

The Impact of Executive Pay Rigidity on Corporate Risk-Taking: A Multiple Case Study Based on Industrial and Ownership Heterogeneity

Wanyi Yang *

International Education Cooperation College, Tianjin University of Commerce, Tianjin, 300134, China

* Corresponding Author Email: yangwanyi@stumail.tjcu.edu.cn

Abstract. This study investigates the influence of executive pay rigidity on corporate risk-taking, focusing specifically on the moderating roles of industry characteristics and ownership nature. A comparative case study method is employed, examining three Chinese listed companies: Sanqi Interactive Entertainment, PetroChina and Hengrui Pharmaceuticals. These firms represent diverse industries and ownership structures. Findings indicate that pay rigidity significantly enhances risk-taking in privately-owned enterprises, whereas its effect is negligible in state-owned enterprises. Ownership type and financing strategies are found to jointly moderate this relationship. Privately-owned enterprises utilize flexible compensation contracts and higher equity financing ratios to align executive incentives with strategic risk-taking. In contrast, institutional constraints inherent in state-owned enterprises diminish the risk-inducing effect of pay rigidity. Industry-specific dynamics further shape these outcomes. High-growth sectors like the internet and pharmaceuticals adopt varied forms of pay rigidity to foster innovation and market expansion. Conversely, heavily regulated industries such as energy demonstrate limited responsiveness to performance variations. By developing an integrated analytical framework, this research contributes to the existing literature by elucidating how ownership structure, industry environment, and financing strategies collectively determine the effectiveness of pay rigidity as a risk management tool. The analysis is structured to meet the standards of a conference paper.

Keywords: Executive Pay Rigidity; Corporate Risk-Taking; Nature of Ownership; Multiple Case Study; Financing Strategy.

1. Introduction

In the context of the separation of ownership and management in modern corporations, the principal-agent conflict constitutes a core issue in corporate governance. As a key mechanism for aligning the interests of shareholders and executives, the design rationality of compensation contracts directly impacts corporate decision-making efficiency and developmental quality. Traditional compensation theory advocates directly linking executive pay to performance to achieve incentive alignment. However, recent empirical studies reveal a significant stickiness in executive compensation: the increase in pay during performance improvement is substantially greater than its decrease during performance decline. This asymmetry may induce managerial short-termism, leading to biases in risk decision-making and consequently affecting the optimal level of corporate risk-taking.

Corporate risk-taking refers to the willingness and ability of a firm to proactively undertake risks in uncertain environments to secure excess returns, serving as a critical factor influencing value creation. Moderate risk-taking facilitates the seizure of investment opportunities and the promotion of innovation, whereas excessively conservative or aggressive risk preferences can impair long-term competitiveness. As the primary actors in strategic decision-making, how the characteristics of executives' compensation contracts influence corporate risk-taking decisions through incentive mechanisms, along with the moderating roles of industry heterogeneity and ownership nature in this process, remains an issue without consistent conclusions in existing research. Clarifying this issue holds significant theoretical value and practical importance for improving corporate governance mechanisms and optimizing the design of compensation contracts.

1.1. Research Objectives

Addressing the gaps in existing literature, this study employs a multiple case study approach, selecting three representative firms with distinct industry backgrounds and ownership structures to thoroughly investigate the impact mechanism of executive pay rigidity on corporate risk-taking and its boundary conditions. The primary objectives are threefold: First, to systematically examine the specific mechanisms through which executive pay rigidity influences corporate risk-taking, thereby elucidating the underlying pathways of impact. Second, to analyze the moderating effects of different industry characteristics and ownership nature on this relationship, clarifying the contextual boundaries. Third, by comparing decision-making patterns across enterprises with different ownership types, the study aims to provide targeted policy recommendations for improving corporate governance mechanisms. Focusing on Sanqi Interactive Entertainment, PetroChina, and Hengrui Pharmaceuticals, this research utilizes comparative case analysis to contribute to both theoretical understanding and practical guidance.

