

Impact of Executive Compensation Structures on Firm Risk-Taking Behavior

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Abstract: The overall objective of this study is to analyse the effect of executive compensation structures on risk taking behaviour of the Indian manufacturing firms during 2015-2024 time frame. The study is based on agency theory and its related incentive-based theories, and examines the impact on corporate risk decisions due to varying executive compensation components, namely, salary, bonus, stock options and equity-based compensation. The analysis is conducted using secondary panel data in listed manufacturing companies, using pooled OLS, fixed effects and random effects models and with the use of Hausman specification tests, quantile regressions and robustness checks on the use of alternative risk measures. The results show that incentive-based compensation, specifically stock options and equity-based pay, is positive and significantly related to firm risk-taking, both from financial, market and investment perspectives. Conversely, there is a negative relationship between fixed salary and risk-taking, suggesting a stabilising and risk-averse effect. Moderate positive effect is observed for bonus compensation, mostly related to short-term risk incentives. The findings also show that corporate governance plays a significant role in moderating the compensation-risk relationship, since incentive-based pay can lead to excessive risk-taking which can be checked by corporate governance. Results of quantile regressions suggest that effects are not homogeneous, with higher effects for high-risk firms. The findings have theoretical implications and enrich the literature with comprehensive evidence from an emerging economy context and the role of compensation design in managerial behaviour. The results have significant implications for corporate boards and policymakers in reconciling incentive alignment with risk regulation for sustainable performance of the firm.

Keywords: Executive compensation; Firm risk-taking; Stock options; Corporate governance; Indian manufacturing firms; Agency theory; Panel data analysis; Incentive structure

1. Introduction

Executive compensation structures and firm risk-taking behaviour have been the focus of much scholarly and policy attention, especially in emerging economies where corporate governance is still in its infancy. Indian manufacturing companies have undergone a rapid structural transformation due to liberalisation, technological change and integration into the global market in recent years. In this dynamic environment, executives are key in guiding strategic decisions on investment, innovation, financial risk, etc. As a result, executive compensation structure has become a key instrument for linking managerial incentives to firm goals and controlling the risk managed by the executives.

Theoretically, agency theory is that agency contracts are supposed to reduce the conflict of interest between the shareholders and the management by aligning their interests through the use of compensation contracts. However, it can also come with incentive structures, such as equity-based compensation, which can lead to executives taking on more risk (Bolton et al., 2015; Dittmann et al., 2017). Such risk-taking behaviour has deeper implications in the case of manufacturing companies because they are characterized by capital in-

tensive investments and longer strategic commitments. Empirical evidence suggests that stock option based compensation makes executives more sensitive to the volatility of firm performance, which will lead them to make more risky decisions (Chen et al., 2006; Chen & Ma, 2011). Such incentives can increase firm value in good times, but can also lead firms to take too much risk in bad times.

On the other hand, the risk-averse behaviour of managers can be linked with fixed compensation like salaries. Executives with higher fixed income might be more inclined towards stability and job security which leads to a low level of high-risk projects (Abrokwah et al., 2018). Such a cautious attitude can stifle innovation and competitiveness in the Indian manufacturing environment, where companies are frequently subject to regulatory pressures and the volatility of input prices and demand conditions. Conversely, the use of short-term incentives (such as bonuses) can incentivize managers to pursue short-term objectives which can result in short-sighted decision-making and expose a company to greater short-term risks (Francis et al., 2015).

Firm-specific and macroeconomic factors add to the complexity of the compensation–risk relationship. Previous research shows that the effect of executive compensation on risk-taking is different in various environments and industries (Abrokwah et al., 2018; Bouteska et al., 2024). For example, in the banking industry, incentive-based compensation has been found to significantly boost risk taking, especially in good monetary conditions (Boateng et al., 2022; Guo et al., 2015). The incentive mechanisms are also relevant in the manufacturing sector, even though there are differences between manufacturing companies and financial institutions in terms of risk profile, which indicates that the compensation structure could have the same impact on risk-related decisions in the manufacturing sector as well.

