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Innovation Economics Frontiers, 27(2), 2024 | PP: 124– 139
https://doi.org/10.36923/iefrontiers.v27i2.273

The Sustainable Growth of Korean Listed Firms In The Lens of Pay Disparity And Managerial Overconfidence

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Article History:

Received: 23-08-2024
Accepted: 17-10-2024
Publication: 05-11-2024

Cite this article as:

Chua, K. T., Lee, H., & Lee, M. (2024). The Sustainable Growth of Korean Listed Firms in the Lens of Pay Disparity and Managerial Overconfidence. *Innovation Economics Frontiers*, 27(2), 124-139. doi.org/10.36923/iefrontiers.v27i2.273

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Abstract: This study aims to assess the impact of pay disparity on the sustainable growth of listed firms in Korea, and to explore how this relationship is influenced by the presence of managerial overconfidence. Employing a fixed-effects regression model, the analysis draws on 10,244 firm-year observations from Korean-listed firms between 2012 and 2022. The findings reveal a significant positive association between pay disparity and the sustainable growth of firms, supporting the tournament theory. Moreover, this effect is more pronounced in companies led by overconfident management. The robustness tests also confirm the main regression results. This study highlights how pay disparity together with the presence of managerial overconfidence can drive sustainable growth. It recommends tailored compensation strategies that consider management dynamics and organizational context, helping firms navigate compensation challenges and enhance long-term success and competitive advantage. The study provides valuable insights for policymakers, investors, and other stakeholders in crafting equitable compensation practices that promote resilient and sustainable business environments. This study's originality lies in its consideration of managerial overconfidence, setting it apart from prior research that primarily examines the direct link between pay disparity and sustainable growth.

Keywords: Pay Disparity, Sustainable Growth, Compensation, Firm Performance, Managerial Overconfidence

1. Introduction

The compensation awarded to CEOs remains a topic of considerable interest among academics, business media, and the general public. The growing disparity between executive pay and worker wages has also attracted significant attention in both academic research and the business community (Choe et al., 2014; Yoon et al., 2023a). A prevailing concern over pronounced income inequality exists, as such disparities in income distribution may have far-reaching societal, economic, and political consequences (Pan et al., 2022). Addressing this critical issue, the U.S. Securities and Exchange Commission (SEC) mandated that companies disclose the ratio of executive compensation to the average employee salary (SEC, 2015), facilitating various evaluations and decision-making processes (Crawford et al., 2021). The distinctions in remuneration have been conceptualized in various ways. Generally, pay disparity refers to differences in compensation among individuals performing similar roles (horizontal disparity), varying roles (vertical disparity), or across the entire organizational hierarchy (Rouen, 2020). In this study, pay disparity is specifically defined as the vertical difference between the average compensation of executives and that of workers.

Organizations are increasingly recognizing the critical role that compensation systems play in shaping various firm outcomes (Pissaris, 2017). Numerous studies have explored pay disparity in relation to various aspects of corporate affairs, such as financial performance (Shin et al., 2015; Bao et al., 2020; Rouen, 2020; Li et al., 2022), cost of debt (Chou et al., 2023) and cost of equity (Chen et al., 2013), corporate social responsibility (Zhong et al., 2022; D'Mello et al., 2024), and financial and investment policies (Han et al., 2022), among others, both within and outside the accounting literature. Given the societal and economic implications of income polarization, such disparities could potentially hinder firms' ability to expand and thrive. Beyond the effects of executive-employee pay disparity on short-term corporate outcomes, this phenomenon can also influence workforce performance through employee perceptions—affecting morale, retention, and innovation, all of which are critical for sustained growth (Shaw et al., 2002; Singh & Berad, 2022). Additionally, it has been suggested that managerial power and entrenchment contribute to pay disparity (Finkelstein & Boyd, 1998; Paredes, 2005; Goel & Thakor, 2008), which in turn affects corporate operational performance (Liu et al., 2019; Bao et al., 2020). Despite these findings, there remains a gap in underst-

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-anding how to pay disparity influences a firm's ability to seize growth opportunities under different managerial traits and behavior. This study seeks to address this gap, offering new insights into the interplay between pay disparity and sustainable growth in varying managerial contexts.

Successful corporate growth strategies typically involve a multifaceted approach tailored to the unique circumstances and objectives of each firm. These strategies are grounded in various conceptualizations of growth. From a financial perspective, the focus is on enhancing profitability and revenue (Cowling, 2004; Mansikkamaki, 2023). The market perspective emphasizes the importance of expanding into new markets and increasing market share (Rothblum & Winter, 1985). Lastly, the strategic perspective aligns corporate goals with identified market opportunities and competitive positioning, closely linking growth with overall corporate strategy (Feldman, 2020). These perspectives highlight an entity's ability to achieve growth through organization-wide initiatives.

In contrast, Higgins (1977) introduces the concept of sustainable growth, where entities optimize operations by utilizing internal resources without relying on external funding—an approach crucial for a firm's long-term survival. Among the various forms of corporate growth, this study focuses on understanding the potential economic implications of income polarization within firms, particularly how it impacts sustainable growth. Understanding these implications is essential, as disparities in pay can significantly influence employee morale and retention, making it crucial to investigate the broader effects on a firm's sustainable growth. Additionally, as managerial traits and behavior significantly affect pay disparity, this study aims to empirically examine these dynamics to provide a comprehensive understanding of their implications for corporate sustainable growth.

There are two main perspectives on the effects of pay disparity within firms: the tournament incentive view and the rent extraction (managerial power) view. According to the tournament incentive view, pay differences within a company have a beneficial influence on corporate operational performance, as they motivate employees to compete for higher positions and rewards (Lazear & Rosen, 1981; Kale et al., 2009). Conversely, the rent extraction view argues that pay disparity negatively impacts firm performance and value, particularly in the presence of agency problems, where executives leverage their bargaining power in the pay-setting process to extract rents, often at the expense of the firm's overall health (Bebchuk & Fried, 2003; Bebchuk et al., 2011; Choe et al., 2014). These mixed perspectives imply that it remains an empirical question to examine the effect of pay disparity on a firm's sustainable growth.

This study contributes to the existing literature by examining the complex relationships between executive compensation, income disparity, workforce performance, and corporate growth opportunities. Moreover, it addresses critical gaps in understanding how pay disparity impacts firm growth and the role that managerial traits play in this process. Practically, the findings will provide valuable insights for policymakers, emphasizing the importance of equitable compensation structures in fostering a motivated and productive workforce. By identifying the conditions under which pay disparity influences corporate performance, this research aims to inform strategies that enhance competitive positioning in the market and ultimately promote sustainable growth.

With Part I discussing the background of the study, the remainder of the paper is given as follows: Part II presents the theoretical foundations and the hypotheses developed. Part III outlines the methodology employed in conducting the research. Part IV presents the findings of the study, along with its interpretations and contextualization within the literature. The paper ends with Part V with the conclusion.

