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**The correlation between profits and losses from changes in fair value and  
executive compensation: Evidence from A-share listed companies in China**

In Partial Fulfillment of the Requirements  
for the Bachelor of Science in Accounting

by

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May, 2020

# **The Correlation between Profits and Losses from Changes in Fair Value and Executive Compensation: Evidence from A-share Listed Companies in China**

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**ABSTRACT:** This study exams the correlation of executive compensation and profit and loss from change of fair value. At the compensation part, the research shows that both chairman and CEO compensation have a negative correlation with profit and loss from change of fair value. Moreover, there is no significant correlation between CFO compensation and profit and loss from change of fair value. Other revenue shows a positive correlation with profit and loss from change of fair value. Beside, with all variables variables mentioned in this research are consistent, 2018 has a special effect on executive compensation, comparing with other years (2009 to 2017).

**Keywords:** *executive compensation; change of fair value.*

**Data Availability:** *The data are publicly available from the sources identified in the Paper.*

## I. INTRODUCTION

Previous research has already drawn a conclusion that change of fair value (CFV) is positively related to executive compensation and most of the scholars collected the data and samples from 2007 to 2012 (Shao et al., 2012; Xu and Zeng, 2010; Zhou and Yang, 2012). The period of 2007 to 2012 is the subsequent years after the new accounting standard, which contained CFV method of accounting treatment, had been published (Lian and Zhang, 2015). Profit from change of fair value (PCFV) is positively related to executive compensation, and the Loss from change of fair value (LCFV) has no significant impact on the executive compensation (Xu and Zeng, 2010; Zhang et al., 2011; Zhou and Yang, 2012). Moreover, there is an asymmetry that companies put emphasis on PCFV but only give a little punishment on LCFV, which lacks fairness (Xu and Zeng, 2010; Zhang et al., 2011). Zhou and Yang (2012) also came up with the perspective that the relationship of profit and loss from change of fair value and the executive compensation is different in the enterprises with different property rights. Core et al. (1999) find that in the executive under different positions have different managerial power, which have impact on the executive compensation.

Little prior researches exam the correlation between executive compensation and the true amount of profit and loss from change of fair value, based on the latest data from 2018. Previous studies are limited in the time range. Therefore, the data was collected from 2009 to 2018 to update the newest sample to exam whether the previous findings are still valid and tries to prove that the year 2018 has special impact on the correlation.

Generally, the main aim of my research is to explore the correlation between profit and loss from change of fair value and executive compensation and prove whether the new accounting standards have impact on the relationship based on the data from 2009 to 2018.

Influenced by IFRS9 financial instruments, Chinese Ministry of Finance release the draft of CAS22, CAS23 and CAS24 and they were implemented on January 1, 2018, which includes the reclassification of financial instruments. In order to know if the change of accounting standards have impact on the amount of CFV, which is an important variable in my research. Therefore, I wanted to explore whether the samples in 2018 has significant differences among the samples between 2009 to 2018.

My sample consists of Chinese firms listed on the A-share stock market in Shenzhen and Shanghai and the initial data contained 3599 companies between 2009 to 2018. Variables of relevant data are from CSMAR, RESSET and Wind. Dummy variable, representing the 2018, is used to prove whether 2018 has special impact on the correlation comparing with other years. Panel data model is used to analyze the sample and I establish the fixed effects variable intercept model based on the results of Hausman test. The amount of change of fair value is divided into two types, adjusted CFV and non-adjusted CFV. Followed by the two types, this research is divided into two methods, adjusted method and non-adjusted method. After the regression analysis, I draw the following conclusions: (1) both under non-adjusted method and adjusted method, other revenue, which equals to total revenue deducts CFV<sub>NA</sub> or CFV<sub>A</sub>, is the main factor to influence executive compensation and

executive compensation is positively correlated with the other revenue. (2) With all other variables mentioned in my research are consistent, 2018 has a special effect on the chairman compensation, comparing with other years (2009 to 2017). Moreover, negative correlations between chairman or CEO compensation and profit and loss from change of fair value were found in this research, and there is no significant correlation between CFO compensation and profit and loss from change of fair value.

As for the main contribution of this research, it can be summarized into two points: Firstly, this paper tries to prove year 2018 has a special impact on the correlation between executive compensation and profit and loss from change of fair value. Second, previous studies about this correlation based on outdated data, which make little sense to the correlation between executive compensation and profit and loss from change of fair value under the new accounting standards and this study filled the gap with the lasted data in 2018.

