Fair Value Measurement and Earnings Management Attributes: Evidence from China's A-Share Market

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Abstract

Most researches on earnings management in China regard it as a kind of homogeneity risk. On the basis of analyzing different motives, this paper divides earnings management into two attributes. One is decision usefulness earnings management, the other is opportunistic earnings management. This paper adopts China's A-share listed companies as research sample to study the impact of fair value measurement may have on earnings management. The results show that in the same sample that companies conducted earnings management, the fair value changes recorded into current profits and losses increase the usefulness of earning management of listed companies, which indicates that under fair value measurement, reported earnings can convey more decision-related information to external users

Keywords

Earnings Management; FairValue Earnings; Management Attributes

1. Introduction

China's new accounting standards, which have been implemented since January 1, 2007, have reintroduced the fair value measurement in the areas of financial instrument recognition and measurement, debt restructuring and non-monetary assets trading. As the most comprehensive accounting information,reported earnings is one of the most important decision-making basis for stakeholders. According to new accounting standards, fair value information is involved in financial statements and affects the earnings data. On the one hand, being in line with the international accounting standards is an inevitable trend under the further development of China's market economy. Fair value measurement can improve the relevance of accounting information and, consequently, provide more conducive information for investors, creditors and other stakeholders in decision-making process. On the other hand, the application of fair value may lead to substantial fluctuations in profits and, hence, mislead investment decisions. In an imperfect market, the fair value measurement requires a lot of professional judgment, which in turn makes room for earnings management.

Most of the existing researches on earnings management in China is from the angle of opportunistic motivation, regarding it as homogeneous risk and a means of profit manipulation, which will send false earnings information to external stakeholders, which leads to decision-making mistakes. While other researches show that, based on the contractual and valuation function of accounting information, management may generate two non-opportunistic earnings management motives, that are effective contract motive and information transmission motive. The earnings management driven by such two motives will increase information content of accounting earnings, so that it can better reflect the company's real performance and provide investors with value-related information. Obviously, earnings management cannot be merely included in the scope of profit manipulation, it has both advantages and disadvantages.

Under the framework of fair value measurement, a problem arises that the intension of using fair value information in earnings management is what. Do companies attempt to deceive external stakeholders or try to provide more valuable information to outsiders? In this paper, earnings management is divided into decision-making useful earnings management and opportunistic earnings management in order to explore how the fair value measurement may affect earnings management of listed companies.

2. Theoretical Basis, literature review and research hypothesis

2.1 Earnings management motives and attributes

2.1.1 Opportunistic motive

The opportunism views that companies attempt to maximize their own interests via earnings management at the expense of the interests of external stakeholders. Therefore, earnings management will lead to adverse economic consequences. Due to conflict of principal-agent and imperfection of contracts, management may also use the distortion of accounting information to maximize private interests, damaging enterprise value. To protect investors, IPO system, placement system and delisting system come into being in China's capital market. Nevertheless, it is precisely these three rigid systems that drive listed companies to conduct earnings management. In the capital market, unlisted companies use earnings management to obtain listing qualification, and listed companies carry out earnings management whitewash financial report to avoid delisting or to meet conditions of rights offering and additional share issuing.

2.1.2 Effective contract motive

From the perspective of effective contract theory, to effectively implement contracts and maximize the interests of all parties is the reason why enterprise management tend to conduct earnings management. That is to say, earnings management will bring good economic consequences. Management can improve contract efficiency and reduce contract costs through earnings management, and then reduce the supervision cost, negotiate cost of contract and possible residual losses caused by lack of incentives, and in the meantime, also increase their personal interests.

Effective contract motive and opportunistic motive both are based on contract theory. The difference between them is whether earnings management is within the boundary of contract. Excessive earnings management may distort accounting information and mislead external users. In other words, opportunistic earnings management is excessive earnings management. On the contrary, based on the contractual role of accounting information, the effective contract motive of earnings management is a motive aiming at reducing contract costs and maximizing firm's value.

2.1.3 Information transmission motive

Accounting information reflects a firm's current operating conditions and future value, and thus, is useful for investors to make decisions. However, under historical cost measurement and accrual accounting principles, sometimes accounting data cannot accurately reflect the true value of the firm, as a result of which investors are misled resulting in wrong market pricing. In this case, firm’s management try to pass on the internal information it holds. Obviously, the management can disclose that information directly, but which is not feasible because as outsiders, external stakeholders have difficulties in verifying the reliability of that information. The information perspective views that the management can correct performance bias through earnings management to pass useful information to investors. And since financial reports are required to be audited, it is considered to be with a certain degree of credibility. Besides, the management will bear legal responsibility. Therefore, earnings management can be a credible way to pass relative and useful information. That is to say, if earnings management is used to convey internal information related to the firm’s real value and reduce the asymmetry between management and external stakeholders, it will be beneficial to investors, the firm, and management as well. Based on the valuation function of accounting information, earnings management driven by information transmission motive aims at better conveying the internal information to the outside world and solving the information asymmetry problem, which is conducive to covenanting and executing contract, and ultimately benefits to a firm’s value estimation.