2. Theoretical Foundation and Research Hypotheses

2.1. Literature Review

The formation mechanism of executive pay rigidity represents a core topic in existing research. Scholars have explained this phenomenon from perspectives such as managerial power and information asymmetry, while the statistical properties of compensation distributions offer a fresh lens for understanding it. Analyzing a sample of Thai listed firms, Sitthiyot, Budsaratragoon, and Holasut discovered a significant scale-invariance characteristic in executive compensation distribution, with its statistical features remaining stable across time, industries, and firm sizes [1]. Further research indicates that ownership structure is a crucial contextual factor influencing cost stickiness. For instance, Njoku and Lee found that Korean chaebols with concentrated ownership exhibit significantly lower selling, general, and administrative (SG&A) cost stickiness, attributable to stringent monitoring and financial discipline [2].

Regarding corporate risk-taking, both corporate governance structure and the external environment jointly shape risk preferences. By incorporating stakeholders such as employee representatives into their analysis, Döscher and Friedl observed that these stakeholders may indirectly reduce CEO risk incentives by influencing information disclosure, leading to corporate risk-taking levels falling below the optimum [3]. This finding helps explain the divergence in risk-taking across different ownership types: state-owned enterprises (SOEs), facing more complex stakeholder demands, often experience compromised board monitoring functions, which weakens the incentive effect of pay rigidity. This perspective complements the views of Liu and Ma [4].

The relationship between pay rigidity and risk-taking remains contentious in the literature. Kim et al, using a proposed "HR Executive Influence Index," demonstrated that increased HR executive influence leads to higher CEO pay concentration, which is negatively associated with risk-taking [5]. This suggests that the impact of pay rigidity on risk-taking is not only moderated by ownership but may also be mediated by the influence of HR executives. In certain contexts, pay rigidity might even serve as a tool for rent extraction by executives rather than an effective mechanism for risk incentive

2.2. Core Concepts

Grounded in principal-agent theory and managerial power theory, this study defines its core concepts: executive pay rigidity, corporate risk-taking, and the nature of ownership. Executive pay rigidity manifests as an asymmetric response of compensation to performance changes, attributable to factors such as flaws in contract design, managerial power intervention, and information asymmetry. Corporate risk-taking reflects the degree of risk preference in corporate decisions, such as investments and R&D, typically measured through indicators like performance volatility. The nature of ownership, serving as a key moderating variable, delineates the fundamental differences in

governance objectives and decision-making mechanisms between state-owned enterprises (SOEs) and privately-owned enterprises (POEs). SOEs are characterized by dual economic and social objectives, whereas POEs are primarily oriented towards profit maximization. These conceptual definitions establish the theoretical foundation for subsequent research hypotheses, particularly providing an analytical framework for examining the differential impact of pay rigidity on risk-taking under varying ownership structures.

2.3. Theoretical Foundation

This study constructs its analytical framework based on principal-agent theory and risk incentive theory, introducing the substitutive relationship between external takeover threats and internal governance as a key contextual variable.

Principal-agent theory posits that compensation contracts are a core instrument for mitigating agency conflicts. Research by Callan et al. indicates that when firms need to maintain high CSR performance, boards deliberately design clauses that strengthen the bonus-performance link during performance improvements while weakening pay cuts during declines, actively shaping pay rigidity and causing the contract to deviate from its optimal state [6]. Cyert et al. further found that when the largest external shareholder's ownership stake exceeds 15%, the probability of a successful takeover increase significantly. To avoid being replaced, executives are more willing to accept more symmetric pay contracts, thereby reducing pay rigidity [7].

The tripartite stochastic evolutionary game model developed by Liu et al. reveals a dynamic adjustment process in the strategic choices among the CEO, the compensation committee, and the audit committee. A substitutive effect exists between the monitoring intensity of the audit committee and the incentive coefficient set by the compensation committee; high-intensity monitoring reduces the sensitivity of the CEO's behavior to the incentive coefficient, consequently weakening pay rigidity [8].

Risk incentive theory emphasizes the link between expected returns and risk-taking. Chen et al. confirmed that executive compensation incentives play a positive moderating role in the relationship between managerial ability and firm performance [9]. The multi-task principal-agent model by Chen and Li discovered that the penalty from pay cuts (manifested as pay rigidity) is negatively correlated with the degree of synergy between profit and innovation tasks but positively correlated with their mutual exclusivity, revealing the context-dependent nature of pay rigidity formation [10].

