)	0.4 (0.97)	0.015 (0.03)	0.035 (0.14)
Current Ratio	0.087* (1.73)	-0.029 (-0.36)	0.002 (0.09)	0.022 (0.56)	0.028 (0.97)
Revenue Growth Rate	-0.006 (-0.15)	-0.071 (-1.20)	-0.031 (-0.69)	-0.035 (-0.68)	-0.024 (-0.61)
Securities Investment Ratio	-0.375 (-0.87)	0.784 (1.25)	-0.652* (-1.92)	0.037 (0.08)	-1.367*** (-4.82)
Cash Flow Ratio	-0.166 (-0.64)	-0.011 (-0.02)	-0.005 (-0.01)	0.16 (0.6)	-0.243 (-0.88)
ROE	0.974** (2.05)	-0.318 (-0.68)	-0.237 (-0.50)	1.259** (2.27)	0.738** (1.97)
Profit Growth Rate	0.008 (1.07)	0.031*** (2.63)	0.028** (2.05)	0.012 (1.14)	0.01 (1.05)
Stock Index Growth Rate	Omitted	-0.512 (-0.41)	0.655 (0.96)	Omitted	0.236*** (4.03)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Group R <sup>2</sup> / R <sup>2</sup> Adjusted	0.144	0.124	0.154	0.104	0.119
Sample Size	742	338	350	618	742
Estimator	FE	RE	RE	FE	RE
Fixed Effects F Test [p Value]	3.18 [0.0000]	2.81 [0.0000]	3.02 [0.0000]	2.98 [0.0000]	3.13 [0.0000]
Hausman Test [p Value]	-12.55 ~	10.88 [0.9651]	8.39 [0.9933]	-34.37 ~	10.25 [0.9935]
BP-LM Test [p Value]	23.02 [0.0000]	5.23 [0.0111]	5.58 [0.0091]	9.34 [0.0011]	20.93 [0.0000]

### Robustness Test

According to CAS, a listed company's capital reserves in the balance sheet may decrease accordingly after disposing of some of its available-for-sale financial assets. Thus, the paper's robustness

test emphasizes the impact of earnings management behaviour on capital reserves [8-16].

Table 3 shows that the coefficient of Earnings Management 1 is negative and significant, indicating Earnings Management 1 may

induce listed companies to dispose of available-for-sale financial assets. Considering the various contributory factors for the changes of capital reserves, taking the change rate of capital reserves as the proxy variable for disposing of available-for-sale financial assets may result in greater measurement errors. However, these measurement errors may only overestimate the standard error rather than making estimates biased or inconsistent, which might be the reason why the estimated coefficient of Earnings Management 3 and 5 are insignificant. (Table 3)

### Placebo Test

We adopted the disposal rate of trading financial assets to be the dependent variable for an identical regression with Table 3, attempting to eliminate the possibility that there are other unobservable factors resulting in the significant estimated coefficients of Earnings Management 1, 3, and 5. Both trading and available-for-sale financial assets are available for accounting securities investment, yet the former cannot be taken as an instrument for earnings management due to its floating profits and losses will be recorded in the current profits and losses. If the estimated coefficients of Earnings Management 1, 3, and 5 remain significant in the regression equation based on trading financial assets, then the placebo test fails. Potentially, it suggests unobservable factors have resulted in the significant estimated coefficients in Table 3 rather than earning management behaviour itself.

Compared with Table 4, the coefficients of the earnings management behaviour in Column 1, 3, and 5 in Table 5 are insignificant, suggesting no significant impact of earnings management on the change rate of trading financial assets. In this case, we may declare that the cause of the estimated coefficients in Table 3 for being significant is earnings management itself instead of any other unobservable elements. (Table 4)

Whether the Listed Companies with Earnings Management Increased the Holdings of Available-For-Sale Financial Assets

### Baseline Regression

In the last section, we noticed three sorts of earnings management

in China's A-share market may impel listed companies to dispose of the profitable available-for-sale financial assets. The section will verify whether the listed companies had realized earnings management increased the holdings of available-for-sale financial assets before the event. As for our definition, "before the event" indicates 1-10 quarters before the disposal of available-for-sale financial assets, the dependent variable is the quarterly growth rate of available-for-sale financial assets before the event, the explanatory variable is a dummy variable for earnings management in a specific fiscal year, and the control variables remain the same with that in Proposition 1 (the only difference is that the time fixed effects is changed from year effects from quarterly effects).

Table 5 contains 30 regression equations. Specifically, Equation (1) – (10) verify whether the listed companies executing Earnings Management 1 increased the holdings 1-10 quarters before the event; Equation (11) – (20) verify whether the listed companies executing Earnings Management 3 for the same practice; and Equation (21) – (30) are for the listed companies executing Earnings Management 5.