2. Theoretical Framework and Hypothesis Development

2.1. Theories on Pay Disparity

Two conflicting theories offer explanations for the relationship between pay disparity and corporate operational effectiveness: the tournament incentive view and the rent extraction (managerial power) view. Each theory posits divergent impacts on organizational performance outcomes.

The tournament incentive view suggests that pay disparity within firms encourages employees to work harder in pursuit of higher positions, likening it to a competition where everyone strives for the top, thereby boosting productivity and enhancing corporate operational performance (Lazear & Rosen, 1981). This perspective argues that significant pay gaps incentivize highly qualified managers, leading to increased effort and improved enterprise performance. By basing executive compensation on relative ranking rather than absolute performance, the tournament model attracts a larger pool of "contestants" and helps identify the most capable candidates (Lin et al., 2013). Central to tournament theory is the notion that monetary rewards serve as primary motivators for top executives, with the status derived from these rewards through social comparison playing a significant role. The perceived recognition or distinction associated with varying pay levels is considered crucial for motivating executives (Main et al., 1993). Additionally, Kale et al. (2009) assert that lower-level managers are motivated not only by their current pay but also by the prospect of increased remuneration upon promotion. Similarly, Rees (1992) also highlights that tournament incentives motivate managers to work harder in pursuit of higher compensation.

Incorporating managerial overconfidence into tournament theory, the competitive dynamics of a "tournament" involved in attaining the position of a top executive can enhance the self-assuring and

overconfident trait of CEOs (Paredes, 2005). Moreover, the relationship between pay disparity and sustainable growth can be further explained through the lens of innovation. As overconfident managers are driven by their belief in strong performance, they are more likely to embrace pay structures that are tied to risk and reward, pushing them to undertake ambitious and innovative projects and undertakings. These managers often view pay disparity as an incentive to allocate resources that fuel innovation and growth. As overconfident CEOs tend to exploit risky opportunities more aggressively, the combination of pay disparity and overconfidence amplifies the firm's potential for sustained growth by fostering a culture of innovation and long-term value creation (Hirshleifer et al., 2012; Shen & Zhang, 2018).

Meanwhile, the rent extraction view of pay disparity posits that substantial wage gaps indicate managerial opportunism and power, often resulting from inadequate corporate governance and oversight (Yoon et al., 2023a). This perspective suggests that executive compensation frequently exceeds what is economically justified, with CEOs leveraging their influence to secure excessive pay and additional personal benefits beyond what is optimal or defensible (Chalmers et al., 2006; Hill et al., 2016). From a managerial power standpoint, powerful CEOs can manipulate the compensation-setting process to their advantage, enabling them to extract "rents"—additional benefits from the company—rather than addressing the optimal contracting issues faced by shareholders (Bebchuk et al., 2002). This implies that CEOs with substantial power can negotiate higher pay with fewer constraints (Choe et al., 2014). Consequently, higher vertical executive pay disparities often signify entrenched executives wielding significant power, which negatively impacts firm value and highlights potential agency problems (Bebchuk et al., 2011). Studies by Bebchuk and Fried (2003) and Chen et al. (2013) further illustrate how executives exploit their authority to secure excessive compensation, underscoring the critical role of managerial power. In this context, managerial overconfidence can exacerbate the issue, as overconfident CEOs may justify excessive pay based on their inflated belief in their capabilities, further blurring the line between compensation incentives and rent extraction and amplifying the negative consequences for firm value. This perspective suggests that executive compensation design not only addresses the separation of ownership and control but also contributes to the agency problem itself, with significant implications for corporate governance.

In sum, prior literature presents mixed results on the effects of pay disparity, with some studies suggesting it can enhance performance through incentives, while others highlight the negative consequences associated with managerial power and rent extraction and show how both can be affected by managerial overconfidence in the process.

2.2. Pay Disparity and Sustainable Growth

One effective approach to understanding the relationship between pay disparity and the sustainable growth of firms is through the lens of employee psychology. Research suggests that pay disparity can significantly influence workforce performance, as highlighted by Shaw et al. (2002), primarily through employee perceptions. These perceptions can affect morale, retention rates, and innovation, all of which are critical for the sustained growth of firms (Singh & Berad, 2022).

The business, human resource, and accounting literature that have explored the effects of pay disparity on corporate operational performance have produced inconsistent results. Studies such as Rouen (2020) and Choo et al. (2023) examine the concepts of economically justifiable pay disparity versus unexplainable disparity. An economically explainable pay disparity refers to wage differences within an entity that can be justified by economic factors such as firm and employee performance, labor market demands, and firm complexity. Conversely, an unexplainable pay disparity arises from non-economic factors like favouritism or unfair rent distribution, leading to perceptions of unfairness and negative impacts on the firm. Both studies argue that an economically explainable vertical wage gap positively affects firm performance, while an unexplainable pay disparity tends to have a negative impact.

Choo et al. (2023) investigate the direct relationship and long-term impact of pay disparity on corporate growth, using the firm's sustainable growth rate as a proxy, with data from Korean listed firms. The study finds that in firms with high labor efficiency and productivity, an economically justifiable pay disparity between executives and employees leads to an increase in the entity's sustainable growth rate. In contrast, unjustifiable pay gaps negatively influence the growth rate, particularly in firms with low labor efficiency and productivity. Similarly, Rouen (2020) finds that explainable wage gaps positively impact future firm performance, as measured by year-ahead return on assets and future stock returns, while unexplainable wage gaps negatively affect future performance and employee satisfaction. The negative effects of unexplained wage gaps are particularly pronounced when CEOs are overpaid and employees are underpaid, underscoring the importance of perceived pay fairness. This highlights the risk of making incorrect inferences based on pay ratios without considering the economic context. Both studies confirm that explainable pay disparity positively impacts firm performance, consistent with the tournament theory, while unexplainable wage gaps negatively impact performance, aligning with the managerial power perspective.

In addition, Li et al. (2022) also explored the concepts of explained pay disparity (pay inequality) and unexplained pay disparity (pay inequity). The study argues that justifiable, legitimate, and explainable pay

differentials are likely to cultivate an executive team with higher levels of managerial competencies, which positively impacts an entity's long-term performance. Conversely, unexplained pay dispersion can lead lower-paid executives to perceive inequity or injustice, resulting in decreased satisfaction that ultimately detracts from the firm's short-term financial performance. Therefore, when pay disparity is more explainable and less driven by non-economic factors, executives are more likely to exhibit collaborative working attitudes, thereby enhancing short-term firm performance. In sum, the prior literature mentioned above suggests that an adequate level of compensation can enhance a firm's financial and operational performance, supporting the tournament theory. This study differs from previous research by focusing on the effect of pay disparity on sustainable growth and examining the influence of managerial traits, specifically overconfidence, which could significantly impact this relationship.