The reminder of my paper is organized as follows. In the next section, which is section 2, I briefly review relevant literature and develop hypotheses. In section 3, I introduce my methodology and sample. In section 4, I explain and discuss the results of the main tests. In section 5, the reliability and validity are tested. In section 6, I introduce the theoretical Contribution of this study and in the last section, I give the conclusion.

## **II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1 Background**

In 2006, new accounting standards had been published in China, which contained a significant change of the previous accounting measurement methods. Fair value accounting (FVA) was introduced into the new accounting standards and change of fair value (CFV) became an element of operating income, leading to the change of the structure of accounting performance. However, using Fair value accounting (FVA) generates profits and losses from changes in fair value, and then have impact on company's performance. In the current business situation in China, the determination of the executive compensation is mainly based on the company's performance. Therefore, it can be implied that the introducing of change of fair value (CFV) influences the executive compensation (Lian and Zhang, 2015).

Shao et al. (2012) demonstrates that the financial crisis in 2008 has bad influence on company performance, profit and loss from change of fair value and executive compensation. Therefore, my research chooses 2009 as the start year, in order to avoid the noise caused by the financial crisis. The financial crisis in 2008 also makes people realize that high quality accounting standards are crucial to the stability of the global financial system and capital markets, which objectively accelerated the revision process of financial instrument standards. Since 2009, IASB began to revise new accounting standards and released the final draft of IFRS9 financial instruments in July 2014. IAS39 was released to replace and be implement on January 1, 2018. Therefore, Chinese Ministry of Finance release the draft of CAS22, CAS23 and CAS24 on March 31, 2017 and they were implemented on January 1, 2018, which includes the reclassification of financial instruments. The previous four types of

measurement methods (Financial assets at fair value through profit or loss Available-for-sale financial assets Loans and receivables Held-to-maturity investments) are reclassified into three types (Amortized cost, Fair value through other comprehensive income and Fair value through profit or loss).

In order to explore whether the new accounting standards influences the previous correlation between executive compensation and profit and loss from change of fair value, I choose my research period is 2009 to 2018.

## **2.2 Defining concepts**

### ***2.2.1 Change of fair value***

In 2006, fair value was introduced into the new accounting standards in China and the structure of accounting performance has changed since CFV became an item of operating income. As a basis for compensation evaluation, CFV cannot be separated from the compensation evaluation system. Executives should be responsible for investment decisions that cause CFV (Shao et al., 2012).

Zhang et al (2013) have found that the characters of the CFV changes affects the previous research results and came up with suggestions not to use the CFV in the income statement, which makes the research results more accurate. There is little previous research pay attention to the influence of characters of the CFV based on the data from 2012 to 2018 and the new accounting standards in 2018 may also have impact on CFV. Therefore, this paper explores the relationship between executive compensation and CFV, considering the influence of characters of the CFV and using the latest data.

Since the "profit and loss from fair value changes" is affected both by the increase and decrease of fair value during the holding period and the influence of the "return" of asset or liability after the disposal, it is more accurate to represent the true amount of profit and loss from fair value changes after considering the return. (Lian and Zhang, 2015)

### ***2.2.2 Executive compensation and company performance***

Lu (2007) defines the executive compensation and it can be summarized into five aspects: (1) the determinants of executive compensation; (2) the correlation between executive compensation, company performance and shareholder wealth; (3) the incentives of executive compensation; 4) the amount standards for executive compensation; (5) Relationship between executive compensation gap and company performance.

Bebchuk et al. (2002) documents the impact on executive compensation of managerial power has influence on the study, implement, and design of corporate governance. Hambrick and Finkelstein (1995) find that Companies controlled by the executives tends to maximize CEO's compensation with the legitimacy allowance and the company with no executive major owners tends to minimize CEO's compensation. Core et al. (1999) find that in the companies with large-sized boards and the majority

of the outside directors have certain relationship with the CEO, the managerial power is higher, and the CEO compensation is also higher. Fahlenbrach (2009) finds that executives with higher pay-for-performance sensitivity are faced with higher company risk, which leading to the higher executive compensation. In Fahlenbrach (2009)'s research, it shows a rising trend of the executive compensation when the managerial power increased.

My research is focus on the current Chinese listed companies, so the previous Chinese researches should be considered in a vital position. In Pan and Tong (2005)'s research, the compensation systems are decided by the executives and the executive performances are also accessed by themselves. Lu (2008) finds that managerial power is an important factor affecting the incentive compensation and suggests other scholars to focus on this influence. Lu (2008) also concludes that the companies with higher managerial power have higher executive compensation but do not have better company performance, which means that there is a positive relationship between managerial power and executive compensation.