Recent literature also emphasizes other factors, such as behaviour and governance, that influence the compensation–risk relationship. It has been shown that the mechanism by which compensation influences firm outcomes is executive risk-taking behaviour (Al-Shammari, 2021). Moreover, the impact of compensation on risk-taking can be complex and can vary based on other factors like ownership structure, governance quality, and social capital (Wang et al., 2024, Yusuf, 2026). These findings are especially pertinent for Indian companies, which tend to be highly concentrated and run by families, which may impact pay design and managerial actions.

While literature is building, there is limited empirical evidence on the effect of executive compensation on the risk taking of Indian manufacturing companies. Most studies to date have been conducted in developed economies or in the banking sector, and little is known about the nature of compensation structures in emerging industrial economies. In addition, existing studies typically focus on a single aspect of compensation, and fail to consider the big picture of multiple incentive mechanisms, and their overlapping impacts on risk-taking, collectively. In this background, the current study proposes to explore the effect of executive compensation system on the risk taking behavior of the manufacturing companies in India from secondary panel data. This study includes several aspects of compensation, including salary, bonuses, stock options, and equity-based incentives, to give a comprehensive picture of the effect of managerial incentives on risk-related decisions. In doing so, it adds to the literature, not only by applying these theoretical concepts to the context of an emerging economy, but also by providing empirical evidence pertinent to those who want to create a balanced and effective compensation system, whether in a corporate board or in the investment arena.

2. Literature Review

Executive compensation and firm risk-taking behaviour has received a lot of attention in the finance and corporate governance literature, mainly in the context of the influence of incentive structures on managerial decision-making under uncertainty. Based on agency theory, compensation contracts are intended to make the interests of managers and shareholders coincide; but at the same time, compensation contracts may also modify

the risk preference of the executives, which may result in excessive risk taking as well as insufficient risk taking.

Considerable research has been published that demonstrates the important role equity-based compensation, especially stock options, has in fostering risk taking. The initial empirical findings show that stock option incentives can lead to greater exposure of the executives to the volatility of firm value, which in turn can lead to riskier strategic choices (Chen et al., 2006; Chen & Ma, 2011). In support of this view, Bolton, Patrick et al. (2015) contend that convex payoff structures in the stock options increase the incentive for managers to take on high-risk/high-reward projects. Likewise, Dittmann, Ingolf et al. (2017) highlights how risk-taking incentives play a significant role in a well-designed compensation system and the fact that firms are deliberately introducing such systems to boost value creation.

The fixed compensation aspects, on the other hand, are typically linked to risk averse managerial behaviour such as salary. Research shows that the higher the level of fixed income, the more executives are likely to focus on job security and steady performance, which means they will be less likely to take risks in investing (Abrokwah et al., 2018). This conservative behavior is even more evident in contexts with high uncertainty or less governance, where the executives might be unwilling to do anything that might threaten their job security. The impact of bonus based compensation is more complex than effects on risk taking. Often performance incentives are short-term and related to accounting measures, which can lead to managers taking short-term or opportunistic risks to achieve targets. According to Francis, Bill et al. (2015), compensation systems based on short-term results can lead to higher risk exposure, especially in the financial sector.

The banking sector has been a subject of special consideration because of its systemic nature and because it is an industry that is naturally exposed to risks. The empirical evidence clearly shows that executive compensation designs have a strong impact on bank risk-taking practices. For example, Guo, Liang et al. (2015) have demonstrated that incentive-based compensation led to over-excessive risk-taking before the global financial crisis. In line with this, Boateng, Agyenim et al. (2022) show that the link between CEO pay and bank risk-taking depends on the macroeconomic environment and specifically monetary policy regimes.

New research adds to the literature by incorporating moderating and mediating mechanisms that help to shape the compensation–risk nexus. Al-Shammari, Hisham (2021) adds a third variable that serves as a behavioural channel through which incentives work, namely CEO risk-taking behaviour, between compensation and firm performance. In the same way, Yusuf, R. A. In their study "The Effect of CEO Social Capital on the Compensation–Risk Taking Link (2026)," the authors conclude that personal networks and external affiliations affect executives' strategic choices.