Another stream of research highlights a direct negative effect of pay disparity on corporate operational performance. Shin et al. (2015) investigate Korean firms from 2000 to 2009, presenting two contrasting perspectives on vertical pay disparity. From an economic standpoint, vertical pay disparity is seen as beneficial for firms, as it provides strong incentives for lower-level employees to strive for promotions and higher pay, thereby attracting and retaining top managerial talent in line with the tournament theory. Conversely, from a behavioral standpoint, significant pay differences can foster perceptions of inequality among lower-level employees, potentially diminishing their loyalty and cooperation, disrupting social harmony within the firm, and negatively impacting its performance. The results show that pay disparity has a significant negative relationship with subsequent operating performance, as measured by return on assets (ROA), with similar negative effects observed on stock returns.

Similarly, Yergabulova et al. (2023) emphasize the importance of understanding pay differences and their impact on firms. Consistent with the pay disparity literature, the paper highlights the conflicting viewpoints on pay differences—the incentive effect that motivates workers and the fairness and cooperation perspective, which suggests that a lack of perceived equity can lead to negative perceptions resulting from wage disparities. The study's findings indicate that as firms expand, pay disparity within the organization also tends to increase, largely because employees in higher-level positions experience more substantial wage growth compared to those in lower-level roles. Moreover, the study reveals an inverse relationship between pay inequality and firm performance, indicating that wage inequality negatively correlates with firm outcomes. This suggests that firms can actively mitigate rent-seeking behavior to cultivate a work environment that enhances productivity and sustainability, ultimately leading to superior firm performance.

Interestingly, Luo et al. (2020), in their examination of Chinese firms listed on the Shanghai and Shenzhen stock exchanges from 2008 to 2012, reveal a U-shaped relationship between pay disparity and firm performance. Their findings indicate that low levels of pay inequality negatively affect firm productivity, while higher levels of pay inequality have a positive impact, thereby shifting the perspective from managerial power to tournament theory. This suggests that as pay disparities increase from low to high levels, the initial effect on the entity is unfavorable, but it gradually contributes positively to corporate operational performance.

Pay disparity can have varying effects on corporate operational performance and sustainable growth opportunities of firms, with prior research showing both positive and negative relationships. Some studies highlight that pay inequality may incentivize employees to do better and enhance productivity, while other studies suggest that large pay gaps can lead to lower morale, decreased cooperation, and poor financial performance. These mixed findings point to the following hypothesis, in an alternative form.

H1: *There is a significant association between firm-level pay disparity and a firm's sustainable growth rate.*

2.3. Pay Disparity in Firms with Overconfident Management

In an initial exploration of the impact of managerial overconfidence on corporate operational performance and growth, Gao et al. (2021) noted that managerial overconfidence not only positively influences firm valuation but also enhances expectations for future valuation. Their research suggests that capital market investors should be mindful of overconfidence and other psychological traits of corporate managers, as such awareness can mitigate decision-making errors and bolster income. In a sector-specific study, Kim and Jang (2020) found that CEO overconfidence positively impacts firm growth but has a detrimental effect on profitability. This indicates that overconfident CEOs may be more advantageous for firms oriented toward growth while posing challenges for those focused on profit maximization.

Earlier studies have explored the interplay between managerial traits and the level of executive compensation. Finkelstein and Boyd (1998) investigate the role of managerial discretion in determining CEO compensation. In this context, managerial discretion is defined as the latitude of options available to top management when making strategic decisions. They argue that with a higher level of discretion, CEOs can have a greater impact on organizational outcomes, thereby directly influencing firm performance. The study suggests that CEO compensation is often aligned with managerial discretion, as greater discretion provides executives with more opportunities to influence the firm, which in turn justifies higher pay. Additionally, higher levels of discretion involve greater risk, warranting compensation that reflects the associated risk. The results indicate that when executive pay is aligned with the level of discretion, firm performance tends to improve. From

another perspective, Paredes (2005) argues that high levels of executive compensation can serve as positive reinforcement for a CEO, reinforcing the belief that the chief executive is successful, which can bolster CEO overconfidence. Furthermore, the very process of winning the "tournament" to become the top executive may contribute to increased confidence in CEOs.

The interplay between managerial traits and pay disparity and how it impacts firm growth presents two streams of inconclusive results. Liu et al. (2019) examine firms listed on the Shanghai and Shenzhen Stock Exchanges in China, focusing on the effect of the compensation gap between executives and staff workers on future firm performance, moderated by managerial overconfidence. The study argues that as managerial power increases, executives may become more motivated by personal interests, which do not necessarily contribute to enterprise value. Additionally, the widening pay disparity can lead ordinary workers to feel that their income is compromised, resulting in feelings of inequity and dissatisfaction. This, in turn, may decrease productivity, increase idleness, and lead to other negative performance indicators that can adversely affect the organization. While the results indicate a moderately positive relationship between pay disparity and corporate performance, this relationship is weakened by managerial overconfidence. The "better than average" mentality of overconfident managers may lead them to prioritize personal wealth acquisition, potentially detracting from their contributions to corporate value. Without additional compensation for ordinary workers, the widening salary gap between them and overconfident executives could diminish worker motivation and lead to poor performance, ultimately hindering enterprise development.

Similarly, Bao et al. (2020) argue that executive entrenchment results in an imbalanced distribution of rents that favors CEOs, leading employees to perceive that executives are leveraging their entrenched positions to enhance their own benefits, as evidenced by higher CEO pay ratios. The study finds that managerial entrenchment amplifies the negative effects of the executive pay ratio, with the adverse impact of pay inequity on firm performance being more pronounced in firms with entrenched executives.

Meanwhile, another stream of research suggests that the combination of high executive compensation and managerial overconfidence can stimulate innovation, leading to increased firm valuation and growth potential. Corporate innovation is closely linked with corporate growth (Zhao & Wang, 2019). Tournament incentives are positively associated with innovation, and this relationship is further amplified during a "succession contest" when managerial overconfidence is present (Shen & Zhang, 2018). Jouber (2013) argues that CEO compensation plays a pivotal role in shaping a company's resource allocation, particularly toward research and development (R&D). This influence is especially pronounced among overconfident CEOs, who are more inclined to invest in R&D compared to their less confident counterparts. Additionally, Hirshleifer et al. (2012) contend that overconfident CEOs are more likely to undertake risky, innovative projects, which results in greater innovation and enhanced firm value. Overconfidence enables these CEOs to better exploit innovative growth opportunities. These prior studies agree with Tebourbi et al. (2020), who established a positive correlation between managerial overconfidence and investments in research and development (R&D). Their findings emphasize the significance of innovation investments as a catalyst for enhancing future firm performance, as overconfident managers are more likely to pursue R&D opportunities that align with organizational objectives.