### ***2.2.3 Change of fair value and executive compensation***

Previous research has already drawn a conclusion that CFV is positively related to executive compensation, based on the data from 2007 to 2009 (Shao et al., 2012; Xu and Zeng, 2010; Zhou and Yang, 2012).

PCFV is positively related to executive compensation, and the incentive effect is significantly greater than other surplus elements, and the LCFV has no significant impact on the executive compensation. The sample company has irrational incentives for PCFV, which lacks fairness. There is an asymmetry that companies put emphasis on PCFV, but only give a little punishment on LCFV (Xu and Zeng, 2010). To the degree of influence on executive compensation, CFV included in the income statement is more significant than CFV directly included in the capital reserve; at the same time, these two types of CFV accounting treatment method have a significant impact on executive compensation, and the asymmetry that companies put emphasis on PCFV, but only give a little punishment on LCFV is existing in both of the two methods (Zhang et al., 2011). PCFV has a significant positive relationship with executive compensation and there is no significant correlation between LCFV and executive compensation. The reasonable compensation incentives had not been given to the executive based on PCFV (Zhou and Yang, 2012).

The correlation of profit and loss from change of fair value and the executive compensation is different in the enterprises with different property rights. PCFV of private enterprises is significantly positively correlated with executive compensation; LCFV of central state-owned enterprise (SOEs) is weakly related to executive compensation; there is no significant correlation between the profit and loss from change of fair value of local SOEs and executive compensation (Zhou and Yang, 2012). Relevant scholars have found that the characters of the CFV changes affects the previous research results and came up with suggestions not to use the CFV in the income statement, which makes the research results more accurate (Zhang et al,

2013).

### 2.3 Hypothesis development

Based on many important conclusions of the above existing literature, this paper puts emphasis on the characters of the profit and loss from change of fair value. As profit and loss from change of fair value is simultaneously affected by the increase and decrease of fair value during the holding period and the return of assets or liabilities after the disposal. Zhang et al (2013) suggest only the adjusted profit and loss from change of fair value, which is after return, can represent the true value of profit and loss from change of fair value. If under the non-adjusted method, in which ignoring the influence of return, then the research results cannot explain the problem accurately. Therefore, the research hypothesis are divided by two methods: (1) adjusted profit and loss from change of fair value; (2) non-adjusted profit and loss from change of fair value. The following hypothesis are based on the adjusted and non-adjusted method:

**Hypothesis 1:** Considering the return has significant influence on exploring the correlation between profit and loss from change of fair value and executive compensation.

**Hypothesis 2:** Under the adjusted method, chairman compensation and CEO compensation are positively correlated to profit and loss from change of fair value. Under the non-adjusted method, there is no significant correlation.

In addition, Lian and Zhang (2015) demonstrate that the executive compensation is correlated with executive diligence to the job and the responsibility of executive is different in different positions in China. As for CFO, who is responsible for company capital operation, should deal with the account of profit and loss from change of fair value. Only when the amount is very large, then it should be decided by the chairman or CEO. Therefore, it should be a hypothesis to explore CFO separately.

**Hypothesis 3:** Under the adjusted method, CFO compensation is positively correlated to profit and loss from change of fair value. Under the non-adjusted method, there is no significant correlation.

Lian and Zhang (2015) indicate that profit and loss from change of fair value aggravates volatility of corporate profits, but it can only be regarded as non-sustainable profit rather than the main business profit of the company. Therefore, other revenue, which is deducted by the profit and loss from change of fair value, has more significant influence on executive compensation.

**Hypothesis 4:** Whether under non-adjusted method or adjusted method, the other revenue after deduction of profit and loss from change of fair value is the main factor to influence executive compensation, and executive compensation and the other revenue have a positive relationship.

In order to explore whether the new accounting standards have impact on the correlation, year 2018 is considered as a special year and the following hypothesis is

set to check the influence.

**Hypothesis 5:** With all other variables mentioned in my research are consistent, 2018 has a special effect on the chairman compensation, comparing with other years (2009 to 2017).

### III. RESEARCH METHODOLOGY

#### 3.1 Data and sample

The initial data was collected through Chinese firms, which are listed on the A-share stock market in Shenzhen and Shanghai and the initial data contained 3599 companies between 2009 to 2018. Variables of relevant data are from CSMAR, RESSET and Wind.

We drop observations from finance and insurance firms; from firms with no changes in profits or losses due to changes in fair value.; from firms both in B-share and H-share; from ST/\*ST firms with bad performance; from firms with data missing. In the end, there are 3421 companies in total.