2.1.4 Attributes of earnings management

Through the analysis of the three motivations above, it can be found that the earnings management caused by effective contract motive and the information transmission motive can improve the relevance of decision-making related information for the external stakeholders, while the opportunistic motive force earnings management to be profit manipulation, which will mislead the external stakeholders to make wrong decisions. Thus, earnings management can be divided into two types: opportunistic earnings management and decision usefulness earnings management.

The opportunistic earnings management includes those resulted from the firm's intention to change contracts (such as debt contracts, etc.), gain additional revenue from the capital market, and meet regulatory requirements, and managers' personal benefits (such as bonuses, etc.) as well. This phenomenon is more common in China's listed companies. Earnings management is often used by listed companies to dress up their financial performance in order to conduct IPO, avoid delisting or realize secondary equity offering. Decision usefulness earnings management is an earning management that aims at conveying value-related information. In order for investors to better understand the firm's future value, management have the incentive to pass on information more related to the future value of the enterprise by earning management. Schipper (1989), Holthausen (1990) and Suhramanyam (1996) all argue that there is a useful earnings management that will increase the information content of accounting surplus. Barnea (1975) clearly points out that earning smoothing is an information transfer mechanism. A lot of empirical evidences have proved that there is a kind of earnings management better communicating value-related information and helping improve investor decision-making.

2.2 Fair value and earnings management

China's new accounting standards issued in 2006 have stipulated the application of fair value, including the confirmation and measurement of financial instruments, investment real estate, debt restructuring, business merger and non-monetary assets exchange. The use of fair value can both directly or indirectly affects the accounting earnings and will be reflected in the income statement, which makes some room for companies to conduct earnings management using fair value measurement. Based on the data of 2007-2009 Shanghai and Shenzhen A-share listed companies, Wang Hong (2011) found that unprofitable firms with intention of decreasing current income did reduce the profit via fair value measurement, but no sufficient evidence proved that the use of fair value changes earnings management in those slightly profitable firms and stopping loss ones. Wu Keping's (2013) empirical study showed that under the new accounting standards profits or losses of fair value could enhance the level of earnings management of listed companies. Wu Sha (2014) compared the level of earnings management of listed companies before and after the implementation of the new standards from the perspective of discretionary accruals examining the impact of fair value measurement on earnings management, and found that after the implementation of the new standards, the earnings management of listed companies has been significantly improved. At the same time, under the fair value measurement, debt restructuring, non-monetary transactions, as well as assets impairment are likely to become a new choice for firm's management to do earnings management. The above studies show that fair value measurement has impacts on earnings management of listed companies, but these studies all regard earnings management a homogeneous risk and only examines earnings management from the perspective of opportunistic motive.

2.3 Research hypothesis

Through the previous analysis, fair value measurement may have an impact on earnings management, and earnings management can be divided into opportunistic earnings management and decision usefulness earnings management. Here comes the question that whether earnings management conducted via fair value measurement is opportunistic or useful to decision making? In this paper, I test the relevance between fair value measurement and earnings management.

Under historical cost measurement, financial data are based on historical information, which undoubtedly improves the reliability of accounting information, but apparently will reduce its timeliness, predictability and decision-making relevance. While adopting fair value measurement model, which is future-oriented and allows timely adjustment, accounting information becomes timelier and more relevant to market value. As a result, these financial data can provide external stakeholders with more useful information for decision-making. Based on the above analysis, this paper assumes that fair value changes recorded into current profits and losses will increase the level of earnings management of listed companies and that this kind of earnings management enhances the decision usefulness of reporting earnings.

3. Empirical Research Design

To implement a test of the above hypothesis, I need to specify an empirical model relating fair value and earnings management. I will tackle this issue shortly. Firstly, I describe the data.

3.1 Sample selection

This paper selected China's A-share listed companies except financial and insurance companies as research sample, using annual data of 2015. Considering that the earnings management in this paper is based on the fair value measurement, companies lacking the current profits and losses of fair value in 2015 income statement are excluded, after which the quantity of samples is 632. Then, those, of the 632 firms, lacking data of some relevant variables or with abnormal values are also excluded. Finally, the research sample used in empirical test consists of 585 listed companies. All data, except that fair value changes of available-for-sale financial assets recorded in investment income are collected from annual financial report of each firm, are gathered from the CSMAR database.

