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Enterprise Transformation and Innovation: A Study of Performance Compensation from the Perspective of Information Asymmetry

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Abstract: Information asymmetry is a key factor affecting M&A performance. In order to preserve value, performance promises are increasingly used in mergers and acquisitions; however, in practical applications performance often falls short of standards. This paper aims to explore how technology-based companies choose performance-based compensation methods from the perspective of information asymmetry by performing regression analysis on the unbalanced panel data. The results show that both equity compensation and annual compensation are more conducive to fulfilling corporate commitments, and two-way compensation enhances the incentive effect of commitments. In addition, technology companies should choose the method of equity compensation and annual compensation to alleviate the degree of information asymmetry by ensuring the degree of completion. Compensation methods can affect the fulfillment of commitments by improving corporate performance, and the degree of impact is different under different corporate governance qualities and debt repayment pressures. Revealing the performance compensation mechanism for fulfilling performance commitments not only expands the research perspective of performance commitments, but also provides a decision-making basis for enterprises to sign commitment agreements.

Keywords: asymmetry information; performance commitment; compensation mode; scientific and technological enterprise

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1. Introduction

With the development of the economy, it is becoming more and more important to speed up the technological transformation of enterprises. As part of this transition, businesses often need to expand capital, and one viable option is through mergers and acquisitions. While mergers and acquisitions improve the competitiveness of enterprises [1], the problem of inaccurate valuations caused by information asymmetry has become increasingly prominent. The acquired party may exaggerate the enterprise value through profit adjustment, or there may be information asymmetry between the two companies, resulting in an incomplete understanding of the acquired party's actual economic information [2]. In practice, the valuation of the target assets of the M&A is often the result of a game between the two parties, and there is a lack of generally recognized objective and fair evaluation methods. In response to this problem, the acquirer can require the target company to make a commitment to the performance after the merger to ensure the accuracy of valuation and protect the interests of small and medium shareholders [3]. In 2008, pay-for-performance commitments became common practice in M&A as a way to compensate for information asymmetries.

In M&A negotiations, the target company usually signs a performance commitment agreement, which can send a positive signal to the acquirer, thereby increasing the valuation of the acquired assets and alleviating the company's information asymmetry [4]. However,

in recent years, with the increase of corporate mergers and acquisitions and the increasing application of performance commitments, problems continue to appear in the actual implementation process of enterprises, and "performance changes" frequently occur. According to data from 2008 to 2019, the completion rate of mergers and acquisitions of A-share listed companies in China is 95.5%, and there is still room for improvement. However, it is worth noting that more than half of the companies that signed the performance commitment suffered a performance decline of more than 30%, and this happened in the first year after the commitment expired. Thus, it is of great significance to study the factors that affect the fulfillment of performance commitments to enhance the ability of corporate mergers and acquisitions.

With the application of blockchain technology, performance pay is becoming more and more popular in mergers and acquisitions [5]. Similar to the VAM protocol, it acts as a valuation adjustment mechanism [6], which can reduce the valuation premium to a certain extent [7]. In 2005, China's listed companies applied this system for the first time in the process of share structure reform [8]. Most of the literature on performance commitment is researched from the perspective of salary incentives. Scholars started with the compensation of executives and found that there is a positive correlation between the compensation structure of the acquisition manager and the stock price before and after the announcement of the acquisition [9].

Some scholars have also studied the impact of performance commitment on firms. Relevant researchers studied the relationship between performance commitment and corporate performance and found that a reasonable performance compensation commitment can motivate the target company to improve the performance of the acquirer [10]. The scholars studied the impact of performance commitment on earnings management [11]. The results show that performance commitment improves the earnings management level of backdoor listed companies. A case analysis found that companies that signed performance commitments may have behaviors such as premiums, goodwill impairment risks, and earnings management after the commitment period [12]. The scholars studied the factors that affect the use of pay for performance, and the study showed that pay for performance is more likely to be used for acquisitions if the target company is a small private company [13].

In research on information asymmetry in M&A scholars have studied the relationship between information asymmetry and M&A time [14]. The results show that the problem of information asymmetry is more serious before the completion of M&A and will be weakened after M&A. This is similar to the conclusion of scholars who studied the impact of M&A on banking information asymmetry [15] and found that information asymmetry increases after an M&A announcement and decreases after transaction completion, and that a successful M&A will improve the quality of the information environment. The scholars studied the information asymmetry in cross-border acquisitions and found that market support institutions usually reduce information asymmetry and shorten the arbitration stage [16]. The scholars analyzed the relationship between M&A goodwill and information asymmetry [17] and found that the value of goodwill affects the risk of stock price collapse through information asymmetry at the enterprise and market level. The scholars believe that the problem of information asymmetry in M&A can be solved by reasonable means of payment [18].

However, a significant portion of the research on performance commitment primarily centers on its influence on enterprises, leaving a noticeable gap in understanding the factors that influence the effectiveness of these commitments. The implementation of performance compensation commitments within enterprises has led to the gradual refinement of commitment terms. The choice of compensation methods can yield varying impacts on the successful fulfillment of these commitments. Among the existing research, the predominant focus lies on equity payment and two-way compensation as performance compensation methods. While these studies often analyze their effects on overall enterprise management, they often fall short of delving into the underlying mechanisms that drive these impacts.

This points to a notable deficiency in the literature, as there is a distinct lack of exploration into the intricate impact mechanisms resulting from these subjective factors.

This paper takes its starting point from the very core of the agreement itself, delving into the internal subjective factors. Through the lens of information asymmetry, it systematically examines the intricate impact of performance compensation on the successful fulfillment of commitments. The primary objective of this paper is to dissect how scientific and technological enterprises navigate the selection of performance compensation methods within the framework of information asymmetry. It seeks to unveil the extent to which these choices influence the realization of commitments and the potency of commitment-driven incentives. Additionally, this study probes the intricate relationship between these two factors, unraveling their underlying influence mechanisms. Furthermore, the research findings are placed within the context of science and technology enterprises for subsequent validation, aiming to furnish a valuable reference for enterprises undergoing transformation. The exploration of performance compensation commitments from the unique perspective of compensating for information asymmetry adds an innovative dimension to the study's scope.

The primary contributions of this paper can be succinctly summarized as follows: Firstly, within the realm of research content, this paper augments the existing literature by delving deeper into the realm of information asymmetry within technology-based enterprises. It also explores the array of factors that wield influence over the fulfillment of performance commitments. While earlier studies predominantly concentrated on external variables such as executive traits and financial institutions, this paper takes a unique angle by examining the impact of compensation methods on the execution of performance commitments. Furthermore, this research enriches the exploration of compensation modalities by venturing into compensation timing patterns, thus broadening the scope of our inquiries beyond payment modes and directions.

Secondly, this paper broadens the perspective on information asymmetry. Past studies have predominantly examined the incentive effects of commitment compensation modes on enterprises. However, this paper takes an even deeper dive by exploring the direct influence of compensation modes on commitment fulfillment, while simultaneously scrutinizing the intricate mechanisms at play. In terms of practical application, the recent epidemic has exerted a notable impact on target enterprises that have committed to performance targets. By studying the selection of compensation methods, this research assists businesses in choosing performance compensation methods that optimize their standing during mergers and acquisitions. This strategic choice empowers enterprises to navigate technological transformations effectively, ultimately realizing pre-defined objectives.

The structure of this paper is as follows: The second part is theoretical analysis and research hypothesis. The third part is the research design that introduces the research samples and data sources, explains the main variables of the article, and constructs the research model. The fourth part is the empirical test results and analysis, descriptive statistics on the variables, the introduction of benchmark regression results, the hypothesis verification, and the robustness of the test results that further explain the reliability of the argument. The fifth part is further research. The sixth part is the discussion part, which puts forward corresponding countermeasures and suggestions, and the shortcomings. The seventh part is the conclusion that summarizes the study.