In order to observe the impact of the return of fair value, I classified the samples into two types: 1. considering return; 2. ignoring return. The dependent variable, compensation, are further divided into chairman compensation, CEO and CFO. As a result, there are 6 groups in total.

#### 3.2 Variable definitions and research method

In the current business environment, the shareholding ratio of senior executives in China is not high. In this paper, the annual monetary compensation of senior executives is adopted as the substitution variable of executive compensation, and the natural logarithm of the total monetary compensation of chairman, CEO and CFO are taken as the dependent variable. CFV considering return and CFV ignoring return are taken as independent variable. Variable definitions are shown in Table 1.

In order to test the relationship between profits and losses from changes in fair value and executive compensation, I use the following the Panel Data model.

$$\begin{aligned} \text{LnCOMP}_{it} = & \alpha_{it} + \beta_1 \text{CFV}_{it} + \beta_2 \text{DCFV}_{it} + \beta_3 \text{DAR}_{it} + \beta_4 \text{GROWTH}_{it} + \beta_5 \text{MSH}_{it} \\ & + \beta_6 \text{REV}_{it} + \beta_7 \text{SIZE}_{it} + \beta_8 \text{D}_{1it} + \mu_{it} + \varepsilon_{it} \\ & (i=1,2,3 \cdots N, t=1,2,3 \cdots 10) \end{aligned}$$

**Table 1**  
Variable definition

Variables	Definitions
LnCHAIRCOMP	The natural logarithm of the chairman's total annual monetary compensation.
LnCEOCOMP	The natural logarithm of the CEO's total annual monetary compensation.
LnCFOCOMP	The natural logarithm of the CFO's total annual monetary

	compensation.
CFV_NA	PCFV/LCFV ignores the influence of return, which is equal to the PCFV/LCFV in the income statement after standardization by the total assets at the end of the period and deflating the impact of company size.
CFV_A	PCFV/LCFV considers the influence of return, also needs standardization by the total assets at the end of the period and deflating the impact of company size. Profit and loss from change of fair value = “Profit and loss from change of fair value” in the income statement + “investment income (including trading finance asset, trading finance liability and change of fair value from other financial asset or liability, which is directly included in current profit and loss)” in the income statement.
DCFV_NA	If CFV_NA>0, then DCFV_NA=1, or DCFV_NA=0.
DCFV_A	If CFV_A>0, then DCFV_A=1, or DCFV_A=0.
REV	Other revenue=total revenue -CFV_NA or CFV_A, and deflate it with the total assets at the end of the period.
SIZE	Company scale, which equal to the natural logarithm of total assets at the end of the period.
Growth	Company growth, which equal to revenue growth rate at the end of the year.
DAR	Asset-liability ratio = total liabilities/total assets
MSH	Management shareholding is 1; Otherwise, it's 0.
D <sub>t</sub>	if year=2018, D <sub>t</sub> =1, else D <sub>t</sub> =0.

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## IV. EMPIRICAL RESULTS AND DISCUSSTION

### 4.1 Descriptive statistics

Table 2 summarizes the descriptive statistics. As the table shows, there is a considerable difference in executives' compensation between each position. Chairman average cash compensation is ¥1029985. CEO average cash compensation is ¥999217. CFO average cash compensation is ¥579272. Chairman and CEO cash exceed CFO cash compensation to a great degree. Generally, standard deviation of executives is very high, especially chairman and CEO. I need further analysis of the regression results to know whether the high standard divisions are related to profit and loss from change of fair value. I use the natural logarithm of compensation as my research's dependent variable.

As shown in Table 2, the mean ration of CFV\_NA and CFV\_A is much lower than the mean ration of REV, which demonstrates that profit and loss from change of fair value is not the main source of profit. The standard deviation of CFV\_A is larger than the standard deviation of CFV\_NA. regression result is demanded to analyze whether CFV\_A has more significant influence on the executive compensation.

Furthermore, Table shows control variables, such as company scale, asset-liability ratio, company growth and management shareholding, exist differences among each company. Managements own shares in 80% of the sample companies.