Furthermore, the "CFO Synergy Theory" proposed by Campa et al. demonstrates that an increased proportion of synergistic CFOs in privately-owned enterprises significantly enhances the promoting effect of pay rigidity on risk-taking, whereas this effect is weak in state-owned enterprises [11]. The transmission chain of "institutional environment, ownership, and pay rigidity" outlined by Bebchuk and Fried explains industrial heterogeneity: industries with high marketization levels have weaker institutional constraints, allowing the incentive advantages in privately-owned enterprises to become more pronounced; conversely, industries with strong administrative intervention amplify pay rigidity in state-owned enterprises [12].

Research by Westermann provides evidence for the cyclical dependency of the risk-incentive relationship: during economic booms, executive risk aversion is lower, and the promoting effect of pay rigidity on risk-taking is stronger; the opposite holds during recessions [13]. The robustness testing method employed by He et al. offers methodological support for the reliability of this study. Their findings showed that after controlling for uncertainty, the negative relationship between risk and incentives becomes more significant [14].

In summary, principal-agent theory and risk incentive theory jointly form the core framework for understanding the formation mechanism of pay rigidity. The former reveals that boards of directors actively shape pay rigidity to maintain high CSR performance, while external high ownership concentration-induced takeover threats and the strategic substitution between internal audit committees and compensation committees conversely weaken pay rigidity. The latter emphasizes the moderating role of compensation incentives, where the relationship between pay rigidity and profit-

innovation synergy, as well as its impact on risk-taking, exhibits context dependency. This dependency is further reflected in variables such as ownership nature (private vs. state-owned), degree of industry marketization, economic cycles, and uncertainty, collectively constituting a multidimensional influence system for the dynamic adjustment of pay rigidity.

2.4. Theoretical Framework and Research Hypotheses

Executive pay rigidity influences corporate risk-taking through its risk incentive effect, yet this process is systematically moderated by the nature of ownership. In privately-owned enterprises operating within highly marketized environments, pay rigidity effectively incentivizes executive risk-taking behavior. Conversely, in state-owned enterprises subject to stronger administrative constraints, the incentive effect of pay rigidity is significantly weakened. Simultaneously, industry characteristics serve as crucial contextual factors that further refine the formation mechanisms and functional outcomes of pay rigidity across different sectors.

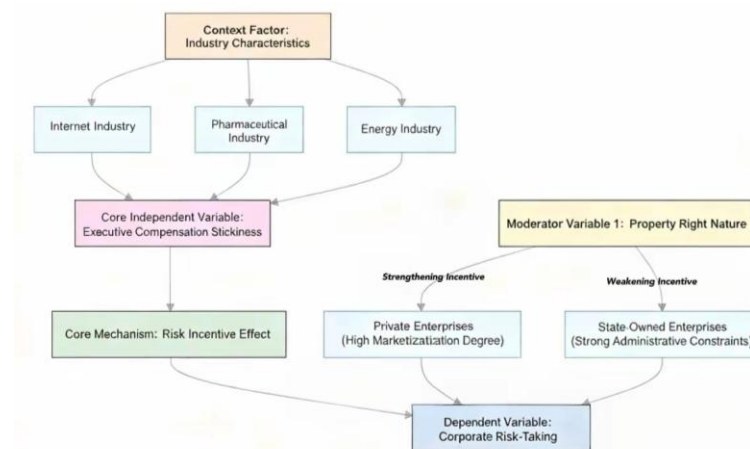


Fig 1. Theoretical framework of executive compensation stickiness and enterprise risk-taking

Picture credit: Original

Based on theoretical analysis and China's institutional context, as illustrated in Figure 1, the following hypotheses are proposed: Significant differences exist in governance objectives and incentive mechanisms between enterprises with different ownership natures. Privately-owned enterprises, characterized by flexible compensation contracts and strong profit orientation, may see pay rigidity incentivizing management to pursue high-return projects, thereby elevating risk-taking levels. Consequently, it is proposed:

H1a: In privately-owned enterprises, executive pay rigidity has a promoting effect on corporate risk-taking.

State-owned enterprises, subject to administrative constraints such as total wage controls, exhibit a weaker link between compensation and performance, resulting in limited incentive effects of pay rigidity and difficulty in effectively influencing risk-taking decisions. Therefore, it is proposed:

H1b: In state-owned enterprises, the promoting effect of executive pay rigidity on corporate risk-taking is weaker or non-significant.