2. Theoretical Analysis and Research Hypothesis

2.1. Influence of Payment Method of Commitment Compensation on Commitment Fulfillment

A greater representation of target director representatives within merged boards of directors is associated with reduced merger premiums [19]. Earlier studies have indicated that the introduction of equity payment can facilitate the involvement of original institutional investors from the target enterprise into listed entities, consequently augmenting the governance standard of the listed firms. This in turn contributes to post-M&A operational and managerial stability, culminating in enhanced operational profits and heightened relia-

bility of performance commitments. The incorporation of a cash compensation clause can be likened to adjusting the transaction consideration for the underlying assets. In instances where the acquiring party falls short of fulfilling its performance commitment, the cash compensation contributes to reducing the transaction consideration for the merger. Alternatively, in scenarios involving share compensation, instances where enterprise performance falls below the stipulated standard, the number of shares to be compensated is computed by dividing the compensation amount by the share's issue price.

Drawing upon signal transmission theory, during M&A, the performance commitment undertaken by the target enterprise conveys a favorable signal to the external realm, resulting in an elevation of the enterprise's stock price [20]. Consequently, the market price subsequent to agreement signing frequently surpasses the issue price during the M&A phase, leading to potential losses concerning the realization price disparity of shares for the target enterprise. Furthermore, shares entail future income rights, and share compensation could potentially entail the loss of these rights, possibly even influencing alterations in the share distribution among target enterprise shareholders. Hence, in comparison to cash compensation, share compensation motivates the target enterprise to earnestly meet its performance commitment due to its higher degree of constraint and pronounced incentive effect on the acquiring party [21]. Building upon the aforementioned analysis, we present the following hypothesis:

H1. *Equity payment is more conducive to the completion of performance commitment*.

2.2. The Influence of the Time Mode of Commitment Compensation on the Degree of Completion of Commitment

When signing the performance commitment agreement, the prevalent approach among enterprises is to opt for annual compensation, disbursed yearly over the commitment period. However, certain businesses choose an alternative route by opting for cumulative compensation, whereby a single payment is rendered at the conclusion of the commitment duration. Research has demonstrated that extended commitment periods elevate the susceptibility to performance lapses. In the context of annual compensation, enterprises are obligated to bridge the disparity between the actual and stipulated performance, necessitating yearly adjustments based on audit evaluations. This commitment pattern establishes yearly performance targets, presenting themselves as tangible, pragmatic, and actionable short-term objectives for enterprise management. On the contrary, cumulative commitments entail the prospect of a performance shortfall in the initial year, potentially leading to the employment of earnings management strategies to cobble together performance in subsequent commitment periods. This frontloading of performance fulfillment might offset subsequent operational inadequacies, inadvertently reducing performance commitment expectations and heightening the latent risk of performance loss. Consequently, annual compensation exerts a more stringent constraint on enterprises in comparison to cumulative compensation. Grounded in these observations, we present the second hypothesis of this study:

H2. *Annual compensation is more conducive to the completion of performance commitments*.

2.3. The Influence of the Direction of Promised Compensation on the Incentive Effect

The study conducted by related scholars revealed that elevated incentive compensation correlates with augmented stock returns post-mergers and acquisitions [22]. Unilateral compensation entails offering singular compensation to the acquirer as per the performance commitment agreement terms, should the acquired entity's actual performance fall below expectations. Conversely, the two-way compensation approach extends beyond compensating the acquirer solely for substandard performance; it mandates bestowing a certain reward upon the merged enterprise management when the acquired entity surpasses performance commitments. While unilateral compensation leans towards being punitive, acting primarily as a constraint on the target party, two-way compensation introduces a reward structure aimed at motivating management. For the segment that exceeds performance

commitments, management can secure a proportional bonus or augment the consideration of underlying assets. Two-way compensation effectively aligns the interests of both sides of the merger and acquisition spectrum. Grounded in motivation theory, our work efficiency hinges on our work attitude, influenced by the degree of satisfaction and motivation.

The higher the satisfaction of needs and the more pronounced the incentive effect, the greater the efficiency achieved. Given the comparatively recent adoption of two-way performance compensation measures, evaluating the fulfillment of two-way compensation commitments solely based on the completion degree of commitments might not be entirely accurate. Consequently, incentive effect analysis is employed to gauge the impact of two-way compensation on commitment fulfillment. Drawing from incentive theory, the diverse compensation directions in performance commitments yield distinct incentive effects on enterprises, thereby fostering heterogeneous management behavior in merged enterprises and impacting commitment fulfillment. Building upon this comprehensive analysis, we posit the following hypothesis:

H3. *For companies that have signed performance commitments, two-way performance compensation makes the incentive effect of commitments more significant*.

2.4. Mechanism Effect of the Influence of Commitment Mode on the Implementation Effect of Commitment

An enterprise, being a substantial organizational entity, is influenced by Coase's assertion that a cost-free market isn't devoid of expenses, with transaction processes inherently incurring costs. Guided by transaction cost theory, as an enterprise expands to a particular magnitude, it often opts for mergers and acquisitions to address the costs of transacting in open markets. As a countermeasure to the information asymmetry inherent in such transactions, the concept of performance commitment arises. How exactly does the efficacy of performance commitment's implementation unfold? The first crucial facet is the compensation method and timing. Equity payment and annual compensation wield a more potent incentive effect, motivating enterprise management to steadfastly fulfill their performance commitments [23]. In general, two types of incentive effects are discernible: one stems from the divergence in chosen performance metrics during commitment, occasionally involving earnings management; the other occurs when an enterprise enhances its operational performance to bolster its financial standing, ultimately culminating in improved performance [24].

A growth in enterprise performance invariably corresponds to elevated performance commitments. Another significant aspect is the direction of performance commitment. Two-way performance commitment effectively incentivizes enterprise management. This stems from the dual nature of this approach, which, besides repercussions, incorporates rewards for the target enterprise. These rewards foster enhanced enterprise performance, which, in turn, boosts management motivation to fulfill commitments and accentuates the incentive effect. The research by related scholars highlights that the post-merger and acquisition performance of the target entity serves as a reflection of post-M&A integration performance, indicative of enterprise-level advancement [25]. In synthesis, the formulation of the fourth hypothesis in this study encapsulates these insights:

H4. *The way of performance commitment can encourage the performance of the target party, and thus promote the target party to better fulfill the performance commitment and play a higher incentive effect*.

2.5. The Influence of Commitment Fulfillment Degree on Asymmetry Information

Concerning information asymmetry in mergers and acquisitions (M&A), this phenomenon manifests both prior to and following the contract's signing [26,27]. According to related scholars, M&A activities generate a transient surge in information asymmetry, contributing to the erosion of shareholders' wealth [28]. Rooted in information asymmetry theory, diverse market participants harbor distinct comprehension levels of pertinent information in a market economy, and market signals serve to bridge this divergence.

As revealed by related scholars, a noteworthy catalyst behind the decline in enterprise value due to M&A is the information asymmetry existing between the two involved parties [29]. Throughout the M&A process, information asymmetry prevails between the merging entities, and subsequent to the performance commitment agreement's execution, when the target enterprise's commitment aligns with the main merging party's expectations—signifying high commitment completion—it serves as a conduit for transmitting positive asset value information to the main merging party. This mechanism effectively mitigates the information asymmetry encountered by the principal merging party. Hence, in light of these insights, we propose the formulation of the fifth hypothesis:

H5. *The improvement of commitment completion can restrain the degree of information asymmetry of enterprises.*

Figure 1 describes the research framework of this paper.

