Interacting Roles of Executive Compensation on Organizational Slack and Firm's Innovation Performance

Monika Pradnya Aurelia Wijayanti[1], Iman Harymawan[2*], Nurul Fitriani[3]

AFFILIATION:
[1,2,3]Faculty of Economics and Business, Universitas Airlangga, Indonesia

***CORRESPONDENCE:**
harymawan.iman@feb.unair.ac.id

THIS ARTICLE IS AVAILABLE IN:
https://ojs.unud.ac.id/index.php/jiab

DOI:
10.24843/JIAB.2024.v19.i01.p06

CITATION:
Wijayanti, M. P. A., Harymawan, I. & Fitriani, N. (2024). Interacting Roles of Executive Compensation on Organizational Slack and Firm's Innovation Performance. *Jurnal Ilmiah Akuntansi dan Bisnis*, *19()*, 80-95.

ARTICLE HISTORY
Received:
June 20 2023

Revised:
December 13 2023

Accepted:
January 4 2024

Abstract
This study examines the interaction between executive compensation and three types of organizational slack (available, recoverable, and potential) and their impact on the innovation performance of publicly listed companies in Indonesia. The empirical analysis use a dataset of 1,081 firm-year observations from 2010 to 2019. The findings reveal that available slack positively affects innovation performance, whereas recoverable and potential slack have negative impacts. Executive compensation significantly moderates these relationships, especially nullifying the negative impact of recoverable slack on innovation. The results highlight the importance of strategic management and the role of executive compensation in enhancing a firm's innovation, offering valuable insights for shareholders and contributing to the understanding of organizational slack and compensation's effect on innovation in the Indonesian context.

Keywords: organizational slack, executive compensation, innovation, innovation performance, Indonesia

Introduction
The exploration of organizational slack and its influence on corporate innovation constitutes a vital area of inquiry within strategic management literature (Alessandri & Pattit, 2014). Organizational slack, defined as the accumulation and allocation of resources, plays a critical role in determining a firm's competitiveness and outcomes (Chen et al., 2013; Cheng & Kesner, 1997; Daniel et al., 2004). Currently, innovation is a focal point of study due to its pivotal role in enabling firms to achieve competitive advantage through adaptation and the development of new products (Alessandri & Pattit, 2014; Herold et al., 2006). Despite its acknowledged importance, the literature presents divergent views on the relationship between organizational slack and innovation performance.

The significance of innovation performance for organizations cannot be overstated, especially for those striving to maintain competitiveness, adaptability, financial robustness, and sustainability in dynamic business environments. Innovation performance is a strategic imperative for long-term organizational success and growth. Prior research highlights several aspects of innovation performance: its contribution to understanding the global innovation landscape, with notable leadership from the USA and UK

(Chen et al., 2010); the identification of factors driving innovation, encompassing internal, external, and contextual elements (Kolluru & Mukhopadhaya, 2017); its considerable impact on organizational performance, particularly when product and process innovations are integrated (Walker, 2004); and the necessity for enhanced measurement practices to leverage innovation for competitive advantage (Birchall et al., 2011).

From the perspective of organizational behavior theory, slack can serve as a buffer against environmental uncertainties and provide crucial resources for research and development activities (Tan & Peng, 2003). This resource availability is conducive to fostering an innovative culture and the flourishing of experimental projects, with less concern for the risks of failure due to the presence of a resource buffer (Bourgeois, 1981; Nohria & Gulati, 1996).

Conversely, agency theory posits that slack may negatively impact firm outcomes due to potentially selfish and inefficient managerial behaviors (Jensen & Meckling, 1976). This perspective suggests that managers, acting as agents, might not always align with the best interests of the firm, leading to personal endeavors, empire-building, or inefficient resource utilization, consequently diminishing outcomes such as innovation (Geiger & Cashen, 2002).

Recent literature suggests that the relationship between organizational slack and innovation performance is contingent on the type of slack involved (Alessandri & Pattit, 2014; Duan et al., 2020; Geiger & Makri, 2006; Lee, 2015; Marlin & Geiger, 2015). This study delves into this relationship by examining three distinct types of slack: available slack, recoverable slack, and potential slack. Each type of slack impacts innovation differently. Available slack, characterized by underutilized resources, can encourage experimentation, although excessive slack might lead to complacency. Recoverable slack, which allows for agile responses to changes, might distract from long-term innovation pursuits. Potential slack, serving as a resource reservoir, can bolster innovation but is susceptible to mismanagement and underutilization. The effective balancing of these types of slack is crucial for optimizing their positive impacts on innovation while mitigating potential drawbacks.