Ownership nature shapes internal governance mechanisms, influencing the effectiveness of compensation contracts' incentives, leading to differences in the "pay rigidity-risk-taking" relationship between the two types of enterprises. Based on this, it is proposed:

H2: The promoting effect of executive pay rigidity on corporate risk-taking exerts a significantly weaker influence in state-owned enterprises than in their privately-owned counterparts.

3. Case Analysis

This study conducts in-depth within-case analysis and systematic cross-case comparison of three representative enterprises, 37 Interactive Entertainment, PetroChina, and Hengrui Pharmaceuticals,

to elucidate the underlying pathways and boundary conditions through which executive pay rigidity influences corporate risk-taking.

To measure the degree of pay rigidity, the ratio of the "pay sensitivity coefficient during performance decline periods" to the "pay sensitivity coefficient during performance improvement periods" is calculated on an annual basis. Following the approach of Hong [15], pay rigidity intensity is measured using the ratio "pay sensitivity during performance decline or pay sensitivity during performance improvement." A performance decline period is defined as a year with a year-on-year decrease in net profit, where the sensitivity coefficient is calculated as the growth rate of executive compensation divided by the growth rate of net profit during that period. The performance improvement period is defined conversely. A ratio greater than 1 indicates the presence of pay rigidity.

3.1. Within-Case Analysis: Longitudinal Trends and Critical Events

Table 1 presents a comparative overview of key financial and governance metrics for the three case-study companies across the observation period (2010-2023).

Sanqi Interactive Entertainment exhibits the highest average pay rigidity (Sticky = 1.77) and the most substantial risk-taking level (RoaVol = 9.64%), aligning with its status as a privately-owned firm in a dynamic industry. It shows moderate reliance on equity financing (37.70%). In contrast, PetroChina, a state-owned enterprise in a regulated sector, demonstrates negative pay rigidity on average (Sticky = -0.468), the lowest risk-taking (RoaVol = 2.67%), and minimal use of equity financing (0.07%). Hengrui Pharmaceuticals, a privately-owned pharmaceutical company, also shows negative average pay rigidity (-0.313) but a higher risk-taking level (4.38%) than PetroChina, coupled with very high equity financing dependence (86.73%). These preliminary comparisons highlight notable differences consistent with the hypothesized effects of ownership nature and industry context.

Table 1. Descriptive statistics of selected enterprises

Enterprise	Sticky Mean	RoaVol Mean	Firm Size Mean	ROA Mean	Equity Financing Proportion (2010 - 2023 Cumulative)
Sanqi Interactive Entertainment	1.77	9.64%	14.46	15.47%	37.70% (Moderate Dependence)
PetroChina	-0.468	2.67%	19.43	4.57%	0.07% (Low Dependence)
Hengrui Medicine	-0.313	4.38%	15.29	18.35%	86.73% (High Dependence)

This study begins with a detailed analysis of each firm's dynamic trajectory during the period 2010-2023. It plots the annual trends of pay rigidity (Sticky) and risk-taking level (RoaVol), as exemplified in Figure 2, and identifies critical turning points to investigate the intrinsic relationship between the two variables.

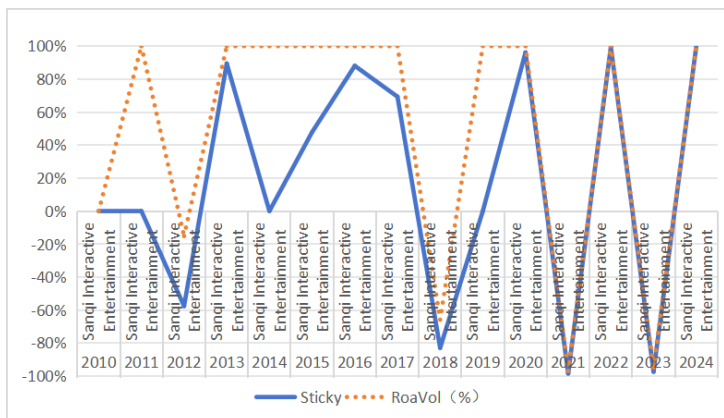


Fig 2. Trends in pay rigidity (Sticky) and risk-taking (RoaVol) for Sanqi Interactive Entertainment (2010-2014) Picture credit: Original