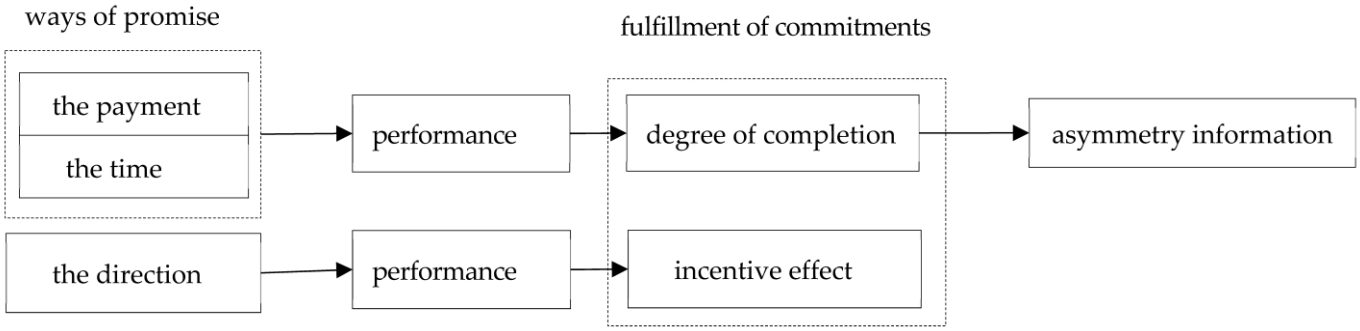

Figure 1. Framework diagram of research path.

3. Research Design

3.1. Sample Selection and Data Sources

This study meticulously selects samples from A-share listed companies that entered into performance compensation agreements between 2014 and 2021. The data for this research is from the CSMAR and RESSET databases. Firms with incomplete data and limited accumulation of years are excluded from the analysis. Furthermore, companies operating within the financial industry and those holding ST status during the sample duration are excluded as per the 2012 industry classification standard delineated by the CSRC. Should the commitment period of 21 years not be concluded, the respective sample companies are removed from consideration. Drawing insights from related scholars, companies engaging in multiple mergers and acquisitions within a single year retain the enterprise boasting the highest profitability [30]. Subsequently, any potential outliers are identified and removed via the Laida method, followed by data standardization. The comprehensive collection process ascertained 1077 samples, whose temporal distribution is showcased in Table 1:

Table 1. Annual Distribution of Samples.

Year	2014	2015	2016	2017	2018	2019	2020	2021
Sample size	166	436	607	634	516	441	251	106
Account for the proportion of total samples	5.26%	13.81%	19.23%	20.08%	16.34%	13.97%	7.95%	3.36%

source: according to sample data, from CSMAR database and RESSET database.

As can be seen from Table 1, the time distribution of sample data is relatively balanced, which can meet the basic requirements of sample selection.

3.2. Variable Selection

3.2.1. Explained Variables

(1) Achieve. The commitment completion degree pertains to the level of performance commitment fulfillment within the index enterprise. In this study, the quantification of an enterprise's commitment completion degree is accomplished by calculating the ratio of the actual completion amount achieved by the target enterprise in the present period to the originally agreed-upon performance commitment amount for the current year.

(2) Incentive effect of commitment (IE). The measurement selected to assess this is the return on total assets of the target enterprise subsequent to the endorsement of the performance compensation agreement.

(3) Asymmetry information (ASY). Related scholars utilize the liquidity ratio index LR to gauge the magnitude of information asymmetry [31]. Similarly, related scholars employ the illiquidity ratio index ILL to characterize information asymmetry [32]. Drawing from their insights and extending the findings of related scholars [33], this study introduces three distinct indices: the liquidity ratio index (LR), the illiquidity index (ILL), and the rate of return reversal index (GAM). To distill meaningful components associated with asymmetric information, principal component analysis is employed. Specifically, the information asymmetry index (ASY) serves as a metric to quantify the degree of information asymmetry inherent within the enterprise. Notably, a higher value on this index corresponds to a more pronounced level of asymmetry.

3.2.2. Explanatory Variables

(1) The compensation payment method is assessed based on whether share-based payment (Pvam) is employed. If share-based compensation is utilized, the value is assigned as 1; otherwise, it is recorded as 0.

(2) The timing of compensation is evaluated in terms of whether it follows an annual compensation structure (Tvam). In case of an annual compensation approach, it is denoted with a value of 1; otherwise, a value of 0 is attributed.

(3) The compensation direction (Dvam) is appraised. It receives a value of 1 if the enterprise employs a two-way compensation strategy; otherwise, it is designated with a value of 0.

3.2.3. Mediation Variables

BP, according to related scholars [34], the benefit of production and operation, as outlined by related scholars [34], amplifies with the growth of an enterprise's net profit. In alignment with this perspective, this study adopts the net profit of the target enterprise following mergers and acquisitions as the metric of analysis.

3.2.4. Control Variables

Beyond compensation methods, various other factors have the potential to influence enterprise performance compensation. Consistent with the research conducted by related scholars [35], this study exercises control over the following company-level factors: enterprise scale (Size), asset-liability ratio (Lev), and profitability, gauged through two metrics: gross profit margin (Roa) and net profit margin (Net). At the transaction level, the control variable is the ratio of equity commitment (Equity). At the shareholder level, the variable considered is shareholder size (Top5). Moreover, year and industry variables are integrated as dummy variables in the regression analyses to effectively account for year and industry-specific fixed effects. Comprehensive definitions of these variables can be found in Table 2:

Table 2. Variable definition.

Names	Symbol	Definition/Calculation Method
Degree of commitment completion	Achieve	Actual completed amount/agreed commitment amount
Incentive effect of commitment	IE	Total profits/average total assets
Asymmetry information	ASY	Principal component analysis of liquidity ratio, illiquidity ratio and return reversal index
The payment of compensation	Pvam	Equals 1 if share compensation, and 0 otherwise.
The time of compensation	Tvam	Equals 1 if annual compensation, and 0 otherwise.
The direction of compensation	Dvam	Equals 1 if two-way compensation, and 0 otherwise.
Performance of the target party	BP	Net profit of the target enterprise after M&A.
Firm size	Size	Total assets of the target enterprise in the year before M&A.
Asset-liability ratio	Lev	Total liabilities/total assets in the year before M&A
Gross profit margin	Roa	Gross profit/main business income in the year before M&A.
Net profit margin	Net	Net profit/main business income in the year before M&A.
Ratio of equity commitment	Equity	Equity part/total committed performance in the commitment
Shareholder size	Top5	The sum of the holdings of the top five shareholders
Industry	industry	Industry dummy variable
Year	year	Year dummy variable

Sources: own elaboration and refer to previous literature.

3.3. Model Building

Firstly, we construct three models to test H1, H2, and H3, respectively:

$$Achieve_{i,t} = \beta_0 + \beta_1 Pvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (1)$$

$$Achieve_{i,t} = \beta_0 + \beta_1 Tvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (2)$$

$$IE_{i,t} = \beta_0 + \beta_1 Dvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (3)$$

This research delves into the ramifications of diverse compensation methods on the actual implementation of commitments. To be precise, model (1) scrutinizes the interplay between compensation payment and commitment fulfillment, while model (2) dissects the influence of performance compensation timing on commitment fulfillment. Finally, model (3) delves into the nexus between compensation direction and the resultant incentive effect. The dependent variable "Achieve" signifies the extent of commitment fulfillment, while "IE" stands for the degree of motivation. Both variables are adjusted to account for industry and year effects. The collection of other control variables that exert an impact on the implementation of commitments is encompassed within "Controls". The term "ε" represents the stochastic disturbance factor in the equation.