As shown in Table 5, we do not notice the earnings management coefficient of any of these equations is significantly positive, suggesting the listed companies who had achieved earnings management did not increase the holdings of available-for-sale financial assets. Moreover, the estimated coefficients in Equation (2), (3), and (4) are significantly negative, indicating the listed companies did not increase the holdings not only but also decreased the holdings for redemption to enrich the earnings. (Table 5)

### Robustness Test

The robustness test considered the ratio of available-for-sale financial assets to trading financial assets (in logs) as the dependent variable. Since the available-for-sale or trading financial assets can be 0 in some samples, we added 1 to the values of both financial assets, ensuring the integrity of samples after dividing available-for-sale financial assets by trading financial assets and taking logarithmic values.

The estimated results are shown in Table 6. In the regressions of the L 1-10. Ratios of available-for-sale financial assets to trading

Table 3. Robustness Test: The Impact of Earnings Management on Change Rate of Capital Reserves.

Dependent Variable: Change Rate of Capital Reserves					
	Earnings Management 1	Earnings Management 2	Earnings Management 3	Earnings Management 4	Earnings Management 5
Earnings Management	-0.084** (-1.99)	0.00 (-0.01)	-0.032 (-1.01)	0.029 (0.52)	-0.041 (-0.98)
Other Control Variables	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup> Adjusted	0.0408	0.0638	0.255	0.292	0.202
Sample Size	2706	347	360	636	742
Model	POLS	POLS	POLS	POLS	POLS
Fixed Effects F Test	0.91	0.83	0.84	0.88	1.04
[p Value]	[0.9191]	[0.8860]	[0.8641]	[0.8658]	[0.3503]
Hausman Test	46.25	25.19	21.61	86.75	-369.12
[p Value]	[0.0294]	[0.2391]	[0.4224]	[0.0000]	~
BP-LM Test	0.00	0.00	0.00	0.00	2.26
[p Value]	[1.0000]	[1.0000]	[1.0000]	[1.0000]	[0.6643]

Table 4. Placebo Test: The Impact of Earnings Management on Disposal Rate of Trading Financial Assets.

Dependent Variable: Investment Income of Trading Financial Assets/Initial Trading Financial Assets					
	Earnings Management 1	Earnings Management 2	Earnings Management 3	Earnings Management 4	Earnings Management 5
Earnings Management	-4.792 (-1.64)	-0.139 (-0.20)	-0.313 (-0.34)	-2.356 (-1.07)	0.063 (0.04)
Other Control Variables	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup> Adjusted	0.021	0.014	0.020	0.043	0.038
Number of Observations	462	141	146	227	275
Estimation Model	POLS	POLS	POLS	POLS	POLS
Fixed Effects F Test	0.78	0.49	0.49	0.57	0.40
[p Value]	[0.9653]	[0.9956]	[0.9976]	[0.9976]	[1.0000]
Hausman Test	117.92	0.08	-0.63	25.33	32.00
[p Value]	[0.0000]	[1.0000]	~	[0.1161]	[0.0313]
BP-LM Test	0.00	0.00	0.00	0.00	0.00
[p Value]	[1.0000]	[1.0000]	[1.0000]	[1.0000]	[1.0000]

Table 5. Whether the Listed Companies had Realized Profit Manipulation Increased the Holdings before the Event

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Dependent Variable: Before-The-Event Growth Rate of Available-For-Sale Financial Assets										
Equation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Earnings Management 1	-0.16 (-1.55)	-0.34*** (-2.77)	-0.37** (-2.58)	-0.25** (-2.01)	0.00 (0.03)	0.08 (0.52)	0.16 (0.99)	0.14 (0.84)	-0.18 (-1.32)	-0.22* (-1.65)
Control Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	2,852	2,844	2,809	2,740	2,611	2,478	2,322	2,116	1,939	1,763
Estimation Model	FE	FE	FE	FE	POLS	POLS	POLS	POLS	POLS	POLS
Equation	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
Earnings Management 3	0.04 (0.37)	-0.14 (-1.17)	-0.18 (-1.26)	-0.05 (-0.38)	0.05 (0.32)	0.17 (1.31)	0.15 (1.46)	0.17 (1.17)	-0.28 (-1.21)	-0.33 (-1.41)
Control Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1,358	1,365	1,364	1,351	1,325	1,299	1,264	1,233	1,184	1,131
Estimation Model	FE	FE	FE	FE	POLS	POLS	POLS	POLS	POLS	POLS
Equation	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Earnings Management 5	-0.04 (-0.36)	-0.07 (-0.66)	-0.08 (-0.74)	-0.09 (-1.02)	0.01 (0.09)	0.05 (0.57)	0.03 (0.33)	0.06 (0.57)	-0.03 (-0.31)	-0.1 (-0.84)
Control Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	2,852	2,844	2,809	2,740	2,611	2,478	2,322	2,116	1,939	1,763
Estimation Model	POLS	POLS	POLS	POLS	POLS	POLS	FE	POLS	POLS	POLS



financial assets relative to earnings management motivations and other various variables, we find no any of the equations' earnings management coefficients are positive, which suggests the listed companies had realized earnings management did not increase the holdings before the event. The estimated coefficient for earnings management in Equation (4), (6), (7), (8), and (9) are significantly negative, indicating the listed companies had realized earnings management might have reduced the holdings of available-for-sale financial assets before the event to enrich the earnings. (Table 6)