In addition, there is growing awareness of the importance of governance and institutional arrangements. Raviv, Alon and Sisli-Ciamarra, Elu (2013) show that macroeconomic conditions have an important impact on the relation between executive compensation and risk-taking. Along similar lines, Wang, Wei et al. (2024) point to the linkage between compensation regimes and the ownership concentration in the risk behaviour of Chinese banks. Yun et al. (2023) also contend that executive compensation has an impact on corporate risk management practices, indicating that the impact of executive compensation is not limited to investment decisions.

A cross-industry and cross-country perspective also offers valuable insights into the heterogeneity of the compensation–risk relationship. Abrokwah et al. (2018) report substantial differences in the magnitude of the effect by industry, suggesting that the effect of compensation on risk-taking is sector specific. Similarly, Bouteska, Ahmed et al. (2024) present U.S. evidence that confirms the strong relationship between executive compensation and firm risk as well as performance. These results indicate that institutional setting, regulation and market forces are important factors that influence executive behaviour.

3. Methodology

This study adopts a quantitative research design using secondary panel data to examine the impact of executive compensation structures on firm risk-taking behaviour in Indian manufacturing firms over the period 2015–2024. This period is particularly appropriate as it captures post-liberalisation industrial consolidation, increasing corporate governance reforms in India, and significant macroeconomic events, including financial sector adjustments and post-pandemic recovery dynamics, all of which may influence executive decision-making and risk behaviour.

The sample consists of non-financial manufacturing firms listed on major Indian stock exchanges, selected based on data availability and consistency across the study period. Firm-level data are collected from audited annual reports, corporate governance disclosures, and financial databases. Executive compensation details are extracted from remuneration reports, while financial and market indicators are obtained from secondary financial databases. Firms with missing observations are excluded to maintain data integrity, resulting in a balanced or moderately unbalanced panel dataset spanning ten years.

The dependent variable, firm risk-taking behaviour, is measured using multiple proxies to ensure robustness. Financial risk is proxied by leverage (total debt to total assets), market risk is measured using the standard deviation of stock returns, and investment risk is captured through R&D intensity. The key independent variables include executive compensation components—salary, bonus, stock options, and equity-based compensation—scaled appropriately to minimise heteroscedasticity.

The baseline econometric specification is as follows:

$$Risk_{it} = \beta_0 + \beta_1 Salary_{it} + \beta_2 Bonus_{it} + \beta_3 Options_{it} + \beta_4 Equity_{it} + \beta_5 Controls_{it} + \varepsilon_{it}, \quad [1]$$

where i denotes firm and t represents year (2015–2024). Control variables include firm size, profitability, firm age, and growth opportunities, which are standard determinants of corporate risk behaviour.

To capture the influence of governance mechanisms, an extended model incorporating interaction effects is estimated:

$$Risk_{it} = \beta_0 + \beta_1 Compensation_{it} + \beta_2 Governance_{it} + \beta_3 (Compensation_{it} \times Governance_{it}) + \beta_4 Controls_{it} + \varepsilon_{it}, \quad [2]$$

Panel data estimation techniques are employed to ensure robustness. Initially, pooled Ordinary Least Squares (OLS) regression is applied as a benchmark model. However, given the likelihood of unobserved heterogeneity across firms, fixed effects (FE) and random effects (RE) models are subsequently estimated. The fixed effects model controls for time-invariant firm-specific characteristics, while the random effects model assumes these effects are uncorrelated with the explanatory variables.

4. Results

Before proceeding with empirical estimation, it is essential to define the variables used in the analysis. Table 1 presents the operational definitions, measurement approaches, and expected signs of all variables included in the model. The dependent variable, firm risk-taking, is measured using three alternative proxies—leverage, stock return volatility, and R&D intensity—to capture financial, market, and investment risk, respectively. The key independent variables represent different components of executive compensation, including fixed salary, bonus, stock options, and equity-based compensation.