4. Empirical Test and Result Analysis

4.1. Descriptive Statistics

Initially, descriptive statistics are performed on the variable "Achieve". Table 3 presents the descriptive statistics of Achieve distributed over the years. Notably, the mean value of Achieve experienced a gradual decline from 2014 to 2019, followed by a marginal uptick in both 2020 and 2021. Moreover, the range between the minimum and maximum values exhibited substantial fluctuations, underscoring notable dissimilarities in Achieve across different enterprises.

Detailed descriptive statistics are showcased in Table 4. Notably, the average value of Achieve stands at 0.988, indicating the potential for further enhancement in fulfilling performance commitments. For Pvam and Dvam, their respective average values are 0.108 and 0.370. Given that the stipulated compensation modes are binary (0 or 1), it is evident that share-based payment and two-way compensation approaches are relatively less prevalent among enterprises engaging in M&A performance compensation. Meanwhile, Tvam boasts an average value of 0.871, signifying that the majority of enterprises opt for annual compensation in terms of timing. Concerning control variables, the average Size registers at 22.29, accompanied by a substantial range of 80.45, implying notable diversity

in the scale of enterprises within the sample. With an average Lev of 0.679, it becomes evident that the target enterprises generally exhibit a high asset-liability ratio. The average Roa value of 0.368, coupled with a range of 7.5, points to relatively modest and widely varying profitability among the target entities. Additionally, the average Top5 value rests at 0.499, with a range extending to 0.925, underscoring significant variability in shareholder size across the target enterprises.

Table 3. Distribution of Achieve.

Year	Mean	Sd	Min	Max	Range
2014	1.084	0.217	0.293	2.139	1.847
2015	1.055	0.304	−1.326	2.457	3.783
2016	1.036	0.364	−1.542	2.377	3.919
2017	0.999	0.437	−1.746	2.401	4.146
2018	0.928	0.589	−4.070	2.406	6.475
2019	0.908	0.619	−4.214	2.167	6.382
2020	0.926	0.545	−1.482	2.332	3.815
2021	0.976	0.582	−1.730	2.257	3.987
Total	0.988	0.477	−4.214	2.457	6.671

Sources: according to sample data and descriptive statistics were also made.

Table 4. Statistical table of variable description.

Variable	Mean	Sd	Min	Median	Max	Range
Achieve	0.988	0.477	−4.214	1.032	2.457	6.671
IE	0.069	0.139	−0.032	0.000	0.721	0.753
ASY	−0.103	0.270	−2.074	−0.071	2.299	4.372
Pvam	0.108	0.387	0.000	0.000	1.000	1.000
Tvam	0.871	0.336	0.000	1.000	1.000	1.000
Dvam	0.370	0.483	0.000	0.000	1.000	1.000
Size	22.490	16.140	0.000	20.160	80.450	80.450
Lev	0.679	0.762	0.000	0.561	10.520	10.520
Roa	0.368	0.546	−3.779	0.092	3.721	7.500
Net	0.206	0.354	−1.073	0.124	1.867	2.940
Equity	0.803	0.272	0.000	1.000	1.000	1.000
Top5	0.499	0.180	0.000	0.518	0.925	0.925

Sources: according to sample data and descriptive statistics were also made.

4.2. Benchmark Regression Result Analysis

In order to validate H1, H2 and H3, this paper regresses the related variables based on unbalanced panel data. The results are shown in Table 5:

Table 5. Correlation coefficient table of benchmark regression.

	(1) Achieve	(2) Achieve	(3) IE
Pvam	0.052 **		
	(2.342)		
Tvam		0.060 **	
		(2.294)	
Dvam			0.016 ***
			(3.643)
Size	0.001	0.001 *	0.002 ***
	(1.583)	(1.658)	(11.739)
Lev	0.040 ***	0.038 ***	−0.006 *
	(2.826)	(2.699)	(−1.783)
Roa	−0.006	−0.007	0.033 ***
	(−0.280)	(−0.342)	(6.993)

Table 5. *Cont.*

	(1) Achieve	(2) Achieve	(3) IE
Net	0.049	0.048	0.128 ***
	(1.639)	(1.603)	(18.014)
Equity	−0.025	−0.029	−0.009
	(−0.779)	(−0.899)	(−1.222)
Top5	0.335 ***	0.335 ***	−0.011
	(5.159)	(5.177)	(−0.731)
_cons	1.062 ***	1.020 ***	0.044 ***
	(22.936)	(19.807)	(4.054)
N	3142	3148	3109
r^2	0.061	0.061	0.386
r^2_a	0.039	0.039	0.372
year	Yes	Yes	Yes
industry	Yes	Yes	Yes

Sources: own study based on research and stata17.0 software was used to regression the data. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

The outcomes of the regression analysis for model (1) are outlined in column (1). Notably, the correlation coefficient of Pvam is 0.052, signifying a statistically significant positive relationship at the 5% significance level. This observation underscores that as more enterprises adopt equity-based compensation, the degree of commitment fulfillment tends to increase. This implies that equity payment serves as a positive driver for motivating enterprises to effectively honor their performance commitments. Thus, hypothesis H1 is substantiated. Upon reviewing the regression results pertaining to control variables, it is evident that Lev exhibits a significant positive correlation coefficient at the 1% significance level. This can be attributed to the heightened demand for capital by target enterprises post-M&A to fulfill their performance commitments. Additionally, an improvement in the asset-liability ratio contributes to bolstering enterprise operations and production. The results also highlight a noteworthy positive correlation between Top5 and Achieve at a 1% significance level, indicating that heightened ownership concentration is associated with an increased likelihood of successful performance commitment fulfillment.

The regression outcomes detailed in column (2) unveil a correlation coefficient of 0.060 between Tvam and Achieve, demonstrating statistical significance at the 5% level. This revelation underscores that when an enterprise opts for annual compensation and enters into a performance commitment agreement, the probability of achieving a higher commitment fulfillment rate becomes more likely. In this light, hypothesis H2 is substantiated.

The regression findings of model (3) are depicted in column (3). Notably, the correlation coefficient between Dvam and IE stands at 0.016, showcasing a statistically significant positive association at the 1% level. This insight underscores that, relative to one-way performance commitment, the adoption of two-way performance commitment bolsters the incentive effect of the agreement. In alignment with this observation, hypothesis H3 is substantiated.

4.3. Robustness Test

4.3.1. Replace the Main Explained Variable

To bolster the credibility of the findings, we undertake an exercise involving the substitution of the principal explanatory variables. In this context, the evaluation of commitment fulfillment is altered by gauging the average performance commitment fulfillment of the target enterprise throughout the commitment period. The revised methodology is subjected to testing, with outcomes showcased in Table 6. In column (1), Pvam emerges as significantly positive at the 1% significance level, thereby confirming the affirmative impact of equity payment in stimulating commitment fulfillment. The findings presented in column (2) underscore a notable positive correlation coefficient of Tvam at the 1% significance level. This reaffirms that, compared to cumulative compensation, annual compensation exerts

a greater impetus for enterprises to fulfill their performance commitments. This coherence with prior results further substantiates the stability of the conclusions presented in this study.

Table 6. Regression results of dependent variable substitution model.

	(1) Mean Achieve	(2) Mean Achieve
Pvam	0.055 ***	
	(3.263)	
Tvam		0.068 ***
		(3.510)
Size	0.000	0.000
	(0.449)	(0.563)
Lev	0.045 ***	0.043 ***
	(4.215)	(4.041)
Roa	0.003	0.002
	(0.231)	(0.129)
Net	0.052 **	0.051 **
	(2.319)	(2.280)
Equity	−0.010	−0.014
	(−0.415)	(−0.590)
Top5	0.275 ***	0.275 ***
	(5.641)	(5.679)
cons	1.023 ***	0.973 ***
	(29.509)	(25.278)
N	3142	3148
r^2	0.076	0.076
r^2_a	0.054	0.055
year	Yes	Yes
industry	Yes	Yes

Sources: own study based on research and stata software was used to regression the data. "***" and "**" respectively denote significant at 1% and 5% levels, and the numbers in brackets are t values.