An overconfident manager, anticipating strong performance and willing to take on risky projects, is more likely to accept compensation tied to performance and risk. This alignment of incentives encourages them to pursue ambitious initiatives that might otherwise be avoided. Furthermore, overconfident CEOs are particularly adept at converting growth opportunities into firm value. Their propensity to embrace risk and invest in innovation can lead to significant breakthroughs and advancements. By fostering an environment that supports overconfident managers and aligning high executive compensation with performance, firms can enhance their innovation capabilities and achieve sustained growth.

From the discussions above, it can be generalized that organizations led by overconfident management are often driven to pursue ambitious goals and innovative initiatives. This overconfidence fuels a willingness to invest in growth-oriented projects, potentially leading to significant advancements and value creation. However, this same overconfidence may also result in a disregard for the potential impacts of increasing pay disparity. While high compensation structures can motivate top executives to excel and drive corporate success, the widening gap between executive and employee pay can foster feelings of inequity among staff, ultimately affecting overall organizational cohesion and performance. Thus, it can be seen that the impact of firm-level pay disparity, at whichever direction, on corporate operational performance and growth opportunities is magnified in firms with overconfident management. These mixed findings point to the following hypothesis, in alternative form.

H2: *The impact of firm-level pay disparity on the entity's sustainable growth rate is more pronounced in firms with overconfident management.*

3. Methodology

3.1. Research Model

To test the proposed hypotheses, this study adopts the following research model, which will analyze the relationship between the pay disparity ratio (*PayDisp*) and its effect on the sustainable growth rate (*SGR*) of firm *i* in year *t*.

$$SGR_{i,t} = \beta_0 + \beta_1 PayDisp1(2)_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 AGE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 RDI_{i,t} + \beta_6 MKI_{i,t} + \beta_7 MTB_{i,t} + \delta_1 IndDum + \delta_2 YearDum + \varepsilon_{i,t}$$

In the proposed model, the dependent variable, sustainable growth rate (*SGR*), represents a company's sustainable growth as measured following Chen et al. (2021). The primary independent variable of interest in this study is pay disparity (*PayDisp*), which represents the ratio between the average compensation of executives and the average pay of the staff workforce. To analyze our second hypothesis, a dichotomous indicator variable for managerial overconfidence (*MOC*) is utilized to distinguish firms with overconfident management from those without. Additionally, this study incorporates a range of control variables to account for various firm characteristics that may influence sustainable growth opportunities. Consistent with Chen et al. (2021) and Yoon et al. (2023b), the control variables include firm size (*SIZE*), firm age (*AGE*), leverage (*LEV*), research and development intensity (*RDI*), market intensity (*MKI*), and the market-to-book ratio (*MTB*). This study also controls for industry-specific variations and temporal changes by including industry and year dummy variables. Detailed information about these variables is provided in Appendix A.

This study employs the fixed-effects regression model, a widely recognized approach for analyzing time-series cross-sectional and panel data. This method is particularly well-suited for the analysis, as it effectively accounts for unobserved, time-invariant characteristics that may differ across industries or firms but remain stable over time (Hill et al., 2012). By controlling for these industry-specific effects, the fixed-effects model helps to eliminate potential biases arising from omitted variables that could otherwise confound the results. Furthermore, this approach focuses on within-industry variations, examining how changes within the industry over time are associated with the variables of interest. This allows us to isolate the impact of time-varying factors, providing a more precise estimation of causal relationships while holding constant all characteristics that do not change over time. Given these advantages, the fixed-effects model is particularly advantageous in this study, as it enables a more accurate and robust analysis of the relationship between managerial behavior, pays disparity, and sustainable growth.

3.2. Sustainable Growth Rate

Higgins (1977) introduces the concept of sustainable growth, which describes a scenario where organizations optimize their operations by utilizing internal resources rather than relying on external funding as a critical factor for a firm's survival. This metric specifically indicates the maximum growth rate a company can achieve using only internal financing and corporate borrowing without issuing additional equity. This study follows the calculation method used by Chen et al. (2021), where the sustainable growth rate is derived by dividing a firm's return on equity (ROE)—the ratio of net income to average shareholders' equity—by its numerical complement. Thus, for firm *i* in year *t*, the sustainable growth rate (SGR) can be calculated as follows:

$$SGR_{i,t} = \frac{ROE_{i,t}}{1 - ROE_{i,t}}$$

3.3. Pay Disparity

According to Rouen (2020), pay disparity can be understood as variations in compensation among individuals in similar roles (horizontal disparity), different roles (vertical disparity), or across the entire organizational hierarchy. In this study, pay disparity is defined as the vertical difference between the average compensation of executives and the average pay of workers. When measuring vertical wage disparity, it is important to consider that compensation for outside directors may be lower due to their limited responsibilities compared to inside directors. If the compensation of outside directors is included in the calculation of average executive compensation, it could distort the vertical pay disparity ratio. Therefore, following the methodologies of Shin et al. (2015) and Yoon et al. (2023b), this study employs two measurements of the pay disparity ratio: *PayDisp1* and *PayDisp2*.

PayDisp1 represents the ratio of average executive compensation, excluding outside directors, to the average employee salary. Meanwhile, *PayDisp2* represents the ratio of average executive compensation, including outside directors, to the average employee salary. *PayDisp2* is still considered in our analyses because perceptions of executive compensation may be influenced by the total compensation of all executives, not just those with greater responsibilities.

3.4. Managerial Overconfidence

To create a dichotomous indicator representing firms with overconfident management, this study follows the methodology of Schrand & Zechman (2011), Ahmed & Duellman (2013), and Lee et al. (2023). This approach

involves using the residual of a regression of total asset growth on revenue growth, as follows:

$$AssetGrowth_{it} = \beta_0 + \beta_1 RevenueGrowth_{it} + \varepsilon_{it}$$

Using the firm-year data for *AssetGrowth* and *RevenueGrowth*, a regression is performed to estimate the parameters that would help calculate the predicted asset growth for each firm at year *t*. The residual will then be computed based on the estimated parameters.

$$\varepsilon_{it} = AssetGrowth_{it} - \beta_o - \beta_1 SalesGrowth_{it}$$

The firm-specific residual is now subtracted by the industry median residual for that period, which provides the industry-adjusted excess investment of firms, as follows:

$$Industry - Adjusted\ Excess\ Investment_{it} = \varepsilon_{it} - Median(\varepsilon_{it})$$

This metric reflects excessive investment in assets when asset growth outpaces revenues, suggesting potential overinvestment by managers relative to their industry peers. This study assigns a value of "1" to the *MOC* indicator variable for firms with industry-adjusted excess investment (residuals) higher than the industry median, and "0" otherwise.