Table 1: Variable Definitions

Variable	Type	Measurement	Expected Sign
Risk (LEV)	Dependent	Total Debt / Total Assets	±
Risk (VOL)	Dependent	Std. Dev. of Stock Returns	+

Risk (RD)	Dependent	R&D Expenditure / Sales	+
Salary	Independent	Log of CEO Fixed Salary	–
Bonus	Independent	Bonus / Total Compensation	+
Options	Independent	Value of Stock Options Granted	+
Equity	Independent	Equity-Based Compensation / Total Compensation	+
Firm Size	Control	Log of Total Assets	–
Profitability	Control	Return on Assets (ROA)	–
Firm Age	Control	Years Since Incorporation	–
Growth	Control	Tobin's Q	+

Table 2 presents the descriptive statistics of all variables for the sample firms over the period 2015–2024. The results indicate considerable variation in both compensation structures and risk-taking measures across Indian manufacturing firms. The mean leverage ratio suggests moderate reliance on debt financing, while the standard deviation indicates heterogeneity in financial risk. Similarly, stock return volatility reflects varying exposure to market fluctuations. Compensation variables show that fixed salary constitutes a significant portion of total compensation, whereas equity-based incentives and stock options vary substantially across firms, indicating differences in incentive design. The dispersion in R&D intensity suggests uneven investment in innovation across the sector.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Leverage	0.42	0.21	0.05	0.88
Volatility	0.27	0.13	0.08	0.65
R&D Intensity	0.035	0.028	0.000	0.120
Salary	15.62	0.84	13.90	17.45
Bonus	0.28	0.15	0.00	0.65
Options	0.19	0.12	0.00	0.55
Equity	0.22	0.14	0.00	0.60
Firm Size	22.45	1.35	19.80	25.90
Profitability	0.087	0.062	–0.12	0.24
Firm Age	28.6	15.2	5	75
Growth (TQ)	1.64	0.72	0.65	3.90

Table 3 reports the Pearson correlation coefficients among the study variables. The results indicate that stock options and equity-based compensation are positively correlated with all measures of firm risk-taking, providing preliminary support for the hypothesis that incentive-based compensation encourages risk-taking behaviour. In contrast, salary exhibits a negative correlation with risk proxies, suggesting a risk-averse tendency associated with fixed compensation. Bonus shows a moderate positive relationship with risk, indicating its role in short-term risk incentives. Among control variables, firm size and profitability are negatively correlated with risk, implying that larger and more profitable firms tend to adopt more conservative strategies. Importantly, the correlation coefficients are below the commonly accepted threshold of 0.80, indicating the absence of severe multicollinearity.

Table 3: Correlation Matrix

Variables	LEV	VOL	RD	Salary	Bonus	Options	Equity	Size	ROA	Age	TQ
LEV	1.00										
VOL	0.41	1.00									
RD	0.22	0.36	1.00								
Salary	–0.28	–0.25	–0.18	1.00							

Bonus	0.19	0.24	0.21	0.12	1.00						
Options	0.33	0.38	0.29	−0.05	0.31	1.00					
Equity	0.30	0.35	0.27	−0.08	0.28	0.62	1.00				
Size	−0.31	−0.27	−0.20	0.45	0.10	0.05	0.07	1.00			
ROA	−0.26	−0.22	−0.15	0.18	0.06	−0.03	−0.04	0.30	1.00		
Age	−0.21	−0.19	−0.12	0.22	0.05	−0.02	−0.01	0.28	0.17	1.00	
TQ	0.25	0.29	0.34	−0.10	0.18	0.22	0.20	−0.15	−0.12	−0.08	1.00

Table 4 presents the results of the pooled OLS regression analysis examining the impact of executive compensation structures on firm risk-taking behaviour. The findings reveal that stock options and equity-based compensation have a positive and statistically significant effect on all measures of risk-taking, indicating that incentive-based compensation encourages executives to undertake higher-risk strategies. Bonus also exhibits a positive and significant relationship, although the magnitude is relatively smaller, suggesting its role in short-term risk-taking decisions. In contrast, salary is negatively associated with risk-taking, supporting the argument that fixed compensation promotes risk-averse behaviour. Among the control variables, firm size and profitability show a significant negative relationship with risk, indicating that larger and more profitable firms tend to adopt more conservative financial and investment strategies. Growth opportunities (Tobin's Q) are positively associated with risk-taking, reflecting the tendency of high-growth firms to pursue riskier investments.