4.3.2. Heckman Two Stages

In the lead up to signing the performance commitment agreement, both parties engage in information collection to gain insights into the enterprise's standing. Often, enterprises exhibiting higher completion rates favor partnering with financially sound target entities before formalizing agreements. This practice introduces the potential for sample selection errors, which can eventually influence research conclusions. To counter this, the study segregates commitment completion degrees and incentive effects based on the annual industry average. As a result, two variables, namely Achieve_dum and IE_dum, are derived. In accordance with the approach detailed by related scholars, the Heckman method is adopted to mitigate endogeneity concerns [36]. Given that the return on total assets (Rota) before the performance commitment agreement is signed does not directly impact performance completion or the incentive effect, it can be employed as an exogenous variable. The corresponding results are presented in the following Table 7:

Table 7. Heckman two-stage test.

	(1)		(2)		(3)	
	Achieve	Achieve_Dum	Achieve	Achieve_Dum	IE	IE_Dum
Pvam	0.003	0.166 **				
	(0.113)	(2.507)				
Tvam			−0.059 *	0.151 **		
			(−1.908)	(2.103)		
Dvam					0.001	0.274 ***
					(0.044)	(4.479)

Table 7. *Cont.*

	(1)		(2)		(3)	
	Achieve	**Achieve_Dum**	**Achieve**	**Achieve_Dum**	**IE**	**IE_Dum**
Rota		0.119		0.115		0.026 *
		(1.192)		(1.152)		(1.824)
Size	−0.000	0.002	−0.000	0.002	0.002	0.056 ***
	(−0.246)	(0.783)	(−0.338)	(0.832)	(0.781)	(18.858)
Lev	0.015	0.096 **	0.015	0.092 **	−0.038 ***	0.073
	(0.803)	(2.314)	(0.868)	(2.225)	(−3.743)	(1.636)
Roa	−0.016	−0.048	−0.013	−0.053	0.138 ***	0.391 ***
	(−0.797)	(−0.889)	(−0.659)	(−0.973)	(7.640)	(6.488)
Net	−0.000	−0.000	−0.000	−0.001	0.000	0.000
	(−1.473)	(−1.117)	(−1.495)	(−1.177)	(0.798)	(0.357)
Equity	−0.068 **	−0.009	−0.066 **	−0.017	−0.057 *	0.258 **
	(−2.052)	(−0.103)	(−2.074)	(−0.189)	(−1.682)	(2.118)
Top5	0.125	0.424 **	0.132	0.440 **	0.042	−0.453 **
	(1.489)	(2.345)	(1.627)	(2.441)	(0.704)	(−1.982)
_cons	1.762 ***	−0.428 ***	1.802 ***	−0.537 ***	0.260 *	−1.751 ***
	(7.217)	(−3.329)	(7.488)	(−3.758)	(1.793)	(−10.597)
/mills lambda		−0.423 *		−0.409 **		−0.002
		(−1.918)		(−1.990)		(−0.025)
N	3097	3097	3103	3103	3104	3104
year	Yes	Yes	Yes	Yes	Yes	Yes
industry	Yes	Yes	Yes	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

The observations in Table 7 reaffirm the significance of the coefficients associated with Pvam, Tvam, and Dvam even after accounting for IMR control to address potential sample selection errors. Moreover, these coefficients align consistently with the findings of the preceding regression analyses, underscoring the robustness of the hypothesized conclusions.

4.3.3. Lag Test

In order to assess the robustness of the findings, this study introduces a lag of one period to the independent variables as well as all control variables, followed by conducting regression testing anew. The outcomes of this analysis are detailed in Table 8:

Table 8. Regression results of lag test.

	Achieve	**Achieve**	**IE**
L.Pvam	0.071 **		
	(2.553)		
L.Tvam		0.064 **	
		(1.986)	
L.Dvam			0.018 ***
			(3.346)
L.Size	0.001	0.001	0.002 ***
	(0.647)	(0.706)	(8.173)
L.Lev	0.045 **	0.042 *	−0.002
	(2.056)	(1.900)	(−0.375)
L.Roa	0.012	0.012	0.034 ***
	(0.442)	(0.443)	(5.428)
L.Net	0.056	0.054	0.133 ***
	(1.562)	(1.482)	(15.283)
L.Equity	−0.025	−0.030	−0.012
	(−0.637)	(−0.752)	(−1.227)

Table 8. *Cont.*

	Achieve	Achieve	IE
L.Top5	0.258 ***	0.242 ***	0.002
	(3.208)	(3.019)	(0.128)
_cons	1.043 ***	1.056 ***	0.045 ***
	(20.538)	(20.930)	(3.708)
N	2110	2114	2088
r^2	0.076	0.074	0.390
r^2_a	0.044	0.043	0.369
year	Yes	Yes	Yes
industry	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

The outcomes depicted in Table 8 confirm the consistency of significance in correlation coefficients between the principal variables and the benchmark regression. More specifically, the correlation coefficients between Pvam, Tvam (lagged period), and Achieve exhibit statistically significant positive associations at the 5% level. Similarly, the correlation coefficients between Dvam (lagged period) and IE are significantly positive at the 1% level. These findings reinforce the proposition that equity payment and annual compensation serve as positive drivers for enhancing performance commitment fulfillment, while two-way compensation augments enterprises' incentive levels. This reaffirms the robustness of the drawn conclusions.

4.3.4. Subsample Regression

When an enterprise selects net profit, excluding non-recurring gains and losses, as its core commitment item, there exists a potential avenue for manipulating enterprise performance through specialized transfer earnings management during the commitment period. To address this concern, we conducted a regression analysis of the primary hypothesis while excluding the sample wherein net profit deduction is not the core commitment item. The corresponding outcomes are presented in the following Table 9:

Table 9. Regression results of subsamples.

	Achieve	Achieve	IE
Pvam	0.044 **		
	(1.990)		
Tvam		0.093 ***	
		(3.500)	
Dvam			0.017 ***
			(3.455)
Size	0.001	0.001	0.002 ***
	(1.180)	(1.371)	(8.439)
Lev	0.038 **	0.036 **	−0.002
	(2.098)	(2.022)	(−0.451)
Roa	0.006	0.005	0.033 ***
	(0.286)	(0.211)	(5.754)
Net	0.045	0.042	0.135 ***
	(1.531)	(1.427)	(17.290)
Equity	−0.014	−0.021	−0.014 *
	(−0.438)	(−0.633)	(−1.646)
Top5	0.293 ***	0.291 ***	−0.004
	(4.471)	(4.468)	(−0.220)
_cons	1.051 ***	0.976 ***	0.054 ***
	(21.763)	(18.295)	(4.303)

Table 9. *Cont.*

	Achieve	Achieve	IE
N	2578	2584	2548
r^2	0.068	0.071	0.382
r^2_a	0.043	0.047	0.365
year	Yes	Yes	Yes
industry	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

As per the findings in Table 9, in comparison to cash compensation and cumulative compensation, equity-based payment and annual compensation exhibit a positive influence on performance commitment fulfillment. Notably, two-way compensation yields a notably more pronounced incentive effect on commitment. These regression outcomes align with those of the fundamental regression analysis, consequently providing further validation for hypotheses H1, H2, and H3.