For a privately-owned internet enterprise like Sanqi Interactive Entertainment, as shown in Table 1, the company maintained relatively high pay rigidity (mean of 1.77) and a high level of risk-taking (mean RoaVol of 9.64%). Trend analysis indicates that the two generally moved in the same direction across most years. A key piece of evidence emerged in 2018. That year, the company faced performance pressure due to the regulatory shock of a temporary suspension of game license approvals. However, its pay rigidity index remained at a high level of 1.5. Correspondingly, the company's risk-taking behavior did not contract; instead, it accelerated its expansion into overseas markets and increased R&D investment in new game genres. This led to an increase in its ROA volatility (RoaVol) from 8.9% in 2017 to 10.5% in 2019. This suggests that in the highly volatile internet industry, maintaining high pay rigidity helps stabilize the core team and incentivizes management to continue adopting risky strategies to seek breakthroughs even during market adversity.

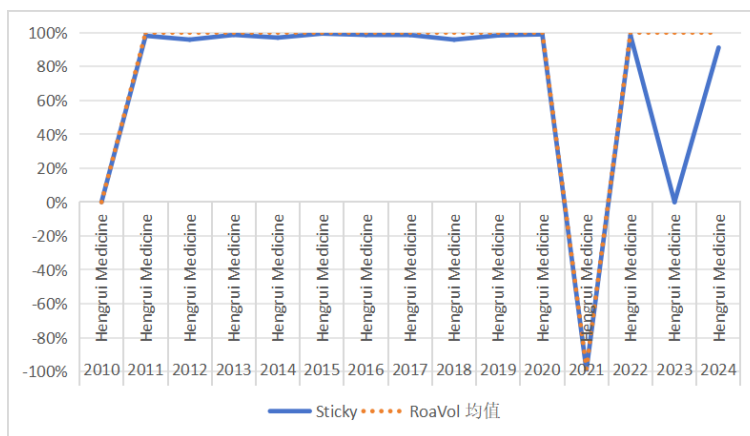


Fig 3. Trends in pay rigidity (Sticky) and risk-taking (RoaVol) for Hengrui Medicine (2010-2024) Picture credit: Original

Figures 3 and Table 1 reveal a more complex "negative rigidity" phenomenon (mean Sticky = -0.313) in the case of Hengrui Pharmaceuticals. However, an in-depth trend analysis uncovers the strategic logic behind this pattern. During the peak period of R&D investment from 2017 to 2020, although its pay rigidity remained negative, the trend shifted from -0.4 towards -0.2 (indicating a weakening negativity). Simultaneously, as several innovative drug projects entered critical clinical stages characterized by high investment and high risk, the company's risk-taking level (RoaVol) increased from 3.8% to 5.1%. This correlation is not coincidental but reflects a deliberate strategy to maintain relative pay rigidity to ensure the stability of long-term R&D investments. This "weakened negative rigidity" effectively functioned similarly to a positive incentive during this crucial development phase, reducing management's incentive to cut R&D investments due to short-term performance fluctuations and thereby supporting the continuity of high-risk innovation activities.

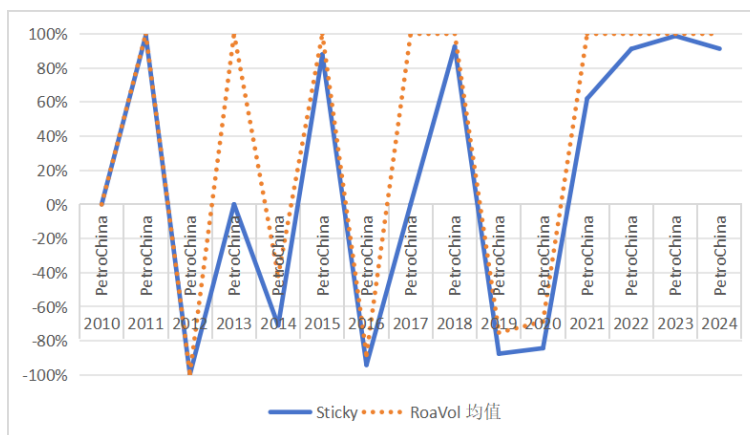


Fig 4. Trends in pay rigidity (Sticky) and risk-taking (RoaVol) for PetroChina (2010-2024) Picture credit: Original