3.5. Data Collection and Sample Selection

This study utilizes post-IFRS implementation financial data of Korean listed firms, meticulously collected from the TS2000 and FnDataGuide databases, covering the period from 2012 to 2022. To ensure consistency in the sample, firms with fiscal years not ending in December, as well as firm-year observations lacking sufficient data for the dependent and control variables, are excluded. Additionally, banks, insurance companies, capital markets, and diversified financial services are also excluded due to their distinct industry characteristics. After applying these selection criteria, the study arrived at a final sample of 10,244 firm-year observations across twenty (20) industries, as presented in Table 1.

Table 1: Sample Selection

Panel A. Sample Selection Process	
Database-collected complete financial data in firm-years	11,773
Less: Firms with fiscal years not ending in December	(606)
Less: Banks, Insurance, Capital Markets, and Diversified Financial Services Firms	(923)
Final sample, firm-years	**10,244**
Panel B. Industry Categorization	
Automobiles & Components	900
Capital Goods	1,352
Commercial Services & Supplies	179
Consumer Durables & Apparel	543
Consumer Services	148
Display	549
Energy	196
Food, Beverage & Tobacco	540
Hardware	1,450
Health Care Equipment Services	389
Household & Personal Products	224
Materials	1,097
Media	151
Pharmaceuticals & Biotechnology	757
Retailing	125
Semiconductors	658
Software	775
Telecommunication Services	40
Transportation	100
Utility	71
Total sample, firm-years	**10,244**
Panel C. Firm-Year Distribution	
2012	625
2013	588
2014	588
2015	615
2016	596
2017	1,006
2018	1,088
2019	1,192
2020	1,232
2021	1,325
2022	1,389
Total sample, firm-years	**10,244**

4. Results and Discussion

4.1. Initial Data Analysis

Table 2 presents the descriptive statistics for each variable used in this study. All continuous variables have been winsorized at the top and bottom 1% to mitigate the impact of outliers. The mean value of the sustainable growth rate (SGR) is 0.0320. This indicates that firms in the sample, on average, attain an annual growth rate of 3.20% using internal financing and corporate borrowing, without issuing additional equity. Regarding the independent variables, the mean values of PayDisp1 and PayDisp2 are 0.0669 and 0.0475, respectively, indicating that, as previously mentioned, pay disparity excluding outside directors is higher than that including outside directors. Among the control variables, the mean value for LEV stands at 0.4352, indicating that firms in the sample have 43.52% debt with respect to their assets. Additionally, the mean value of AGE is 3.2086, indicating that the average firm age is approximately 24.7 years. Finally, the mean values of RDI, MKI, and MTB are 60.4336, 0.1627, and 1.9787, respectively. This indicates that the firms in the sample, on average, have 6.04% R&D expenditures with respect to sales, 16.27% selling, general, and administrative expenditures with respect to total assets, and a ratio of 1.98 comparing the market value of equity with its book value, suggesting a higher valuation for equity than its accounting value.

Table 2: Descriptive Statistics

Variables	N	Mean	SD	Min	25%Q	50%Q	75%Q	Max
SGR	10,244	0.0320	0.1838	-0.7620	-0.0331	0.0468	0.1151	1.0498
PayDisp1	10,244	0.0669	0.0612	0.0053	0.0321	0.0493	0.0768	0.4442
PayDisp2	10,244	0.0475	0.0414	0.0039	0.0235	0.0359	0.0550	0.3327
SIZE	10,244	19.5842	1.5688	16.8275	18.4698	19.2335	20.3930	25.1023
AGE	10,244	3.2086	0.6636	0.9478	2.8588	3.2080	3.7379	4.3761
LEV	10,244	0.4352	0.1993	0.0513	0.2742	0.4369	0.5859	1.0536
RDI	10,244	60.4336	223.5555	0.0223	5.9285	18.9632	51.9453	4,312.0470
MKI	10,244	0.1627	0.1433	0.0162	0.0741	0.1177	0.1950	0.9855
MTB	10,244	1.9787	3.6453	-0.1476	0.6298	1.1220	2.1162	80.2141

Note: (1) All continuous variables are winsorized at 1% and 99% levels. (2) Variable definitions are presented in Appendix A.

Table 3 presents the Pearson correlation coefficients, indicating that both *PayDisp1* and *PayDisp2* are significantly and positively correlated with *SGR*, the dependent variable. This initial correlation suggests that there is a significant and positive correlation between the firm-level pay disparity and the sustainable growth rate of Korean entities. However, it is difficult to draw definitive conclusions about the relationship between sustainable growth rates and pay disparity based solely on these correlations. Therefore, the regression results, which account for control variables, are reported in the succeeding sections to provide an accurate analysis.

Table 3: Pearson Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) SGR	1.0000								
(2) PayDisp1	**0.1732** **(0.0000)**	1.0000							
(3) PayDisp2	**0.1767** **(0.0000)**	0.9247 (0.0000)	1.0000						
(4) SIZE	0.2017 (0.0000)	0.4451 (0.0000)	0.4213 (0.0000)	1.0000					
(5) AGE	-0.0093 (0.3453)	0.0540 (0.0000)	0.0518 (0.0000)	0.2469 (0.0000)	1.0000				
(6) LEV	-0.2491 (0.0000)	0.0462 (0.0000)	0.0221 (0.0250)	0.2616 (0.0000)	0.0636 (0.0000)	1.0000			
(7) RDI	-0.1872 (0.0000)	-0.0409 (0.0000)	-0.0345 (0.0005)	-0.1268 (0.0000)	-0.1376 (0.0000)	-0.1092 (0.0000)	1.0000		
(8) MKI	-0.0774 (0.0000)	0.0486 (0.0000)	0.0461 (0.0000)	-0.1989 (0.0000)	-0.1929 (0.0000)	-0.0757 (0.0000)	0.1567 (0.0000)	1.0000	
(9) MTB	-0.1031 (0.0000)	-0.0428 (0.0000)	-0.0437 (0.0000)	-0.2107 (0.0000)	-0.1445 (0.0000)	0.0185 (0.0616)	0.1548 (0.0000)	0.1453 (0.0000)	1.0000

Note: (1) All continuous variables are winsorized at 1% and 99% levels. (2) The numbers below the coefficients indicate the p-value. (3) Variable definitions are presented in Appendix A.

Table 4 presents the univariate analysis of each variable. The whole sample is divided between firms with overconfident management and their non-overconfident counterparts. To allow an investigation of the differences between the dependent, independent, and control variables for the two kinds of firms, this study conducted a series of t-tests.

The results show that the sustainable growth rate (*SGR*) and the two measures of pay disparity (*PayDisp1, PayDisp 2*) significantly differ by group. Specifically, their mean values are higher in firms with overconfident management (0.0835, 0.0708, and 0.0502, respectively) compared to firms without overconfident management (-0.0184, 0.0631, and 0.0449, respectively). These findings indicate that firms with overconfident management

have a higher annual sustainable growth rate and that in line with prior literature, compensation for overconfident managers tends to be higher than that of non-overconfident managers.