## CONCLUSION

The paper constructed panel data based on the A-share listed companies that had formed investment income by disposing available-for-sale financial assets from 2007 to 2018 to verify whether those had realized earnings management increased the

holdings of available-for-sale financial assets, thereby determining whether the listed companies exploited the loopholes in the accounting standards to consider available-for-sale financial assets as an instrument for intertemporal earnings management. The findings suggest that listed companies will dispose of available-for-sale financial assets for earnings management only when the investment income caused by the disposal may achieve the companies' turn rounding or growth objectives. However, these enterprises will not raise a layout before the event for increasing the holdings of available-for-sale financial assets. Thus, the research claims that available-for-sale financial assets have not been adopted as an instrument for earnings management.

Yet the theoretical basis of the conclusion is China's stock market approaches to semi-strong form market efficiency. The practice including the previous annual floating income in the current profits

**Table 6.** Robustness Test: Whether the Listed Companies had Realized Profit Manipulation Increased the Holdings before the Event.

Period	Q1	Q2	Q#	Q4	Q5	Q6	Q7	Q8	Q9	Q10
<b>Dependent Variable: (Available-For-Sale Financial Assets +1)/(Trading Financial Assets +1); Logarithm</b>										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>Earnings Management 1</b>	-0.52 (-0.56)	-1.03 (-1.17)	-1.4 (-1.63)	-1.59* (-1.68)	-1.75 (-1.63)	-2.06** (-2.25)	-1.92** (-2.23)	-1.88** (-2.13)	-1.63* (-1.69)	-0.4 (-0.44)
<b>Other Variables</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Number of Observations</b>	3,098	3,085	3,072	3,057	3,031	3,009	2,987	2,805	2,622	2,436
<b>Estimation model</b>	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
<b>Earnings Management 3</b>	0.61 (0.92)	0.57 (1.03)	0.15 (0.26)	0.08 (0.11)	-0.19 (-0.24)	-0.51 (-0.63)	0.1 (0.14)	0.43 (0.69)	0.92 (1.53)	0.53 (0.85)
<b>Other Variables</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Number of Observations</b>	1,428	1,422	1,416	1,408	1,398	1,388	1,378	1,374	1,363	1,355
<b>Estimation model</b>	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
<b>Earnings Management 5</b>	0.39 (0.62)	0.18 (0.3)	0.15 (0.25)	0.26 (0.43)	0.03 (0.05)	-0.09 (-0.15)	-0.31 (-0.51)	-0.68 (-1.05)	-0.73 (-0.91)	-0.34 (-0.45)
<b>Other Variables</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Number of Observations</b>	3,098	3,085	3,072	3,057	3,031	3,009	2,987	2,805	2,622	2,436
<b>Estimation Model</b>	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE

**Table A1.** Correlation Coefficient Matrices of Major Variables.

	Disposal Rate of Available-For-Sale Financial Assets	Change Rate of Capital Reserves	L1. Change Rate of Available-For-Sale Financial Assets	Earnings Management 1	Earnings Management 2	Earnings Management 3	Earnings Management 4	Earnings Management 5
Disposal Rate of Available-For-Sale Financial Assets	1.00							
Change Rate of Capital Reserves	0.05	1.00						
L1. Change Rate of Available-For-Sale Financial Assets	-0.01	-0.01	1.00					
Earnings Management 1	0.12***	-0.02	-0.01	1.00				
Earnings Management 2	0.09*	-0.03	0.10	-0.01	1.00			
Earnings Management 3	0.06	-0.08	-0.02	0.03	0.3231***	1.00		
Earnings Management 4	0.06	0.04	0.03	0.13***	0.03	0.08	1.00	
Earnings Management 5	0.14***	0.01	0.03	0.22***	0.02	0.35***	0.21***	1.00

and losses by the significant increase and significant reduction of the holdings of available-for-sale financial assets before and after the event may be transparent for investors. In this case, it makes little sense for the management to carry out earnings management using available-for-sale financial assets. The policy recommendation by this paper may differ from other akin references for the research considers the current accounting standards' accounting treatment patterns concerning trading and available-for-sale financial assets will not be adopted by listed companies as an instrument for earnings management, and thus it is unnecessary for a radical modification upon the current accounting standards.

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