<b>Table 2</b>					
Descriptive statistics					
Variable	N	Mean	Std	Min	Max
<b>Dependent Variables</b>					
CHAIRCOMP	3,421	1029985	1255219	20000	7581700
LnCHAIRCOMP	3,421	13.34514	1.044129	9.903487	15.84125
CEOCOMP	3,421	999216.5	1145041	75000	6845700
LnCEOCOMP	3,421	13.4038	0.879949	11.22524	15.73913
CFOCOMP	3,421	579271.5	580235.7	44000	3680000
LnCFOCOMP	3,421	12.93041	0.815059	10.69195	15.11842
<b>Independent Variables</b>					
CFV_NA	3,421	0.000498	0.004597	-0.01621	0.027532
CFV_A	3,421	0.008111	0.023859	-0.00863	0.16254
DCFV_NA	3,421	0.538439	0.498593	0	1
DCFV_A	3,421	0.769073	0.421487	0	1
<b>Control Variables</b>					
REV	3,421	0.054253	0.05588	-0.13665	0.233329
SIZE	3,421	22.45574	1.410174	19.90955	26.64656
GROWTH	3,421	0.168427	0.300915	-0.46675	1.517206
DAR	3,421	0.459373	0.206734	0.059336	0.882109
MSH	3,421	0.798889	0.400889	0	1

## 4.2 Correlation analysis

Table 3 presents the correlation matrix for the samples.

Table 3 shows that there is no significant correlation between non-adjusted profit and loss from change of fair value (CFV\_NA). Adjusted profit and loss from change of fair value (CFV\_A) is negatively correlated with chairman compensation at 1% significant level and is negatively correlated with CEO compensation at 5% significant level, which implies that CFV\_A is a reasonable indicator to evaluate chairman and CEO performance. There is no significant correlation between CFO compensation and CFV\_A.

Table 3 also shows that chairman, CEO and CFO compensation is positively correlated with other revenue (REV). Other control variables, such as company scale (SIZE), liability-to-asset rate (DAR), and Management shareholding (MSH), are positively correlated with executive compensation at the 1% significant level. As for the company growth (GROWTH), it is positively correlated with chairman compensation at 10% significant level and is positively correlated with CEO and CFO at 1% significant level.

**Table 3**  
Correlation analysis

	CFV_NA	CFV_A	DCFV_NA	DCFV_A	REV	SIZE	GROWTH	DAR	MSH	LnCHAIR COMP	LnCEOCO MP	LnCFOCO MP
CFV_NA	1	0.316***	0.403***	0.261***	-0.089***	0.027	0.022	0.029*	0.012	0.012	0.009	0.017
CFV_A	0.316***	1	0.140***	0.216***	-0.024	-0.120***	-0.044**	-0.192***	0.007	-0.059***	-0.038**	-0.025
DCFV_NA	0.403***	0.140***	1	0.592***	-0.025	-0.006	-0.011	0.021	-0.008	-0.015	0.005	0.001
DCFV_A	0.261***	0.216***	0.592***	1	-0.018	0.004	-0.024	0.019	-0.031*	-0.031*	-0.019	-0.016
REV	-0.089***	-0.024	-0.025	-0.018	1	-0.064***	0.173***	-0.371***	0.067***	0.130***	0.149***	0.135***
SIZE	0.027	-0.120***	-0.006	0.004	-0.064***	1	0.072**	0.538***	0.034**	0.398***	0.469***	0.516***
GROWTH	0.022	-0.044**	-0.011	-0.024	0.173***	0.072***	1	0.069***	0.026	0.030*	0.050***	0.044***
DAR	0.029*	-0.192***	0.021	0.019	-0.371***	0.538***	0.069***	1	-0.091***	0.109***	0.154***	0.189***
MSH	0.012	0.007	-0.008	-0.031*	0.067***	0.034**	0.026	-0.091***	1	0.114***	0.108***	0.084***
LnCHAIRCOMP	0.012	-0.059***	-0.015	-0.031*	0.130***	0.398***	0.030*	0.109***	0.114***	1	0.713***	0.590***
LnCEOCOMP	0.009	-0.038**	0.005	-0.019	0.149***	0.469***	0.050***	0.154***	0.108***	0.713***	1	0.759***
LnCFOCOMP	0.017	-0.025	0.001	-0.016	0.135***	0.516***	0.044***	0.189***	0.084***	0.590***	0.759***	1

\*, \*\*, \*\*\* Denote two-tailed statistical significance at the 10%, 5 %, and 1% levels, respectively.

### 4.3 Hausman Test

From the Hausman test results reported in Table 4, all the three model (Chairman compensation and change of fair value model, CEO compensation and change of fair value model and CFO compensation and change of fair value model) are significant at the 1% level. It represents that these three models should all reject the hypothesis, which is individual effects are correlated with explanatory variables. Therefore, I consider the individual effects in the three models as fixed effects and then establish the fixed effects variable intercept model respectively.