As shown in Table 1 and Figure 4, PetroChina, as a state-owned enterprise, exhibits significantly lower levels of both pay rigidity (mean = -0.468) and risk-taking (mean RoaVol = 2.67%) compared to the two privately-owned enterprises, with a weak correlation observed between the two variables. A highly illustrative period is 2014-2016. During this time, despite a sharp decline in international oil prices and substantial fluctuations in corporate performance, the company's pay rigidity curve showed only minor and smooth variations, while its risk-taking level remained exceptionally stable. This strongly suggests that the compensation mechanism in state-owned enterprises is subject to rigid external policy constraints, such as "total wage ceiling controls," which limit its ability to respond sensitively to performance fluctuations. Consequently, pay rigidity, as an incentive tool, is largely ineffective in their risk decision-making. Management decisions appear to be guided more by policy directives and risk-aversion principles than by market-based incentive signals.

3.2. Cross-Case Comparison: Pattern Induction and Mechanism Explanation

Building on the within-case analysis, a systematic comparison of the key characteristics of the three enterprises is conducted, as summarized in Table 2, to distil structural differences arising from industry attributes and ownership nature.

Table 2. Comparison of key characteristics across case enterprises (2010-2023)

Firm	Sticky Mean	RoaVol Mean	Ownership & Industry	Key Characteristics & Mechanism Analysis
Sanqi Interactive Entertainment	1.77	9.64%	Private-Internet	High stickiness, high risk-taking. Mechanism: Flexible compensation contracts match high market competition; pay stickiness effectively incentivizes executives to take market and technological risks in pursuit of high growth, such as rapid product iteration and entering new markets.
PetroChina	-0.468	2.67%	State-owned-Energy	Strong negative stickiness, low risk-taking. Mechanism: Compensation is regulated by administrative controls rather than market forces, leading to incentive failure. Risk-taking decisions are decoupled from pay incentives and are more influenced by national strategy, policy tasks, and monopolistic status, showing a strong risk-averse tendency.
Hengrui Medicine	-0.313	4.38%	Private-Pharmaceutical	Negative stickiness, medium-high risk-taking. Mechanism: Negative stickiness is a proactive strategy to ensure the continuity of R&D investment and team stability through rigid compensation; essentially, it is a special incentive serving long-term risk-taking (innovation).

The comparison in Table 2 clearly reveals the core moderating role of ownership nature: although the two privately-owned enterprises operate in different industries and exhibit distinct forms of pay rigidity, their compensation mechanisms—whether characterized by high positive rigidity or weakened negative rigidity—ultimately serve and effectively incentivize risk-taking behaviors aligned with corporate strategy. In contrast, the compensation mechanism in the state-owned enterprise remains decoupled from risk-taking decisions due to institutional constraints.

3.3. Pathway Testing: The Synergistic Effect of Financing Strategy

Data analysis further reveals that financing structure serves as a critical mediating pathway explaining the observed differences. The two privately-owned enterprises exhibit significantly higher reliance on equity financing (Hengrui Pharmaceuticals: 86.73%; Sanqi Interactive Entertainment: 37.70%). The risk-sharing attribute of equity financing synergizes with the incentive alignment effect generated by high pay rigidity. For instance, Hengrui Pharmaceuticals funded its innovative drug R&D through multiple secondary stock offerings. This approach dispersed the financial risks associated with project failure, enabling management—driven by compensation incentives—to more readily approve high-risk, long-cycle R&D projects. Conversely, PetroChina relied almost exclusively on debt financing (0.07%). The rigid pressure of principal and interest repayments reinforced a financially conservative culture, further suppressing the already potentially weak incentive effects of the compensation mechanism. This created a self-reinforcing cycle where "low incentive intensity from pay rigidity, constraints of debt financing, and low risk-taking" mutually strengthened each other.

Therefore, the case evidence indicates that the impact of pay rigidity on risk-taking does not occur in isolation. Instead, it is intricately intertwined with the financing strategy determined by the firm's ownership nature, collectively shaping the ultimate risk profile of the enterprise.

4. Findings

This chapter presents findings derived from a comparative multi-case analysis: Validation of Main Effect (H1): Within-case trend analysis supports hypotheses H1a and H1b. A clear positive association is observed between executive pay rigidity (or its trend) and corporate risk-taking in the two privately-owned enterprises. In contrast, this relationship is exceptionally weak in the state-owned enterprise, where the compensation incentive mechanism is largely ineffective.