Table 4: Pooled OLS Regression Results

Variables	LEV (1)	VOL (2)	RD (3)
Salary	−0.112***	−0.085***	−0.041**
Bonus	0.076**	0.091***	0.058**
Options	0.145***	0.172***	0.093***
Equity	0.132***	0.158***	0.081***
Size	−0.098***	−0.074***	−0.052**
ROA	−0.121***	−0.095***	−0.060**
Age	−0.043*	−0.038*	−0.021
TQ	0.089***	0.104***	0.127***
Constant	1.982***	1.456***	0.642***
Observations	1,200	1,200	1,200
R ²	0.41	0.44	0.38

Note: *** p<0.01, ** p<0.05, * p<0.10

Table 5 presents the fixed effects (FE) regression results, which control for unobserved firm-specific heterogeneity that remains constant over time. The FE estimates provide more reliable results when firm-specific characteristics—such as managerial culture, ownership structure, or organisational complexity—are correlated with the explanatory variables. The results indicate that stock options and equity-based compensation remain positively and statistically significant across all risk measures, confirming their strong role in promoting risk-taking behaviour even after controlling for firm-specific effects. Bonus also retains its positive and significant impact, although its magnitude slightly declines compared to the pooled OLS results, suggesting that part of its effect may be driven by firm-level characteristics. Salary continues to exhibit a negative and significant relationship with risk-taking, reinforcing the argument that fixed compensation induces conservative managerial behaviour. Among the control variables, firm size and profitability remain negatively associated with risk, indicating that larger and more profitable firms tend to adopt lower-risk strategies. Growth opportunities continue to show a positive and significant relationship with risk-taking.

Table 5: Fixed Effects Regression Results

Variables	LEV (1)	VOL (2)	RD (3)
Salary	−0.095***	−0.072***	−0.036**
Bonus	0.061**	0.078***	0.049**
Options	0.128***	0.151***	0.084***
Equity	0.119***	0.142***	0.076***
Size	−0.082***	−0.065***	−0.044**
ROA	−0.104***	−0.083***	−0.051**
Age	−0.031	−0.028	−0.015
TQ	0.072***	0.089***	0.110***
Constant	1.745***	1.302***	0.598***
Observations	1,200	1,200	1,200
R ² (within)	0.48	0.51	0.45

Note: *** p<0.01, ** p<0.05, * p<0.10

Table 6 reports the random effects (RE) regression results, which assume that firm-specific effects are uncorrelated with the explanatory variables. The RE model allows for time-invariant variables to be included and provides more efficient estimates when the underlying assumptions hold. The findings are largely consistent with the pooled OLS and fixed effects results. Stock options and equity-based compensation remain strongly positive and statistically significant determinants of firm risk-taking, highlighting their role in incentivising executives to undertake riskier strategies. Bonus continues to show a positive effect, though with slightly reduced statistical significance in some specifications. Salary retains its negative association with risk-taking, further supporting the notion of risk aversion linked to fixed compensation.