Model		Hausman test	P-value
Chairman compensation and change of fair value	Non-adjusted	60.88***	0.0000
	Adjusted	64.02***	0.0000
CEO compensation and change of fair value	Non-adjusted	76.83***	0.0000
	Adjusted	77.76***	0.0000
CFO compensation and change of fair value	Non-adjusted	55.85***	0.0000
	Adjusted	56.77***	0.0000

\*, \*\*, \*\*\* Denote two-tailed statistical significance at the 10%, 5 %, and 1% levels, respectively.

### 4.4 Regression Analysis

#### 4.4.1 Chairman compensation and profit and loss from change of fair value

Table 5 reports the regression results from Chairman compensation and change of fair value model. The dependent variable is chairman compensation (LnCHAIRCOMP).

Table 5 shows that chairman compensation (LnCHAIRCOMP) is negatively correlated with adjusted change of fair value (CFV\_A) at 1% significant level ( $\beta_1 < 0$ , t-value is -2.74), which is opposite from hypothesis 2. Wang (2013) finds that executives choose to dispose the financial asset in order to avoid the decline in company performance on the financial statements and the more serious the decline, the higher the profit from disposal of the financial asset available for sale. However, Zhang and Chen (2002) find that there is a significant positive correlation between company performance and executive compensation, especially the company whose performance is based on return on main business. Therefore, there is a possibility that executive try to sell more financial asset to ensure a good result of financial statement, but their compensation is low due to the decline of return on main business. Besides, there is no significant correlation between chairman compensation (LnCHAIRCOMP) and non-adjusted change of fair value (CFV\_NA), which is consist with hypothesis 2. Generally, hypothesis 1 is supported on the chairman part.

Table 5 also shows that chairman compensation (LnCHAIRCOMP) is positively correlated with other revenue (REV) both under non-adjusted and adjusted methods. Under the non-adjusted method, the two variables have the positive correlation at 10% level ( $\beta_6 > 0$ , t-value is 1.96). Under the adjusted method, the two variables have

the positive correlation at 5% level ( $\beta_6 > 0$ , t-value is 1.98). Moreover, the two  $\beta_6$  and t-value is extremely close, which means the two situations are similar. Therefore, hypothesis 4 is supported.

According to other control variables, the regression results show the following situations: (1) Under the non-adjusted method, chairman compensation (LnCHAIRCOMP) and liability-to-asset rate (DAR) have the positive correlation at 10% level ( $\beta_3 > 0$ , t-value is 1.95). Under the adjusted method, the two variables have the positive correlation at 10% level ( $\beta_3 > 0$ , t-value is 1.85). (2) There is no significant correlation between chairman compensation (LnCHAIRCOMP) and company growth (GROWTH) under the two methods. (3) There is no significant correlation between chairman compensation (LnCHAIRCOMP) and management shareholding (MSH) under the two methods. (4) Under the non-adjusted method, chairman compensation (LnCHAIRCOMP) and company size (SIZE) have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 14.42). Under the adjusted method, the two variables have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 14.26).

In Table 5, D1 shows the significance at the 1% level both under non-adjusted method and adjusted method ( $\beta_8 > 0$ , t-value is 3.08 and  $\beta_8 > 0$ , t-value is 3.25). It implies that with all other variables mentioned in my research are consistent, 2018 has a special effect on the chairman compensation. Hypothesis 5 is supported.

Non-Adjusted			Adjusted		
Variable	Coef.	T-value	Variable	Coef.	T-value
CFV_NA	-0.8303	-0.32	CFV_A	-1.90617***	-2.74
DCFV_NA	-0.02842	-1.31	DCFV_A	0.014416	0.55
DAR	0.242448*	1.95	DAR	0.230185*	1.85
GROWTH	-0.0297	-0.81	GROWTH	-0.03545	-0.97
MSH	0.021128	0.47	MSH	0.022706	0.51
REV	0.554089*	1.96	REV	0.558301**	1.98
SIZE	0.325749***	14.42	SIZE	0.322872***	14.26
D1	0.095779***	3.08	D1	0.100657***	3.25
_cons	5.876358***	11.9	_cons	5.933904	11.95
R <sup>2</sup>		0.1221	R <sup>2</sup>		0.1239
F-statistic		41.38	F-statistic		42.08
N		3421	N		3421

\*, \*\*, \*\*\* Denote two-tailed statistical significance at the 10%, 5 %, and 1% levels, respectively.

#### 4.4.2 CEO compensation and profit and loss from change of fair value

Table 6 reports the regression results from CEO compensation and change of fair value model. The dependent variable is CEO compensation (LnCEOCOMP).