5. Further Study

5.1. Intermediary Effect Test of Enterprise Performance

Enterprise performance holds significance as a pivotal financial intermediary [37], impacting the implementation effectiveness of performance commitments within target enterprises. It also serves as a conduit for transmitting the influence of compensation methods to the implementation outcomes of commitments. In light of this, the current study employs enterprise performance as an intermediary variable, exploring the mechanism through which performance compensation modes influence the realization of target enterprise performance commitments. The ensuing model is presented as follows:

$$BP_{i,t} = \beta_0 + \beta_1 Pvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (4)$$

$$Achieve_{i,t} = \beta_0 + \beta_1 Pvam_{i,t} + \beta_2 BP_{i,t} + \beta_3 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (5)$$

$$BP_{i,t} = \beta_0 + \beta_1 Tvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (6)$$

$$Achieve_{i,t} = \beta_0 + \beta_1 Tvam_{i,t} + \beta_2 BP_{i,t} + \beta_3 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (7)$$

$$BP_{i,t} = \beta_0 + \beta_1 Dvam_{i,t} + \beta_2 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (8)$$

$$IE_{i,t} = \beta_0 + \beta_1 Dvam_{i,t} + \beta_2 BP_{i,t} + \beta_3 Controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (9)$$

In models (5), (7), and (9), we introduce the variable BP, building upon the foundations of models (1)–(3), which signifies the performance of the target party. Here, Achieve and IE correspondingly denote the extent of commitment fulfillment and the incentive impact of commitment, while Controls encompass the control variables that are stabilized across years and industries and subsequently analyzed via regression. The outcomes of this analysis can be found in the provided Table 10:

Table 10. Correlation coefficient table of mediating effect.

Category	Payment		Time		Direction	
	(1) BP	(2) Achieve	(3) BP	(4) Achieve	(5) BP	(6) IE
Pvam	0.384 ** (2.012)	0.060 ** (2.508)				

Table 10. *Cont.*

Category	Payment		Time		Direction	
	(1) BP	**(2) Achieve**	**(3) BP**	**(4) Achieve**	**(5) BP**	**(6) IE**
Tvam			0.484 **	0.062 **		
			(2.230)	(2.282)		
Dvam					1.612 ***	0.010 **
					(3.455)	(2.368)
BP		0.003 ***		0.003 ***		0.002 ***
		(2.794)		(2.845)		(10.525)
Size	0.806 ***		0.807 ***			
	(122.040)		(122.206)			
Lev	0.107	0.035 **	0.093	0.033 **	10.234 ***	−0.007 **
	(0.903)	(2.435)	(0.794)	(2.317)	(34.925)	(−2.095)
Roa	0.340 *	0.009	0.325 *	0.007		0.024 ***
	(1.902)	(0.423)	(1.819)	(0.327)		(4.858)
Net	4.338 ***	−0.056	4.335 ***	−0.056		0.162 ***
	(14.170)	(−1.426)	(14.177)	(−1.430)		(17.924)
Equity	0.272	−0.044	0.251	−0.048	1.830 **	−0.009
	(1.014)	(−1.317)	(0.938)	(−1.445)	(2.219)	(−1.221)
Top5	0.315		0.313		−4.597 ***	−0.003
	(0.585)		(0.584)		(−2.788)	(−0.199)
_cons	−1.042 ***	1.075 ***	−1.389 ***	1.032 ***	2.829 **	0.048 ***
	(−2.739)	(22.621)	(−3.282)	(19.515)	(2.438)	(4.548)
N	2936	2936	2942	2942	2943	2906
r^2	0.936	0.056	0.936	0.056	0.395	0.435
r^2_a	0.935	0.033	0.935	0.033	0.380	0.421
year	Yes	Yes	Yes	Yes	Yes	Yes
industry	Yes	Yes	Yes	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

The regression results for models (4) and (5) are displayed in columns (1) and (2), respectively. Within the table, the correlation coefficient between Pvam and BP stands at 0.384, signifying a noteworthy positive correlation at the 5% significance level. This underscores the advantageous impact of utilizing share compensation as a payment method on the performance of the target enterprise, denoted by BP. The outcomes presented in column (2) continue to demonstrate a significantly positive correlation between Pvam and Achieve, even after introducing BP. Furthermore, the correlation coefficient of BP itself is 0.003, signifying a significantly positive relationship with Achieve at the 1% level. These observations indicate that share compensation can foster improved performance in the target enterprises, subsequently enhancing the fulfillment of performance commitments.

The outcomes of the regression models (6) and (7) are presented in columns (3) and (4), correspondingly. These findings highlight a notable positive correlation between Tvam and BP, signifying a statistically significant impact at the 5% significance level. This indicates that the practice of annual compensation has the potential to contribute to the enhancement of enterprise performance, represented by BP. In column (4), the results persistently illustrate a significantly positive correlation between Tvam and Achieve, even after the incorporation of intermediary variables. Notably, the correlation between BP and Achieve remains significantly positive at the 1% level. These outcomes underscore that adopting an annual compensation approach can augment the realization of performance commitments by fostering the advancement of the target party's performance.

Columns (5) and (6) encompass the regression outcomes of models (8) and (9) sequentially. These findings illuminate the correlation coefficient between Dvam and BP, which stands at 1.612, signifying a substantial positive correlation at the 1% significance level. This underscores the favorable influence of two-way performance commitments on the advancement of performance in the target party. The outcomes in column (6) demonstrate that

even after the inclusion of BP, the correlation between Dvam and IE remains significantly positive. Notably, the relationship between BP and IE is also significantly positive at the 1% level. These results emphasize that two-way performance commitments effectively foster the growth of performance in the target party, as corroborated by the positive correlation with BP.

5.2. The Mediating Effect Test of Commitment Completion Degree

Information asymmetry frequently stems from inadequate information sharing [38]. A strategy to mitigate this challenge involves signal transmission. By transmitting a signal of favorable value, one enterprise can bolster the counterpart's confidence in the transaction, consequently diminishing the extent of information asymmetry. This study zeroes in on investigating the influence of commitment fulfillment on information asymmetry. The model's construction is as follows, followed by the execution of regression analysis:

$$ASY_{i,t} = \beta_0 + \beta_1 \text{ Achieve}_{i,t} + \beta_2 \text{Controls} + \sum \text{year} + \sum \text{industry} + \varepsilon_{i,t} \quad (10)$$

The results are shown in Table 11. Column (1) shows that there is a significant negative correlation between the degree of commitment fulfillment and ASY, indicating that as the degree of commitment fulfillment of the target enterprise increases, the degree of information asymmetry decreases. This shows that strengthening commitment fulfillment can help reduce the information asymmetry between the entrusting party and the acquiring party. In addition, the baseline regression results show that the payment method and compensation timing are positively related to the fulfillment of corporate commitments. Fulfilling promises can thus act as a mediator between payment methods, compensation timing, and information asymmetries. From the information provided in columns (2) and (3), it can be inferred that commitment fulfillment partially mediates the relationship between payment patterns and information asymmetry. Likewise, promise fulfillment is a perfect mediator between compensation time and information asymmetry.

Table 11. Information asymmetry correlation coefficient table.

	(1) ASY	(2) ASY	(3) ASY
Achieve	−0.028 *** (−3.070)		
Pvam		−0.042 *** (−3.811)	
Tvam			−0.005 (−0.390)
Equity	0.087 *** (5.390)	0.088 *** (5.475)	0.088 *** (5.434)
Size	0.000 (0.295)	0.000 (0.254)	0.000 (0.192)
Top5	0.240 *** (7.408)	0.242 *** (7.463)	0.231 *** (7.142)
Lev	0.002 (0.275)	−0.001 (−0.085)	0.001 (0.126)
Roa	0.005 (0.535)	0.006 (0.597)	0.006 (0.569)
Net	0.006 (0.431)	0.003 (0.222)	0.005 (0.332)
_cons	−0.073 *** (−2.923)	−0.096 *** (−4.161)	−0.098 *** (−3.803)
N	3149.000	3142.000	3148.000
r^2	0.271	0.273	0.269

Table 11. *Cont.*

	(1) ASY	(2) ASY	(3) ASY
r^2_a	0.254	0.256	0.252
year	Yes	Yes	Yes
industry	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***" denotes significant at 1% level, and the numbers in brackets are t values.