Table 6: Random Effects Regression Results

Variables	LEV (1)	VOL (2)	RD (3)
Salary	−0.101***	−0.079***	−0.038**
Bonus	0.069**	0.084***	0.053**
Options	0.136***	0.163***	0.089***
Equity	0.125***	0.149***	0.079***
Size	−0.089***	−0.069***	−0.047**
ROA	−0.112***	−0.089***	−0.055**
Age	−0.036	−0.032	−0.018
TQ	0.081***	0.097***	0.118***
Constant	1.865***	1.398***	0.621***
Observations	1,200	1,200	1,200
R ² (overall)	0.43	0.46	0.40

Note: *** p<0.01, ** p<0.05, * p<0.10

Table 7 presents the results of the Hausman specification test, which is used to determine whether the fixed effects or random effects model is more appropriate for the analysis. The null hypothesis of the Hausman test states that the preferred model is random effects, implying that the unique errors are not correlated with the regressors. The results indicate that the chi-square statistics are statistically significant across all model specifications ($p < 0.01$), leading to the rejection of the null hypothesis. This suggests that the random effects assumption is violated, and the fixed effects model is more appropriate for the analysis.

Table 7: Hausman Specification Test Results

Model	Chi-square	p-value	Decision
LEV Model	24.67	0.001	Fixed Effects Preferred
VOL Model	27.12	0.000	Fixed Effects Preferred

RD Model	21.45	0.002	Fixed Effects Preferred
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Table 8 presents the results of the moderation analysis, examining whether corporate governance quality influences the relationship between executive compensation structures and firm risk-taking behaviour. Governance quality is proxied by board independence, and interaction terms between governance and key compensation variables are included in the regression model. The results reveal that governance plays a significant moderating role. Specifically, the interaction terms between governance and stock options, as well as governance and equity-based compensation, are negative and statistically significant across all risk measures. This indicates that stronger governance mechanisms mitigate the risk-enhancing effects of incentive-based compensation. In other words, while stock options and equity incentives encourage executives to take risks, effective board oversight constrains excessive risk-taking. The direct effect of governance is also negative and significant, suggesting that firms with stronger governance frameworks tend to adopt more conservative risk strategies. The main effects of compensation variables remain consistent with previous findings, reinforcing the robustness of the results. These findings highlight the importance of governance structures in balancing incentive alignment and risk control in Indian manufacturing firms.

Table 8: Moderation Analysis (Governance Effect)

Variables	LEV (1)	VOL (2)	RD (3)
Salary	−0.092***	−0.070***	−0.034**
Bonus	0.058**	0.075***	0.047**
Options	0.121***	0.146***	0.081***
Equity	0.113***	0.138***	0.073***
Governance	−0.084***	−0.091***	−0.062**
Options × Governance	−0.067**	−0.081***	−0.049**
Equity × Governance	−0.059**	−0.074***	−0.044**
Size	−0.079***	−0.063***	−0.041**
ROA	−0.101***	−0.081***	−0.049**
TQ	0.070***	0.086***	0.108***
Constant	1.712***	1.278***	0.582***
Observations	1,200	1,200	1,200
R ² (within)	0.52	0.55	0.49

Note: *** p<0.01, ** p<0.05, * p<0.10

Table 9 reports the results of the quantile regression analysis, which examines whether the impact of executive compensation structures varies across different levels of firm risk-taking. This approach provides deeper insights into the distributional effects that are not captured by mean-based estimations such as OLS or fixed effects models. The findings indicate that the positive impact of stock options and equity-based compensation is more pronounced at higher quantiles (75th percentile), suggesting that these incentives have a stronger effect on firms already engaging in high-risk activities. In contrast, the impact is relatively weaker at lower quantiles (25th percentile), implying that compensation incentives play a limited role in influencing low-risk firms. Salary consistently shows a negative effect across all quantiles, although the magnitude is larger at higher risk levels, reinforcing its stabilising role. Bonus exhibits a moderate positive effect, with slightly stronger influence at the median quantile.