Meanwhile, control variables *SIZE, AGE, MKI, and MTB* also differ significantly by group. Looking closely at the table, firms with overconfident management are firms that are larger in size, established much more recently, have lower selling, general, and administrative expenditures, and have a higher market valuation.

Table 4: Univariate Analysis

Variables	Mean Values: Firms with Non-Overconfident Management	Mean Values: Firms with Overconfident Management	Difference	t-value	p-value
SGR	-0.0184	0.0835	-0.1019	-29.2015***	0.000
PayDisp1	0.0631	0.0708	-0.0077	-6.3963***	0.000
PayDisp2	0.0449	0.0502	-0.0052	-6.4234***	0.000
SIZE	19.4556	19.7156	-0.2601	-8.4167***	0.000
AGE	3.2485	3.1678	0.0807	6.1680***	0.000
LEV	0.4340	0.4365	-0.0025	-0.6421	0.521
RDI	63.4016	57.4000	6.0016	1.3586	0.174
MKI	0.1700	0.1551	0.0149	5.2602***	0.000
MTB	1.8720	2.0878	-0.2158	-2.9968***	0.003

Notes: (1) ***, **, and * represent significance at the 1%, 5%, and 10 % levels, respectively. (3) All continuous variables are winsorized at 1% and 99% levels. (4) Variable definitions are presented in Appendix A.

4.2. Main Results and Discussion

Table 5 presents the empirical results of testing the first hypothesis, which examines the effect of pay disparity on a firm's sustainable growth rates. The coefficients for both *PayDisp1* (0.1415, t-value = 3.56) and *PayDisp2* (0.1821, t-value = 3.21) are positive and significant at the 1% level. In terms of economic significance, the coefficients suggest that a one standard deviation increase in *PayDisp1* (*PayDisp2*) leads to approximately a 34.84%[4] (31.30%[5]) increase in *SGR* relative to the mean. These results support the tournament theory of pay disparity, which posits that disparity within firms encourages employees to work harder in pursuit of higher positions, likening it to a competition where everyone strives for the top. This competitive dynamic boosts productivity enhances corporate operational performance, and subsequently improves a firm's sustainable growth rates. Among the control variables, the coefficient on *SIZE* (0.0723 and 0.0728, respectively) is significant and positive, indicating that pay disparity tends to be higher in larger firms. Conversely, the coefficients on *AGE* (-0.0953 and -0.0949, respectively), *LEV* (-0.4646 and -0.4644, respectively), *RDI* (-0.0001 and -0.0001, respectively), and *MKI* (-0.2190 and -0.2166, respectively) are negatively associated with *SGR*. These results suggest that higher firm age, leverage ratio, research and development intensity, and market intensity may hinder a firm's sustainable growth rates.

In brief, the results in Table 5 show that pay disparity is positively associated with a firm's sustainable growth rates, supporting the tournament theory. This implies that strategic pay disparity, when aligned with the firm's goals, can be an effective tool for fostering an environment that promotes sustainable growth. Firms might consider the benefits of maintaining a certain level of pay disparity to motivate their workforce and drive long-term growth. However, it is also essential for firms to balance this approach with considerations of fairness and equity to avoid potential negative impacts on employee morale and cohesion.

Table 6 presents the regression results for the second hypothesis. To test this hypothesis, the study divides the sample based on managerial overconfidence, distinguishing between firms with overconfident management and those without. The analysis compares the effects of pay disparity on sustainable growth rates in these two distinct groups, providing insights into how managerial overconfidence influences the relationship between pay disparity and a firm's sustainable growth rates. The results show that the coefficients for both *PayDisp1* (0.1403, t-value = 2.39) and *PayDisp2* (0.2193, t-value = 2.56) are positive and significant at the 5% level for firms with overconfident management. In contrast, the coefficients for *PayDisp1* (0.0424, t-value = 0.78) and *PayDisp2* (0.0575, t-value = 0.74) in firms without overconfident management are positive but not statistically significant. These findings suggest that the positive effect of pay disparity on a firm's sustainable growth rate is more pronounced in firms with overconfident management, indicating that overconfident managers may enhance the beneficial impact of pay disparity on sustainable growth.

[4] 0.0768 x 0.1415/0.0320
[5] 0.0550 x 0.1821/0.0320

Table 5: Main Regression 1: Panel Regression Results on Pay Disparity and Sustainable Growth

	Dependent Variable: Sustainable Growth (SGR)	
	(1) PayDisp1	(2) PayDisp2
Intercept	-0.5710 ***	-0.5816 ***
	(-3.67)	(-3.74)
PayDisp	0.1415 ***	0.1821 ***
	(3.56)	(3.21)
SIZE	0.0723 ***	0.0728 ***
	(12.75)	(12.85)
AGE	-0.0953 ***	-0.0949 ***
	(-5.76)	(-5.74)
LEV	-0.4646 ***	-0.4644 ***
	(-28.94)	(-28.92)
RDI	-0.0001 ***	-0.0001 ***
	(-6.88)	(-6.89)
MKI	-0.2190 ***	-0.2166 ***
	(-7.68)	(-7.61)
MTB	0.0003	0.0003
	(0.63)	(0.56)
Industry Dummy	Included	Included
Year Dummy	Included	Included
Observations	10,244	10,244
Adj. R^2	0.1546	0.1547
Prob > F	0.0000	0.0000

Notes: (1) Numbers in parentheses represent the t values. (2) ***, **, and * represent significance at the 1, 5, and 10 per cent levels, respectively. (3) All continuous variables are winsorized at 1% and 99% levels. (4) Variable definitions are presented in Appendix A.

Table 6: Main Regression 2: Pay Disparity and Sustainable Growth in Overconfident vs. Non-overconfident Management

	Dependent Variable: Sustainable Growth (SGR)			
	Overconfident Management		Non-overconfident Management	
	(1) PayDisp1	(2) PayDisp2	(3) PayDisp1	(4) PayDisp2
Intercept	-0.3999 **	-0.4148 **	-0.1730	-0.1744
	(-1.99)	(-2.07)	(-0.85)	(-0.86)
PayDisp	0.1403 **	0.2193 **	0.0424	0.0575
	(2.39)	(2.56)	(0.78)	(0.74)
SIZE	0.0496 ***	0.0500 ***	0.0556 ***	0.0557 ***
	(5.45)	(5.50)	(6.99)	(6.99)
AGE	-0.0813 ***	-0.0804 ***	-0.0598 **	-0.0596 **
	(-3.33)	(-3.29)	(-2.48)	(-2.48)
LEV	-0.3945 ***	-0.3932 ***	-0.5347 ***	-0.5346 ***
	(-14.48)	(-14.42)	(-25.25)	(-25.24)
RDI	-0.0001 ***	-0.0001 ***	-0.0001 ***	-0.0001 ***
	(-3.57)	(-3.58)	(-5.38)	(-5.37)
MKI	-0.0943 *	-0.0920 *	-0.1854 ***	-0.1849 ***
	(-1.69)	(-1.65)	(-5.15)	(-5.15)
MTB	0.0005	0.0004	-0.0008	-0.0008
	(0.69)	(0.62)	(-1.05)	(-1.07)
Indicator	*MOC = 1*	*MOC = 1*	*MOC = 0*	*MOC = 0*
Industry Dummy	Included	Included	Included	Included
Year Dummy	Included	Included	Included	Included
Observations	5,066	5,066	5,178	5,178
Adj. R^2	0.1067	0.1071	0.2141	0.2142
Prob > F	0.0000	0.0000	0.0000	0.0000