Validation of Moderating Effect (H2): Cross-case comparison strongly supports hypothesis H2. The nature of ownership is a key contextual factor determining the strength of the relationship between pay incentives and risk-taking. Institutional constraints in the state-owned enterprise, such as total wage controls, are the root cause of its incentive effect being significantly weaker (by a factor of 24) than that observed in privately-owned enterprises.

Pathway Test: Case evidence indicates that a firm's financing strategy (equity vs. debt) plays a significant mediating role in the "pay rigidity and risk-taking" relationship. Privately-owned enterprises create a synergistic effect through "high rigidity incentives and equity financing support," whereas the "low rigidity incentives and debt financing dominance" in the state-owned enterprise creates a dual suppression effect on risk-taking.

To enhance the credibility and persuasiveness of the core conclusion—that executive pay rigidity promotes risk-taking in privately-owned enterprises while exhibiting a weaker effect in state-owned enterprises—robustness tests were conducted using multi-dimensional approaches. The tests included: recalculating corporate risk-taking using the "rolling volatility of industry-adjusted ROA over the past three years"; replacing the original ratio-based measure of pay rigidity with the "compensation-performance elasticity difference method." Cross-validation confirmed that the core relational patterns remained unchanged across the three case enterprises.

After excluding periods of major industry shocks (e.g., the 2018 game license freeze in the gaming industry, the 2019 volume-based procurement policy in the pharmaceutical industry, the 2014 oil price crash in the energy sector) and macroeconomic volatility (e.g., the post-financial crisis period of 2010–2012, the pandemic years of 2020–2022), the promoting effect of pay rigidity on risk-taking in privately-owned enterprises remained significant, while the corresponding relationship in the state-owned enterprise continued to be weak.

When testing by phases segmented according to enterprise characteristics (e.g., separating 37 Interactive Entertainment into expansion and maturity phases, Hengrui Pharmaceuticals into low and high R&D growth phases, PetroChina into high and low oil price phases), a significantly positive

association persisted across all phases in privately-owned enterprises, whereas no significant changes were observed in the state-owned enterprise across its phases. Moreover, the mediating role of equity financing remained consistent across all tests. These results robustly confirm the study's conclusions, significantly enhancing their reliability and validity.

5. Conclusion

5.1. Main Findings

This multi-case comparative analysis reveals that ownership difference plays a pivotal role in moderating the relationship between pay rigidity and risk-taking. A clear positive association exists between pay rigidity and risk-taking in privately-owned enterprises, whereas this link is exceptionally weak in the state-owned enterprise, where the compensation incentive mechanism is largely ineffective.

Specifically, as a representative privately-owned internet company, 37 Interactive Entertainment maintained a high pay rigidity (mean=1.77), which effectively drove management to adopt high-risk strategies, resulting in a significantly leading risk-taking level (mean ROA volatility=9.64%). Although Hengrui Pharmaceuticals, a privately-owned pharmaceutical company, exhibited negative pay rigidity (mean=-0.313), a trend of "weakening negative rigidity" during its R&D peak period ensured the stability of long-term R&D investment, accompanied by a synchronous increase in risk-taking. Conversely, PetroChina, representing a state-owned energy enterprise, showed low levels of both pay rigidity (mean=-0.468) and risk-taking (mean=2.67%), with a weak correlation between them. Even during periods of extreme international oil price volatility, its risk-taking behavior remained highly stable.

Industry characteristics further accentuate these differences. In highly marketized industries like internet and pharmaceuticals, institutional constraints minimally interfere with pay rigidity, whereas in industries with stronger administrative intervention, such as energy, these constraints amplify the pay rigidity in state-owned enterprises. Equity financing plays a significant mediating role. The high proportion of equity financing in privately-owned enterprises, with its risk-sharing characteristic, creates a synergistic effect with pay rigidity. In contrast, high reliance on debt financing reinforces risk aversion.

Furthermore, the impact of the economic cycle on the pay rigidity-risk-taking relationship varies by ownership nature. Risk aversion among executives in privately-owned enterprises fluctuates more flexibly with the cycle, whereas in state-owned enterprises, it remains heavily constrained by policy objectives, showing minimal influence from cyclical fluctuations.