Table 9: Quantile Regression Results

Variables	Q25 (LEV)	Q50 (LEV)	Q75 (LEV)
Salary	−0.072**	−0.089***	−0.118***
Bonus	0.041*	0.063**	0.085***

Options	0.098***	0.127***	0.169***
Equity	0.087***	0.115***	0.152***
Size	−0.061**	−0.079***	−0.102***
ROA	−0.082**	−0.101***	−0.124***
TQ	0.058**	0.074***	0.096***
Constant	1.402***	1.675***	2.014***

Note: *** p<0.01, ** p<0.05, * p<0.10

Table 10 presents robustness checks using alternative measures of firm risk-taking, including market-based risk (stock return volatility) and investment risk (R&D intensity). The purpose of this analysis is to ensure that the main findings are not sensitive to the choice of risk proxy. The results remain consistent across alternative specifications. Stock options and equity-based compensation continue to exhibit a positive and statistically significant relationship with both market and investment risk, confirming that incentive-based compensation encourages broader dimensions of risk-taking. Salary maintains a negative association, while bonus remains positively related to risk, albeit with smaller magnitudes. The consistency of results across different risk measures strengthens the validity and generalisability of the study's findings.

Table 10: Alternative Risk Measures

Variables	VOL (1)	RD (2)
Salary	−0.074***	−0.039**
Bonus	0.082***	0.051**
Options	0.159***	0.088***
Equity	0.145***	0.076***
Size	−0.068***	−0.045**
ROA	−0.087***	−0.053**
TQ	0.095***	0.112***
Constant	1.362***	0.601***
Observations	1,200	1,200
R ²	0.47	0.42

Note: *** p<0.01, ** p<0.05, * p<0.10

5. Discussions

The empirical results of this study bring out the significant impact of executive compensation mechanisms on the risk taking of Indian manufacturing firms, and hence support the main arguments of agency theory and other incentive related theories. The findings are consistent with various model specifications, the inclusion of moderation analysis effects, and robustness tests and show that incentive-based compensation components, especially stock options and equity-based pay, are positively related to increased corporate risk-taking. This is consistent with previous theoretical and empirical work, which suggests that the convex payoff of equity incentives provides executives with an incentive to increase riskiness of a project to maximise the value of the firm (Bolton et al., 2015; Dittmann et al., 2017).

The positive and significant association between stock option and risk-taking found in this study confirms the previous studies which noted that the stock option-based incentives have a positive effect on managerial risk taking sensitivity to the firm's performance fluctuation (Chen et al., 2006; Chen & Ma, 2011). This means that when Indian manufacturing firms tie their executives' compensation to their firm value, executives are more likely to be engaged in aggressive investment, innovation or financial leverage. This finding is also in line with previous studies that showed that incentive payments can magnify management risk preferences especially in competitive and growth-oriented sectors (Abrokwa et al., 2018; Bouteska et al., 2024).

Meanwhile, the study reveals that there is negative, statistically significant relationship between fixed salary and firm risk-taking in each of the models and risk proxies. It goes along the lines of the notion that a fixed pay encourages risk-averse attitudes since the execs would rather be sure of their job security and level of performance, rather than the unknown. These results are consistent with the literature arguing that NBPP can dampen the incentive to take risks (Francis et al., 2015). This cautiousness can be a good sign of financial stability, but it can also stifle strategic agility and innovation in the Indian manufacturing industry, where businesses may be under pressure to cut costs and adhere to regulations.

Bonus-based compensation is shown to have positive, albeit relatively moderate, impact on risk-taking behaviour, suggesting its use for promoting short term decisions based on performance. This result is consistent with the previous studies which indicate that accounting performance-based bonuses could create incentives to engage in riskier strategies in the short term (Francis et al., 2015; Guo et al., 2015). But the relative size compared with equity-based incentives indicates that bonuses are less effective in inducing long-term strategic risk taking, hence it is not only the amount of the incentives but also the composition of compensation.

The moderation analysis is of significance in understanding how corporate governance works in determining the relationship between compensation and risk. The negative and significant interaction effects between governance quality and incentive-based compensation suggest that better governance mechanisms can reduce the excessive risk taking caused by stock options and equity incentives. The result is in line with the findings in the literature on the role of institutional and governance structures in mitigating managerial opportunism and aligning risk incentives (Raviv & Sisman, 2013; Wang et al., 2024). Therefore, good governance seems to be a key factor in keeping risk-taking incentives within the optimal range in the Indian context where ownership concentration and board structures are also very different.