5.3. Heterogeneity Analysis

5.3.1. Heterogeneity Test of Science and Technology Enterprises

Innovation is the long-term driving force for enterprise development [39]. There are many factors that affect the technological innovation of enterprises [40]. Technological innovation is the premise of sustainable development of enterprises [41]. In the field of digital development, technological progress is of great significance to enterprise transformation. This article adopts the 2012 "Guidelines for the Industry Classification of Listed Companies" to determine the industry codes of technology-related listed companies. Classes identified include C25, C26, C27, C28, C31, C32, C34, C35, C36, C37, C38, C39, C40, I63, I64, I65, M73, and M75. The sample enterprises are further divided into technology-based enterprises and non-technology-based enterprises.

According to Table 12, column (1) refers to technology-based enterprises, and column (2) refers to non-technology-based enterprises. The data shows that there is a significant negative correlation between the performance completion of the two types of enterprises and information asymmetry. This shows that improving the degree of commitment fulfillment is conducive to reducing the degree of information asymmetry between technology-based companies and non-technology-based companies.

Table 12. Group Inspection Table of Enterprise Type.

	(1) ASY	(2) ASY
Achieve	−0.025 **	−0.033 **
	(−2.147)	(−2.307)
Size	0.000	−0.000
	(0.949)	(−0.558)
Lev	−0.000	0.007
	(−0.048)	(0.719)
Roa	−0.007	0.031 *
	(−0.593)	(1.652)
Net	0.007	0.017
	(0.370)	(0.562)
Equity	0.096 ***	0.057 **
	(4.560)	(2.256)
Top5	0.285 ***	0.158 ***
	(6.757)	(3.026)
_cons	−0.080 **	−0.060
	(−2.514)	(−1.480)
N	2012.000	1137.000
r^2	0.264	0.318
r^2_a	0.246	0.276
year	Yes	Yes
industry	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

5.3.2. Heterogeneity Analysis Based on Corporate Governance Quality

Corporate governance stems from the separation of management and ownership, and the quality of corporate governance may lead to different effects of performance pay on commitment fulfillment. This is because the quality of corporate governance can lead to agency problems within firms, thereby affecting managers' behavior and firm management [42]. The agent theory holds that there is information asymmetry between the agent and the principal, and the agent may use this information asymmetry to damage the interests of the principal. Furthermore, principals and agents have different goals, leading to conflicts of interest in their relationship [43]. Management plays an important role in resolving the principal-agent conflict problem [44].

Granting equity to the management can bind the interests of the enterprise with the management, resolve conflicts of interest, form checks and balances within the enterprise, and prevent shareholders from conveying interests and short-sighted behavior. Based on this, referring to the research of related scholars, we measure the quality of corporate governance by the number of management shares held [45]. The sample is then divided into two groups based on the industry's annual median and number of shares under management. Groups with high governance quality are greater than the median, and groups with low governance quality are less than or equal to the median. Observe the influence of the salary method on the group's commitment fulfillment and incentive effect, as shown in Table 13:

Table 13. Group Inspection Table of Corporate Governance Quality.

Category	High Quality			Low Quality		
	(1) Achieve	(2) Achieve	(3) IE	(4) Achieve	(5) Achieve	(6) IE
Pvam	0.004 (0.104)			0.094 *** (3.291)		
Tvam		0.096 *** (2.687)			0.027 (0.697)	
Dvam			0.020 *** (3.684)			0.002 (0.283)
Size	0.001 (1.219)	0.001 (1.354)	0.002 *** (9.655)	0.001 (1.135)	0.001 (1.225)	0.002 *** (6.996)
Lev	0.031 * (1.685)	0.031 * (1.717)	−0.008 ** (−2.042)	0.047 ** (2.026)	0.041 * (1.782)	−0.005 (−0.795)
Roa	−0.024 (−0.895)	−0.032 (−1.186)	0.026 *** (4.298)	0.019 (0.626)	0.025 (0.815)	0.046 *** (5.768)
Net	0.081 ** (1.991)	0.091 ** (2.237)	0.121 *** (13.434)	−0.003 (−0.064)	−0.018 (−0.392)	0.140 *** (11.892)
Equity	−0.006 (−0.139)	−0.011 (−0.265)	0.009 (0.924)	−0.059 (−1.180)	−0.072 (−1.437)	−0.031 ** (−2.367)
Top5	0.354 *** (4.123)	0.357 *** (4.195)	−0.030 (−1.592)	0.364 *** (3.537)	0.333 *** (3.256)	0.030 (1.153)
_cons	1.049 *** (16.738)	0.964 *** (13.873)	0.039 *** (2.850)	1.077 *** (15.733)	1.081 *** (14.167)	0.047 *** (2.675)
N	1826	1828	1814	1316	1320	1295
r^2	0.080	0.083	0.379	0.104	0.096	0.436
r^2_a	0.046	0.050	0.356	0.055	0.047	0.404
year	Yes	Yes	Yes	Yes	Yes	Yes
industry	Yes	Yes	Yes	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

According to Table 13, the correlation coefficient of the salary payment method Pvam is positively correlated in the samples with low corporate governance quality. This shows that in companies with poor corporate governance, equity payment commitments can promote the fulfillment of performance commitments. This equity compensation will reduce the shares held by management shareholders in listed companies, and management

shareholders will be more cautious about equity payments. The management of companies with high corporate governance quality has a higher shareholding ratio and control over the company, and the compensation method of share payment will affect the company's equity allocation. Therefore, in companies with high levels of corporate governance, management tends to prefer cash payments over equity incentives.

The results of (3)–(6) show that the impact of annual compensation and two-way compensation on the performance commitment of companies with high corporate governance quality is more significant, because the impact of annual compensation and two-way compensation on corporate governance quality is more significant. Performance promises are better than equity incentives. The compensation method has no direct impact on the proportion of corporate equity. Therefore, the positive effects of annual compensation and two-way compensation on performance commitment are more likely to be exerted in companies with higher corporate governance quality.

5.3.3. Heterogeneity Test Based on Debt Repayment Pressure of Enterprises

Commitment to pay for performance is not only an incentive, but also brings pressure on corporate performance. Signing a performance commitment can increase the likelihood of a company's strategic change behavior. Target companies that sign commitment agreements are eager to deliver on performance promises. Commitment agreements incentivize the target company to meet its performance obligations, often resulting in the need for additional capital. As a result, corporate debt may increase, leading to increased pressure to repay debts [46]. Enterprise transformation becomes more difficult [47]. Therefore, different debt repayment pressures and performance compensation methods have different impacts on commitment fulfillment. For companies with high debt repayment pressure, the management will be more motivated to improve the company's operating efficiency. Referring to studies by related scholars, this study uses the asset-liability ratio of the target company as an indicator to measure the level of debt repayment pressure [48]. According to the industry median of the asset-liability ratio, the sample is divided into two groups: enterprises with high debt repayment pressure and enterprises with low debt repayment pressure. The former is greater than the median and the latter is less than the median. Regression analysis was then performed on each group, and the results are presented in Table 14:

Table 14. Group Test Table of Enterprise Debt Repayment Pressure.