3.2 Empirical model and variable definition

This paper adopts linear regression model to test the relationship between fair value measurement and earnings management. The test model is as follows:

$$IEM * DA_A = \beta_0 + \beta_1 FV_A + \beta_2 LEARN_A + \beta_3 Size + \beta_4 Lev + \varepsilon$$

The explanatory variable in the above model is the interaction term of earnings management attribute (*IEM*) and level of earnings management(*DA_A*). Level of earnings management(*DA_A*) is the absolute value of the discretionary accruals calculated according to the modified Jones model. *IEM* represents the earnings management attribute, which equals 1 when earnings management is useful to decision making and 0 when it is opportunistic. This paper draws on the method adopted by Chen Xiaolin (2011), which separates opportunistic earnings management and decision usefulness one through indirect presumption. In the capital market, the motivations of the listed companies to manage earnings mainly are IPO, issuance of additional stocks, allotment of shares and keeping the honor "Listed Company", etc. According to the provisions of China Securities Regulatory Commission(CSRC), listed companies which are in a situation of three-year consecutive losses may face the risk of delisting, and the average weighted average net assets returns ratio of the last three fiscal years must be no less than 6% for those intending to issue new stocks. While those listed after 2006 are entitled to allotment of shares as long as they profit in each of the last three fiscal years, so I do not consider the opportunistic earnings management caused by allotment motive. The method of distinguishing opportunistic earnings management is specified in Table 1.

Table 1. Recognition of opportunistic earnings management

Motives	IEM1	IEM2
Keeping the honor "Listed Company"	ROE is between 0 and1% in the in each of the three most recent fiscal year	
Issuance of additional stocks	The average of ROE in the last 3 years is between 6% and 7% for those companies that issued additional shares in 2016	The average of ROE in the last 3 years is between 6% and 8% for those companies that issued additional shares in 2016
Allotment of shares	/	/

The explanatory variable *FV_A* in the model is profits or losses of fair value adjusted by total assets at last year end, which equals dividing fair value changes recorded into current profits and losses, which includes profits or losses of fair value that are listed separately in income statement and fair value changes of available-for-sale financial assets recorded in investment income, by total assets at the end of last year. As a matter of fact, though the influences fair value changes have on net income lie in the confirmation and measurement of financial instruments, investment real estate, debt restructuring, business merger and non-monetary assets exchange, fair value information in debt restructuring and business merger is not accessible to outsiders, so I only focus on the fair value changes of financial assets that recorded in the current profits and losses.

In addition, control variables in the model are *LEARN_A*, *Size* and *Lev*. *LEARN_A* is return on total assets in which the influence of fair value changes in current profits and losses is deducted. *Size* represents a firm's size which equals the natural logarithm of total assets and *Lev* is the asset-liability ratio.

3.3 Descriptive statistic analysis

3.3.1 The influence of fair value changes on net income

The influences of changes in fair value on net income are mainly reflected in the fair value gains and losses and the fair value changes of available-for-sale financial assets recorded in the investment income. Tables below are brief analysis of these influences. Table 2 shows the proportion of profits or losses of fair value in net income and the proportion of investment income in net income. Table 3 shows the number of listed companies in research sample according to different proportions.

Table 2. The proportion of fair value profits and losses and investment income in net income

		Maximum	Minimum	Mean
The proportion of fair value profits and losses in net income		8002.66%	0.00%	22.99%
The proportion of investment income in net income		5016.86%	0.00%	17.45%

Table 3. The number of sample companies under different proportions

	＞100%	50%~100%	30%~50%	10%~30%	＜10%
The proportion of fair value profits and losses in net income	13	11	15	45	501
The proportion of investment income in net income	9	14	23	77	463

According to Table 2 and 3, the average proportion of fair value profits and losses of sample companies in 2015 is 22.99%, while the maximal proportion is up to 8002.66%. The degree that fair value profits and losses affect net income of most of the sample companies (number of these companies is 501) is below 10%. But there are still 24 sample firms that the degree that fair value profits and losses affect net income is over 50%. The maximal degree of how much investment income affects net income is up to 5016.86% and the average of it is 17.45%. According to the above analysis, generally fair value profits and losses have great influence on net and there does exist some listed companies that turn around under fair value accounting.

3.3.2 Descriptive statistic analysis of variables

The main variables used in the regression model are described earlier. Table 4 is a descriptive statistical analysis of these variables. As can be seen in Table 4, the mean values of *IEM1* and *IEM2* both are greater than 92%, indicating that more than 92% of the sample companies carry out earnings management under decision usefulness motive.