Notes: (1) Numbers in parentheses represent the t values. (2) ***, **, and * represent significance at the 1, 5, and 10 per cent levels, respectively. (3) All continuous variables are winsorized at 1% and 99% levels. (4) Variable definitions are presented in Appendix A.

4.3. Robustness Tests

To verify the robustness of the main findings, this study adopts return on assets (*ROA*) as an alternative measure of sustainable growth, following the approach of Chen et al. (2021). Sustainable growth typically necessitates substantial and stable capital investment, which highly profitable firms are often better equipped to provide through sufficient working capital. Additionally, since firms utilize their assets to generate income, the total asset indicator is employed to assess overall investment capacity and capital accumulation potential (Chen et al., 2021). The results of the robustness tests using alternative measures are presented in Tables 7 and 8. These findings are qualitatively consistent with our main results, reaffirming the conclusion that pay disparity positively impacts a firm's sustainable growth, with the effect being more pronounced in firms with overconfident management.

Table 7: Robustness Test 1: ROA as Sustainable Growth

	Dependent Variable: ROA as Sustainable Growth (SGR_ROA)	
	(1) PayDisp1	(2) PayDisp2
Intercept	-0.3706 ***	-0.3775 ***
	(-4.77)	(-4.86)
PayDisp	0.0980 ***	0.1296 ***
	(4.93)	(4.58)
SIZE	0.0374 ***	0.0377 ***
	(13.22)	(13.33)
AGE	-0.0472 ***	-0.0469 ***
	(-5.71)	(-5.68)
LEV	-0.2371 ***	-0.2370 ***
	(-29.59)	(-29.55)
RDI	-0.0001 ***	-0.0001 ***
	(-9.08)	(-9.09)
MKI	-0.1351 ***	-0.1336 ***
	(-9.49)	(-9.40)
MTB	0.0005 **	0.0005 *
	(1.99)	(1.88)
Industry Dummy	Included	Included
Year Dummy	Included	Included
Observations	10,244	10,244
Adj. R^2	0.1924	0.1929
Prob > F	0.0000	0.0000

Notes: (1) Numbers in parentheses represent the t values. (2) ***, **, and * represent significance at the 1, 5, and 10 per cent levels, respectively. (3) All continuous variables are winsorized at 1% and 99% levels. (4) Variable definitions are presented in Appendix A.

Table 8: Robustness Test 2: ROA as Sustainable Growth Comparing Overconfident and Non-overconfident Management

	Dependent Variable: ROA as Sustainable Growth (SGR_ROA)			
	Overconfident Management		Non-overconfident Management	
	(1) PayDisp1	(2) PayDisp2	(3) PayDisp1	(4) PayDisp2
Intercept	-0.1857 *	-0.1949 **	-0.1679	-0.1710 *
	(-1.93)	(-2.03)	(-1.64)	(-1.67)
PayDisp	0.0914 ***	0.1472 ***	0.0638 **	0.0818 **
	(3.25)	(3.59)	(2.32)	(2.09)
SIZE	0.0253 ***	0.0255 ***	0.0287 ***	0.0288 ***
	(5.79)	(5.86)	(7.14)	(7.17)
AGE	-0.0425 ***	-0.0419 ***	-0.0334 ***	-0.0332 ***
	(-3.64)	(-3.59)	(-2.75)	(-2.73)
LEV	-0.2459 ***	-0.2450 ***	-0.2475 ***	-0.2474 ***
	(-18.84)	(-18.76)	(-23.14)	(-23.13)
RDI	-0.0001 ***	-0.0001 ***	-0.0001 ***	-0.0001 ***
	(-5.04)	(-5.05)	(-6.74)	(-6.73)
MKI	-0.0634 **	-0.0620 **	-0.1091 ***	-0.1081 ***
	(-2.37)	(-2.33)	(-6.00)	(-5.96)
MTB	0.0002	0.0002	0.0002	0.0001
	(0.57)	(0.47)	(0.42)	(0.37)
Indicator	*MOC = 1*	*MOC = 1*	*MOC = 0*	*MOC = 0*
Industry Dummy	Included	Included	Included	Included
Year Dummy	Included	Included	Included	Included
Observations	5,066	5,066	5,178	5,178
Adj. R^2	0.1970	0.1978	0.2336	0.2340
Prob > F	0.0000	0.0000	0.0000	0.0000

Notes: (1) Numbers in parentheses represent the t values. (2) ***, **, and * represent significance at the 1, 5, and 10 per cent levels, respectively. (3) All continuous variables are winsorized at 1% and 99% levels. (4) Variable definitions are presented in Appendix A.

5. Conclusion

This study investigates the association between pay disparity and sustainable growth within firms, particularly under the influence of managerial overconfidence. Utilizing a comprehensive dataset of Korean listed firms from 2012 to 2022, this study provides valuable insights into how pay disparity, when coupled with managerial traits, impacts a firm's sustainable growth. The findings underscore the nuanced nature of pay disparity's effects on firm growth, revealing both opportunities and risks that are contingent on the behavioural characteristics of the management team.

The analysis demonstrates that pay disparity, when appropriately managed, can serve as a powerful incentive mechanism, fostering a competitive environment where employees are motivated to excel. This supports the tournament theory, which suggests that greater wage differentials can drive productivity by encouraging workers to strive for higher positions within the firm. The positive association between pay

disparity and sustainable growth, as evidenced by our empirical results, indicates that firms can potentially leverage pay disparity to enhance their growth trajectories, particularly when the disparity is seen as economically justified and aligned with firm performance goals.

The study also highlights the critical role of managerial overconfidence in moderating the effects of pay disparity. The findings reveal that in firms where overconfident management is present, the positive impact of pay disparity on sustainable growth is significantly amplified. This suggests that overconfident managers may be more effective in translating the motivational benefits of pay disparity into tangible performance gains, possibly due to their propensity to take calculated risks and pursue ambitious growth strategies. Conversely, in firms without overconfident management, the effect of pay disparity on growth is less pronounced, indicating that the benefits of pay disparity may not be fully realized in the absence of such managerial traits.