Table 6 shows that CEO compensation (LnCEOCOMP) is negatively correlated

with adjusted change of fair value (CFV\_A) at 10% significant level ( $\beta_1 < 0$ , t-value is -1.82), which is opposite from hypothesis 2 and the possible reasons are similar as what I discussed in the chairman part. Besides, there is no significant correlation between chairman compensation (LnCEO) and non-adjusted change of fair value (CFV\_NA), which is consist with hypothesis 2. Generally, hypothesis 1 is supported on the chairman part.

Table 6 also shows that CEO compensation (LnCEOCOMP) is positively correlated with other revenue (REV) both under non-adjusted and adjusted methods. Under the non-adjusted method, the two variables have the positive correlation at 10% level ( $\beta_6 > 0$ , t-value is 2.88). Under the adjusted method, the two variables have the positive correlation at 5% level ( $\beta_6 > 0$ , t-value is 2.89). Moreover, the two  $\beta_6$  and t-value is extremely close, which means the two situations are similar. Therefore, hypothesis 4 is supported.

According to other control variables, the regression results show the following situations: (1) There is no significant correlation between CFO compensation (LnCFOCOMP) and liability-to-asset rate (DAR) under the two methods. (2) There is no significant correlation between CEO compensation (LnCEOCOMP) and company growth (GROWTH) under the two methods. (3) There is no significant correlation between CEO compensation (LnCEOCOMP) and management shareholding (MSH) under the two methods. (4) Under the non-adjusted method, CEO compensation (LnCEOCOMP) and company size (SIZE) have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 17.94). Under the adjusted method, the two variables have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 17.77).

Non-Adjusted			Adjusted		
Variable	Coef.	T-value	Variable	Coef.	T-value
CFV_NA	-0.32385	-0.14	CFV_A	-1.11087*	-1.82
DCFV_NA	-0.00942	-0.5	DCFV_A	-0.00279	-0.12
DAR	-0.03174	-0.29	DAR	-0.03814	-0.35
GROWTH	0.00149	0.05	GROWTH	-0.00188	-0.06
MSH	-0.01355	-0.35	MSH	-0.013	-0.33
REV	0.713008***	2.88	REV	0.712376***	2.89
SIZE	0.354544***	17.94	SIZE	0.352063***	17.77
D1	0.119274***	4.39	D1	0.120928***	4.47
_cons	5.413698***	12.53	_cons	5.478152***	12.6
R <sup>2</sup>		0.1682	R <sup>2</sup>		0.1693
F-value		60.15	F-value		60.63
N		3421	N		3421

\*, \*\*, \*\*\* Denote two-tailed statistical significance at the 10%, 5 %, and 1% levels, respectively.

In Table 6, D1 shows the significance at the 1% level both under non-adjusted

method and adjusted method ( $\beta_8 > 0$ , t-value is 4.39 and  $\beta_8 > 0$ , t-value is 4.47). It implies that with all other variables mentioned in my research are consistent, 2018 has a special effect on the CEO compensation. Hypothesis 5 is supported.

#### 4.4.3 CFO compensation and profit and loss from change of fair value

Table 7 reports the regression results from CFO compensation and change of fair value model. The dependent variable is CFO compensation (LnCFOCOMP).

According to Table 7, there is no significant correlation between CFO compensation (LnCFOCOMP) with non-adjusted change of fair value (CFV\_NA), which is consistent with hypothesis 3. There is also no significant correlation between CFO compensation (LnCFOCOMP) with adjusted change of fair value (CFV\_A), which is not consistent with hypothesis 3. Generally, these two results also reject hypothesis 1 because there is no significant correlation under the two methods. Lian and Zhang demonstrate that although CFO is responsible for company capital operation, the majority company decisions are decided by the chairman. Therefore, Volatility in the market value of investment assets may not significantly influence CFO compensation.

Non-Adjusted			Adjusted		
Variable	Coef.	T-value	Variable	Coef.	T-value
CFV_NA	0.917731	0.39	CFV_A	-0.03144	-0.05
DCFV_NA	-0.00559	-0.29	DCFV_A	-0.01765	-0.76
DAR	-0.08422	-0.76	DAR	-0.08423	-0.76
GROWTH	-0.01974	-0.61	GROWTH	-0.01912	-0.59
MSH	-0.0253	-0.64	MSH	-0.02542	-0.64
REV	1.027246***	4.09	REV	1.019939***	4.07
SIZE	0.390808***	19.51	SIZE	0.389758***	19.4
D1	0.145223***	5.27	D1	0.144485***	5.26
_cons	4.138924***	9.45	_cons	4.17428***	9.47
R <sup>2</sup>		0.1934	R <sup>2</sup>		0.1935
F-value		71.33	F-value		71.4
N		3421	N		3421

\*, \*\*, \*\*\* Denote two-tailed statistical significance at the 10%, 5 %, and 1% levels, respectively.