Moreover, the quantile regression results show that the effects of executive compensation differ among firms depending on the extent of its risk exposure. The larger impacts found at the higher quantiles indicate that compensation incentives have a greater impact in riskier firms. This contributes to the interpretation that managerial incentives interact with firm-specific risk profiles, thereby reinforcing existing trends in their effect on firms rather than applying evenly across all firms. This heterogeneity also aligns with recent research highlighting the context-specific impact of compensation structures (Jiang et al., 2024; Yun et al., 2023).

The consistency of the results obtained by using other risk measures further enhances the validity of results. The positive relationship of equity-based compensation and risk, whether measured by the market or the investment, is consistent and suggests that executive incentives affect several aspects of corporate risk taking. This multidimensional impact is consistent with findings in the banking and financial services industry, where compensation policies have been demonstrated to influence financial risk as well as broader strategic and operational decisions (Boateng et al., 2022; Guo et al., 2015).

The study also, importantly, adds to the literature by emphasizing the importance of behavioural and contextual factors in the compensation–risk relationship. The findings corroborate the notion that governance structures and organisational context, in addition to financial incentives, affect executive decision-making (Al-Shammari, 2021; Yusuf, 2026). However in emerging markets like India, which are dynamic, these factors assume even greater importance in determining managerial behaviour.

6. Conclusions

This study focuses on the effect of executive compensation arrangements on risk taking activities of Indian manufacturing firms during the period 2015–2024 with a panel data analysis approach. The results offer strong evidence that the design of executives' pay is a significant determinant of executives' risk preferences and, therefore, corporate strategy.

The results from the empirical tests reveal that there is a positive relationship between incentive-based components of compensation, especially stock options and equity-based compensation, and firm risk-taking in all the specifications and risk measures. These results reiterate that pay-for-performance incentives are effective in incentivizing executives to engage in higher-risk activities that can increase value. By contrast, the fixed salary is shown to be negatively associated with risk taking, meaning that the manager's salaries not linked to performance provide a greater incentive to exercise caution. However, the relationship between bonus-based incentives and risk-taking is comparatively moderate, indicating that they are more associated with short-term decision making.

The study further highlights the importance of corporate governance in moderating the compensation–risk relationship. It is found that strong governance mechanisms (proxy measured as board independence) have a risk-reducing effect on the risk-enhancing effect of incentive-based compensation, which helps avoid excessive risk-taking. This highlights the importance of good governance in managing incentives for managers and stability of the organisation.

Furthermore, the quantile regression analysis shows that the relationship between compensation structure and the risk level of the firm is different at different quantiles, and the relationship is stronger in high-risk firms. There is diversity in this, indicating that where existing firm characteristics are risk-taking, compensation incentives will increase these behaviours. The results are also reliable and generalisable because they are robust with respect to other risk measures. However, this research can be said to add to the literature from a theoretical point of view as it has extended the agency theory and related theories to Indian manufacturing companies and has shown the combined effect of multiple compensation components on risk-taking. It fills a large gap in the literature of emerging markets and presents comprehensive evidence that is obtained from a panel data set over a long period of time (10 years).

In practical terms, the results have implications for corporate boards, policy makers and regulators. Company's compensation systems should be constructed in a way that will incentivize employees without putting them at too much risk. Policymakers can also take measures to improve governance structures so that executive incentives are consistent with stable firms and sustainable growth. The study has some limitations. Because of the use of secondary data, it is difficult to capture behavioural factors like managerial overconfidence or risk perception. Furthermore, the study may be restricted in scope to manufacturing companies only, and hence the results might not be applicable to other industries. Going forward, further studies could involve behavioral factors, sector-specific perspectives or the impact of new trends like integrating ESG into compensation and digital transformation.

Declarations

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Declaration of using generative AI: During the preparation of this work the author(s) used ChatGPT in order to correct the grammatical errors. After using this tool/service, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the published article.

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