Table 4. Descriptive statistical analysis of variables

Variables	N	Mean	Standard deviation	Median	Minimum	Maximum
$IEM1$	585	0.93846	0.24052	1.00000	0.00000	1.00000
$IEM2$	585	0.92308	0.26670	1.00000	0.00000	1.00000
DA_A	585	0.07234	0.17993	0.03882	0.00001	2.12488
$IEM1 * DA\_A$	585	0.06899	0.18006	0.03605	0.00000	2.12488
$IEM2 * DA\_A$	585	0.06687	0.17808	0.03548	0.00000	2.12488
FV_A	585	0.01032	0.15911	0.00003	-0.03172	2.72039
$LEARN\_A$	585	0.04852	0.14658	0.03572	-0.78997	2.70150
$Size$	585	22.37040	1.53730	22.11464	18.38527	27.85198
Lev	585	0.49619	0.50506	0.23974	0.02597	2.13269

4. Regression Result

The result of multiple linear regression analysis is showed in table 5 and 6.

Table 5. Regression result of group IEM1

R^2	Adjusted R^2		F		Sig.
0.546	0.543		174.396		0.000
Variables	Unstandardized coefficients		Standardized Coefficients Beta	t-value	Sig.
	B	Standard Deviation			
(Constant)	0.249	0.078	/	3.185	0.002
FV_A	0.858	0.035	0.758	24.809	0.000
$LEARN\_A$	0.383	0.037	0.312	10.336	0.000
$Size$	-0.010	0.004	-0.088	-2.832	0.005
Lev	0.049	0.024	0.065	2.066	0.039

Table 6. Regression result of group IEM2

R^2	Adjusted R^2		F		Sig.
0.559	0.556		183.659		0.000
Variables	Unstandardized coefficients		Standardized Coefficients Beta	t- value	Sig.
	B	Standard Deviation			
(Constant)	0.243	0.076	/	3.184	0.002
FV_A	0.861	0.034	0.769	25.539	0.000
$LEARN\_A$	0.384	0.036	0.316	10.642	0.000
$Size$	-0.010	0.004	-0.086	-2.809	0.005
Lev	0.041	0.023	0.056	1.805	0.072

According to the regression results, fair value profits and losses are positively correlated with dependent variable at a 5% significance level, which can be verified both in group IEM1 and IEM2. This result indicates that the listed companies taking advantage of fair value measurement can prominently improve the level of decision usefulness earnings management, and hence, elevate the value relevance of reported earnings. The preceding analysis showed that there are some companies using fair value profits to come out of the red, which in other words, opportunistic earnings management may exist theoretically. Nevertheless, with the result of regression analysis, I find that fair value changes recorded into current profits and losses lift the level of earnings' decision usefulness instead of the level of opportunistic earnings management. That is to say, despite the fair value measurement increases earnings management of listed companies, this kind of earnings management in general improves decision-making usefulness of reported earnings.

In addition, with the regression results, I also find that the coefficients of *LEARN_A* and Size are significant at the 5% level both in group IEM1 and IEM2, and the coefficients of *Lev* in the two groups are significant at the 10% level. The coefficient of *LEARN_A* is positive, indicating that the stronger the profitability of the company, the higher the level of decision usefulness earnings management, which is consistent with my anticipation. The coefficient of *Size* is negative which demonstrates that the larger the size of listed companies, the lower the degree of decision usefulness earnings management.

5. Conclusions and Research Limitations

5.1 Conclusions

Different attributes of earnings management, due to different motivations, may lead to different economic consequences. In previous literature, earnings management has been regarded as a homogeneous risk when examining the influence of fair value measurement on it. From a new angle, this paper distinguishes the earnings management between different attributes and divides it into opportunistic earnings management and decision usefulness earnings management in order to analyze the influence of fair value measurement on earnings management.

The result of my study shows that although sample companies have discretionary accruals, which indicates they conduct different levels of earnings management, fair value changes recorded in the current profits and losses increase the decision usefulness earnings management. In other words, earnings management conducted through fair value measurement enhance the relevance of the reported earnings of listed companies, and thus, can help external stakeholders to make decisions.

5.2 Research limitations

Taking into account the difficulty of data acquisition and that currently the application of fair value measurement mainly lies in the confirmation and measurement of financial instruments, this paper only examines the information relevance of the profits and losses that caused by fair value changes of financial assets. Theoretically and practically, fair value measurement is not only applied in the confirmation and measurement of financial assets, but also in debt restructuring, business merger and non-monetary assets exchange, which will also affect the value relevance of reported earnings.

Apart from that, this paper has not recognized other kinds of opportunistic earnings management that aim at seeking IPO, promoting the level of salary and welfare of firms' management or getting loans due to the limitations of the data, which remains to be supplemented in subsequent studies.

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