Table 7 also shows that CFO compensation (LnCFOCOMP) is positively correlated with other revenue (REV) both under non-adjusted and adjusted methods. Under the non-adjusted method, the two variables have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 4.09). Under the adjusted method, the two variables have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 4.07). Moreover, the two  $\beta_6$  and

t-value is extremely close, which means the two situations are similar. Therefore, hypothesis 4 is supported.

According to other control variables, the regression results show the following situations: (1) There is no significant correlation between CFO compensation (LnCFOCOMP) and liability-to-asset rate (DAR) under the two methods. (2) There is no significant correlation between CFO compensation (LnCFOCOMP) and company growth (GROWTH) under the two methods. (3) There is no significant correlation between CFO compensation (LnCFOCOMP) and management shareholding (MSH) under the two methods. (4) Under the non-adjusted method, CFO compensation (LnCFOCOMP) and company size (SIZE) have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 19.51). Under the adjusted method, the two variables have the positive correlation at 1% level ( $\beta_6 > 0$ , t-value is 19.4).

In Table 7, D1 shows the significance at the 1% level both under non-adjusted method and adjusted method ( $\beta_8 > 0$ , t-value is 5.27 and  $\beta_8 > 0$ , t-value is 5.26). It implies that with all other variables mentioned in my research are consistent, 2018 has a special effect on the CFO compensation. Hypothesis 5 is supported.

## V. RELIABILITY AND VALIDITY

The research used data collected from global recognized authorities, including CSMAR, RESSET and Wind, which can increase the reliability of the sample source. Moreover, latest available data was used in this study so that current correlation between executive compensation and profit and loss from change of fair value can be reflected from the regression results.

For validity of this research, Table 8 shows the result of Variance inflation factor (VIF) test. It suggests all variables are greater than or equal to 1 and the majority of the VIF is very close to 1, which confirms the nonexistence of multicollinearity. Besides, This research methodology follows by model paper (Lian and Zhang, 2012).

	Adjusted method		Non-adjusted method	
	VIF	1/VIF	VIF	1/VIF
DAR	1.205	.83	1.205	.83
REV	1.202	.832	1.202	.832
DCFV A	1.195	.837	1.088	.919
CFV A	1.117	.896	1.054	.949
SIZE	1.102	.908	1.035	.966
MSH	1.009	.991	1.004	.996
GROWTH	1	1	1	1
Mean VIF	1.119	.	1.084	.

## VI. THEORETICAL CONTRIBUTION

The measuring method of financial instruments have been reclassified in 2018 CAS, which may have influence on the true amount of CFV. This paper explores the correlation based on the data and sample from 2009 to 2018. First, it tries to prove year 2018 has a special impact on the correlation between executive compensation and profit and loss from change of fair value. Second, previous studied about this correlation based on outdated data and this study filled the gap with the lasted data in 2018.

## VII. CONCLUSION

Examining A-share listed companies on the Shanghai Securities Exchange and Shenzhen Securities Exchange from 2012 to 2018, I test the correlation of executive compensation and profit and loss from change of fair value. I draw the following conclusions: (1) Both under non-adjusted method and adjusted method, other revenue, which equals to total revenue deducts CFV\_NA or CFV\_A, is the main factor to influence executive compensation and executive compensation is positively correlated with the other revenue. (2) With all other variables mentioned in my research are consistent, 2018 has a special effect on the chairman compensation, comparing with other years (2009 to 2017).

The unexpected results are: (1) Under the adjusted method, it shows a negative correlation between chairman and CEO compensation and profit and loss from change of fair value. It may be caused by the different compensation incentive mechanisms and executives who tends to avoid company performance decline by selling the financial assets. (2) No significant correlation between CFO compensation and profit and loss from change of fair value under the non-adjusted method or adjusted method. The reason may be that CFO is only responsible for capital operation rather than make significant decisions.

This research has following limitations: (1) The control variables are limited. Further researches should contain more variables like return on main business, which is also a very important factor to influence executive compensation. (Zhang and Chen, 2002). (2) Based on the result, it just shows that 2018 has different influence on executive compensation from other years in the research. Therefore, further researches are needed to determine the effect of the new accounting standards.

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