One of the key contributions of this study is its examination of the role of managerial overconfidence, which differentiates it from prior literature. While previous research usually focuses on the direct impact of pay disparity on sustainable growth, this study extends the analysis by exploring how managerial overconfidence influences this relationship. The inclusion of a managerial overconfidence indicator provides a deeper understanding of the conditions under which pay disparity can either enhance or hinder a firm's sustainable growth. This distinction is crucial, as it highlights that the effectiveness of pay disparity as a strategic tool is not uniform but varies depending on the psychological traits of the management team.

These insights carry important implications for both theory and practice. For scholars, the study contributes to the ongoing debate on the efficacy of pay disparity in corporate settings, offering a clearer understanding of how managerial behaviour intersects with compensation structures to influence firm outcomes. The findings challenge the one-size-fits-all approach to compensation design, suggesting that the effectiveness of pay disparity as a growth lever is highly context-dependent.

The findings of this study also offer valuable insights for practitioners in the realms of corporate governance and compensation strategy design. In order for entities to effectively leverage the relationship between firm-level pay disparity and sustainable growth, organizations should consider tailored compensation policies that recognize the dynamics of pay disparity, ensuring that the differences in salaries and wages are economically justified and aligned with performance goals. If compensation packages are made to reflect performance, firms can create a motivating environment that fosters better performance and productivity, leading to sustained growth. Similarly, to enhance the motivational benefits of pay disparity, companies should cultivate a competitive culture where employees are encouraged to excel. This can be achieved through clear career progression paths, performance metrics, and recognition programs that reward high achievers. This is also a call for the management to routinely evaluate their compensation strategies and their effects on employee motivation and firm performance.

Moreover, for those involved in corporate governance and human resource management, the study underscores the importance of aligning compensation policies with the behavioral traits of the management team. Firms should assess their management teams' psychological traits and consider these factors when designing compensation strategies. While pay disparity can be a powerful tool for driving sustainable growth, it must be carefully managed to avoid potential pitfalls, such as fostering a sense of inequity among employees or exacerbating agency problems.

The management should also consider investing in training and development programs for managers that can enhance their decision-making abilities, particularly in firms where overconfidence may lead to riskier choices. In environments where this overconfidence is in place, firms may benefit from leveraging pay disparity more aggressively, as these managers are better positioned to harness its motivational benefits. However, caution is warranted, as excessive reliance on pay disparity without proper safeguards can lead to unintended consequences.

Lastly, it is also important to engage with stakeholders when designing compensation policies to help ensure their alignment with broader organizational goals through fostering open communication that can mitigate concerns related to pay disparity, enhancing overall organizational cohesion.

Overall, this study provides robust evidence that pay disparity, when strategically aligned with managerial traits, can significantly contribute to a firm's sustainable growth. It calls for a more tailored approach to compensation design, one that considers the unique dynamics of the management team and the broader organizational context. By doing so, firms can better navigate the complexities of compensation policies, ultimately enhancing their competitive positioning and long-term success.

6. Limitations and Future Research Directions

The study attempts to explain the impact of pay disparity on the sustainable growth of Korean-listed firms. Moreover, we contribute to the literature by exploring how managerial overconfidence plays a role in the process. However, like any other study, this research has its limitations that should be acknowledged. These limitations not only inform the context in which the aforementioned findings should be interpreted but also provide valuable avenues for future research to further enrich this line of inquiry.

The study is limited to Korean-listed firms, which reduces its generalizability to other countries or territories with different corporate governance structures, labour markets, wage policies, and cultural attitudes toward wage gaps and managerial behaviour. Additionally, while the study includes twenty (20) specific industries, the results have been generalized based on all firms and industries in the sample. Thus, we open the door for country-specific and multi-sectoral analyses in this stream of research for future studies. Moreover, other measures of managerial overconfidence can be utilized by future researchers to further validate the results of this study. While this paper explored the interplay of managerial overconfidence and pay disparity on the sustainable growth of firms, future studies can also explore other moderating variables that could potentially play a role in the process, such as corporate governance practices, firm ownership structure, and external economic conditions. Finally, we recommend studies on the psychological and behavioural aspects of management in this area, as well as research on how pay disparity and managerial overconfidence affect other stakeholders, such as employees, shareholders, and customers, in terms of their perception of firm sustainable growth, to address the emerging field of qualitative studies in accounting research.

Acknowledgement statement: The authors would like to thank the reviewers for providing comments in helping this manuscript to completion.

Conflicts of interest: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT Author contribution statements: Author 1 contributed to the conceptualization, methodology, formal analysis, investigation, software, validation, data curation, writing - original draft, writing-review & editing. Author 2 contributed to the conceptualization, methodology, formal analysis, investigation, project administration, supervision, writing-original draft, writing-review & editing. Author 3 contributed to the formal analysis, investigation, validation, writing-original draft, writing-review & editing.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data availability statement: Data will be made available on request

Disclaimer: The views and opinions expressed in this article are those of the author(s) and contributor(s) and do not necessarily reflect Innovation Economics Frontiers 's or editors' official policy or position. All liability for harm done to individuals or property as a result of any ideas, methods, instructions, or products mentioned in the content is expressly disclaimed.

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Appendix A. Variable Definition

Dependent Variables	
SGR	*Sustainable Growth Rate*. A measurement of sustainable growth rate of entities measured under return on equity (ROE) following Chen et al. (2021). ROE is calculated as the ratio of net income to average total shareholders' equity.
SGR_ROA	A measurement of the *SGR* variable for robustness test purposes using return on assets (ROA). ROA is calculated as the ratio of net income to average total assets.
Independent Variables	
PayDisp1	*Pay Disparity 1*. Ratio of average executive compensation (excluding outside directors) to average employee salary, divided by 100.
PayDisp2	*Pay Disparity 2*. Ratio of average executive compensation (including outside directors) to average employee salary, divided by 100.
Control Variables	
SIZE	*Firm Size*. Natural logarithm of an entity's total assets.
AGE	*Firm Age*. Natural logarithm of an entity's age based on the number of years from establishment.
LEV	*Leverage*. Ratio of total liabilities to total assets.
RDI	*Research and Development Intensity*. Ratio of R&D expenditures to total sales.
MKI	*Market Intensity*. Ratio of selling, general, and administrative expenses to total assets.
MTB	*Market-to-Book Ratio.* Market value of equity divided by the book value of equity.
IndDum	*Industry Dummy.* Control variable for industry categorization to account for industry-specific variations.
YearDum	*Year Dummy.* Control variable for year representation to account for temporal changes in between years of the study.
Indicator	
MOC	*Managerial Overconfidence.* A dichotomous variable used as an indicator set to 1 if the residuals of the regression of total asset growth on sales growth is greater than the median residual.