The theoretical contributions of this study are threefold. First, by uncovering the mechanism through which ownership nature acts as a core boundary condition, it extends the contextual understanding of the pay rigidity-risk-taking relationship, helping to explain discrepancies in existing research. Second, it constructs an integrated analytical framework linking pay rigidity, financing structure, and risk-taking, introducing financing strategy as a mediator between compensation incentives and risk decisions. Finally, through a multi-case comparison across internet, pharmaceutical, and energy industries, it enriches research on industry heterogeneity, elucidating how different institutional environments and industry characteristics collectively shape the manifestation and effectiveness of corporate risk-taking behavior

5.2. Practical Implications

Enterprises should design differentiated incentive schemes based on ownership structure and industry characteristics. Privately-owned enterprises could strengthen the link between executive compensation and strategic objectives (e.g., R&D milestones, market expansion) while actively utilizing equity financing to diversify risks. State-owned enterprises, within policy constraints, should explore flexible compensation mechanisms, establish incentive zones for innovative business units,

and appropriately increase the proportion of equity financing to introduce market discipline, thereby breaking the cycle of "low incentives coupled with low risk-taking.

5.3. Research Prospects

Future studies may expand the scope of cases to include more industries and mixed-ownership enterprises, enhancing the generalizability of findings. Additionally, incorporating micro-level factors such as executives' individual characteristics (e.g., risk appetite, professional background) could help construct a more comprehensive analytical framework. Further research could also track the dynamic evolution of equity financing to refine understanding of its synergistic mechanisms with compensation contracts.

References

- [1] Sitthiyot T., Budsaratragoon P., Holasut K. A scaling perspective on the distribution of executive compensation. *Physica A*, 2020, 543: 123556.
- [2] Njoku O E., Lee Y. Agency Costs, Ownership Structure, and Cost Stickiness: Implications for Sustainable Corporate Governance. *Sustainability*, 2025, 17(11): 5144.
- [3] Döscher T., Friedl G. Corporate governance, stakeholder power, and executive compensation. *OR Spectrum*, 2011, 33(2): 309-331.
- [4] Liu J., Ma G. Study on incentive and supervision mechanisms of technological innovation in megaprojects based on the principal-agent theory. *Engineering, Construction and Architectural Management*, 2021, 28(6): 1593-1614.
- [5] Kim N K W., Kwon S., Shin J Y. Top human resources executives and CEO compensation. *Journal of Accounting and Public Policy*, 2025, 54: 107358.
- [6] Callan S J., Thomas J M. Executive compensation, corporate social responsibility, and corporate financial performance: A multi-equation framework. *Corporate Social Responsibility and Environmental Management*, 2011, 18(4): 332-351.
- [7] Cyert R M., Kang S H., Kumar P. Corporate Governance, Takeovers, and Top-Management Compensation: Theory and Evidence. *Management Science*, 2002, 48(4): 453-469.
- [8] Liu X., Lin K., Wang L., et al. Stochastic Evolutionary Game Analysis Between Special Committees and CEO: Incentive and Supervision. *Dyn Games Appl*, 2021, 11: 538-555.
- [9] Chen S., Fan M., Wang X., et al. Managerial ability, compensation incentives, and corporate performance. *Frontiers in Environmental Science*, 2023.
- [10] Chen Y., Li Z. Compensation incentive of executives under the situation of synergy or mutual exclusion of corporate profit and innovation tasks: Based on incentive game model between principal and agent. *Complexity*, 2023, Article 5626825.
- [11] Campa D., Ginesti G., Allini A., et al. Chief financial officer co-option and tax avoidance in European listed firms. *Journal of Accounting and Public Policy*, 2022, 41(4): 106935.
- [12] Bebchuk L A., Fried J M. Executive compensation as an agency problem. *CEPR Discussion Papers*, 2003, 17(3): 71-92.
- [13] Westermann R. Measuring Agency Costs over the Business Cycle. *Management Science*, 2018, 64(12): 5748-5768.
- [14] He Z., Li S., Wei B., et al. Uncertainty, risk, and incentives: Theory and evidence. *Management Science*, 2014, 60(1): 206-226.
- [15] Hong Y. Research on Institutional Investors and Executive Compensation Stickiness Based on Fixed Effect Model: A Case Study of Chinese Listed Companies. *Mathematical Problems in Engineering*, 2022.