Category	High Pressure			Low Pressure		
	(1) Achieve	**(2) Achieve**	**(3) IE**	**(4) Achieve**	**(5) Achieve**	**(6) IE**
Pvam	0.092 ***			0.006		
	(3.331)			(0.160)		
Tvam		0.076 **			0.041	
		(2.289)			(0.985)	
Dvam			0.020 ***			0.016 ***
			(2.838)			(3.155)
Size	0.003 ***	0.003 ***	0.003 ***	0.003 *	0.003 **	0.002 ***
	(2.705)	(2.714)	(8.738)	(1.928)	(1.980)	(7.986)
Lev	0.059 ***	0.055 ***	−0.004	−0.135 **	−0.138 **	−0.029 **
	(3.794)	(3.532)	(−0.796)	(−2.068)	(−2.115)	(−2.563)
Roa	0.009	0.010	0.043 ***	−0.024	−0.026	0.003
	(0.394)	(0.454)	(6.504)	(−0.587)	(−0.629)	(0.470)
Net	0.025	0.018	0.122 ***	0.050	0.052	0.141 ***
	(0.691)	(0.496)	(11.425)	(0.902)	(0.941)	(14.300)
Equity	0.070	0.062	−0.015	−0.093 **	−0.094 **	−0.003
	(1.436)	(1.265)	(−1.004)	(−2.082)	(−2.111)	(−0.346)
Top5	0.373 ***	0.373 ***	−0.019	0.319 ***	0.310 ***	−0.005
	(4.369)	(4.368)	(−0.739)	(3.159)	(3.100)	(−0.274)
_cons	0.882 ***	0.836 ***	0.045 **	1.170 ***	1.134 ***	0.022 *
	(12.845)	(11.418)	(2.229)	(17.749)	(14.986)	(1.895)

Table 14. *Cont.*

Category	High Pressure			Low Pressure		
	(1) Achieve	**(2) Achieve**	**(3) IE**	**(4) Achieve**	**(5) Achieve**	**(6) IE**
N	1535	1536	1502	1607	1612	1607
r^2	0.098	0.095	0.378	0.084	0.085	0.414
r^2_a	0.059	0.056	0.351	0.046	0.046	0.390
year	Yes	Yes	Yes	Yes	Yes	Yes
industry	Yes	Yes	Yes	Yes	Yes	Yes

Sources: own study based on research and the data was verified by stata software. "***", "**" and "*" respectively denote significant at 1%, 5% and 10% levels, and the numbers in brackets are t values.

As can be seen, columns (1) and (2) are regressions of payment method on promise fulfillment. The regression results show that in enterprises with high debt repayment pressure, the payment method is significantly positively related to the fulfillment of commitments, while in enterprises with low debt repayment pressure, the relationship between payment methods and commitment fulfillment is not significant. The regression results of the time compensation method are the same as those of the payment method. The results in columns (5) and (6) show that the incentive effect of pay direction on commitment is significantly positively related in both samples.

The above results show that the degree of debt repayment pressure has an impact on the method and timing of repayment. As the debt repayment pressure increases, equity payment and annual remuneration will play a more prominent role in guaranteeing the fulfillment of commitments. Judging from the incentive effect of salary direction on commitment, the debt repayment pressure of enterprises has little influence. However, regardless of the debt repayment pressure, the implementation of two-way compensation can increase the incentive effect.

6. Discussion

In summary, our findings recommend the following reforms for acquirers, mergers, and regulators.

First of all, it is recommended that the acquirer choose equity payment as the payment method, annual compensation as the term, and two-way compensation as the direction when signing the performance commitment. This will ensure that the undertaking effectively facilitates the target company's performance of its obligations and reduces the likelihood of changes in performance. The acquirer should also investigate the performance of the target company and choose a company with higher performance to sign a performance compensation agreement. For technology-based companies, when choosing a performance-based compensation method, they can choose share-based payment and annual salary. This approach can strengthen the commitment of enterprises to achieve their goals, reduce the degree of information asymmetry in transactions, and thus accelerate the process of technological transformation.

Secondly, for the merged company, in order to promote the completion of the merged company's commitment, it is recommended that the target company's commitment period be consistent with the good performance period. This will allow performance to mediate and facilitate fulfillment of commitments. Management should also strengthen oversight of corporate performance. Companies with high corporate governance quality should carefully choose the compensation method of share-based payment, while companies that choose annual compensation and two-way compensation should strive to improve the quality of corporate governance.

Finally, from the perspective of supervision, the implementation of my country's performance commitments is late, resulting in imperfect systems and policies. To this end, the regulatory authorities need to speed up the formulation of performance commitment policies, establish application thresholds and unified standards, and standardize the use of performance commitments in corporate mergers and acquisitions under the

background of market-oriented reforms. When formulating relevant policies, enterprises can be encouraged to choose two-way remuneration, increase the proportion of two-way remuneration in performance-based remuneration commitments, and at the same time regulate equity compensation limits to prevent enterprises from using two-way remuneration and performance-based remuneration commitments. The company shall not use it to transfer interests and harm the interests of small and medium shareholders. Enriching the terms of performance-based compensation agreements may also be beneficial. This study confirms that the type of compensation employed in performance commitment agreements has a significant impact on the fulfillment of commitments. Regulators should consider increasing the diversity of compensation methods available. In addition, incorporating non-financial indicators into commitments can help reduce the risk of performance loss and improve the market mechanism.

There are still some limitations and room for discussion in this study. This study focuses on the impact of the commitment period. In the future, with the development of enterprises, mergers and acquisitions will become an important means of rapid expansion of enterprises [49]. In the future, researchers can expand the research window to the end of the commitment period and study the impact of performance compensation on enterprises after the end of the commitment period. Due to the lack of target enterprise data, this paper mainly conducts research based on financial data. Future research could expand on this topic by exploring the non-financial aspects of pay for performance. The specific setup of the compensation method has not been discussed yet. The compensation method of equity incentive can improve the performance completion of enterprises, but the risk of equity incentive is often greater. According to the benefit transmission theory of large shareholders, enterprises may use equity incentives to carry out benefit transmission, which will damage the interests of small and medium shareholders [50]. In the future, we can further explore how to formulate scientific and feasible equity incentive limit regulations. In addition, in the context of the current digital transformation, the application of digital technology in the field of financial accounting should be strengthened. Mergers and acquisitions are also the driving force for corporate transformation. In the future, we can further study the selection of M&A models in the context of digitalization and how to accelerate the digital transformation of enterprises.

7. Conclusions

In the context of the market-oriented reform of enterprises, performance compensation is expected to help enterprises complete mergers and acquisitions by making up for the information asymmetry between the two parties. The design of the performance pay commitment agreement is of great significance to the improvement of the market system of mergers and acquisitions. It is of great significance to improve the fulfillment rate of corporate performance commitments. This study takes the merger and reorganization events of A-share listed companies signing performance commitments from 2014 to 2021 as samples and examines the impact of performance commitment setting on commitment fulfillment from three aspects: salary payment methods and salary conditions. This study also studied the relationship between salary model and information asymmetry and analyzed the information asymmetry of technology-based enterprises. The results show that equity incentives, annual incentives, and two-way incentives are more conducive to the fulfillment of performance commitments. Among them, equity incentives and annual incentives have significantly improved the performance commitment of the target company, and the commitment model of two-way incentives has a better incentive effect on commitments. Pay-for-performance affects commitment fulfillment by improving corporate performance. The payment method and the timing of compensation can affect information asymmetry through the degree of fulfillment of promises.

In addition, the use of equity payment as a compensation method has significantly improved the fulfillment of performance commitments of companies with poor corporate governance and high debt repayment pressure. On the other hand, for companies with

a higher quality of corporate governance and higher debt repayment pressure, annual compensation has a more significant role in promoting the fulfillment of performance commitments. The incentive effect of two-way compensation is more obvious in companies with higher corporate governance quality, while the heterogeneity of debt repayment pressure has no effect on the incentive effect of two-way compensation.

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