Scholarly research on the nexus between organizational slack and innovation has mainly focused on major world economies such as China, the United States, and South Korea. Li (2013), for instance, highlights China's competitive edge in high-tech products, attributed to increased R&D investment and applications. However, many literature in this domain has largely been confined to the manufacturing sector. Marlin & Geiger (2015) investigated the relationship between organizational slack and innovation in U.S. manufacturing firms using cross-sectional data. Similarly, Lee (2015) explored this relationship within Korean manufacturing companies, focusing on available and potential slack. Duan et al. (2020) probed the mediating role of absorptive capacity in the linkage between organizational capacity reserve and innovation performance in Chinese high-tech manufacturing firms.

Nonetheless, the industrial realm extends beyond the confines of manufacturing. There is a growing need to extend research on organizational slack and innovation performance across various industries. Accordingly, this study encompasses a diverse array of industries, excluding only the financial sector. Conducted in Indonesia, this research spans all sectors (excluding SIC 6) from 2010 to 2019. This selection is pivotal for two reasons. First, as Indonesia is a developing economy, this study enriches the existing body of literature that has predominantly centered on developed economies. Addressing developing countries is crucial for fostering a globally relevant and inclusive knowledge base. Second, by encompassing all industries (excluding SIC 6), the study offers comprehensive insights into the relationship between organizational slack and innovation performance across different sectors in Indonesia.

Additionally, this research introduces executive compensation as an interaction variable. In Indonesian firms, compensation is recognized as a determinant of corporate performance, with higher compensation often reflecting superior performance (Raithatha & Komera, 2016). However, corporate performance is inextricably linked to executive decision-making. Managers' decisions are often influenced by their career aspirations (Chari et al., 2019). In this context, compensation policy serves as a control mechanism to mitigate the risk of moral hazard in managing organizational slack. This study hypothesizes that higher compensation levels may attenuate the relationship between firm slack and innovation performance.

Prior studies have employed various metrics such as the number of invention patents, sales revenue, and overall R&D intensity to assess the relationship between organizational slack and innovation (Duan et al., 2020; Lee, 2015; Marlin & Geiger, 2015). However, these measures may not fully capture the nuances of resource constraints in different environments, such as the trade sector. Additionally, metrics like the number of patented inventions and sales from new products typically reflect the innovation performance of individual patents or products, rather than the holistic innovation performance of a firm (Duan et al., 2020). This research, therefore, employs return on intangible assets (net income/net intangible assets) as a measure of innovation performance, a metric that comprehensively reflects the novelty of innovation and the value of new products across all industry sectors, not limited to manufacturing.

This study significantly enriches the literature on organizational slack and corporate innovation performance, particularly in the context of developing countries like Indonesia. It not only complements existing research (Duan et al., 2020; Lee, 2015; Marlin & Geiger, 2015) but also serves as a critical tool for shareholders to evaluate the effectiveness of compensation as a monitoring mechanism. Furthermore, it provides stakeholders with insights into how different types of slack influence innovation performance across various industries in Indonesia.

Drawing upon organizational behavior theory, slack is conceptualized as a buffer against environmental uncertainty, offering resources crucial for research and development endeavors (Tan & Peng, 2003). This provision fosters an environment conducive to innovation and supports experimental projects, thereby reducing apprehensions about failure due to resource availability (Bourgeois, 1981; Nohria & Gulati, 1996). However, from the vantage point of agency theory, organizational slack may adversely affect firm outcomes. This negative impact is attributed to the potential for managerial actions that are either selfish or wastefully inefficient (Jensen & Meckling, 1976), potentially leading to suboptimal resource allocation and diminished innovation (Geiger & Cashen, 2002).

Organizational slack is defined as the accumulation of existing or potential resources that enable organizations to adapt to internal and external pressures, including policy changes (Bourgeois, 1981; Lawson, 2001). Recent scholarly inquiries have delved into the possible effects of organizational slack on various organizational outcomes

(Geiger & Cashen, 2002; Tan & Peng, 2003; George, 2005; Chen & Huang, 2010). Organizational slack may provide the necessary latitude and flexibility for managers to alleviate internal and external pressures (Shafrman et al., 1988). Conversely, it could lead to a reduction in productivity, as it may encourage low-risk activities while curtailing innovation and R&D efforts (Huang & Li, 2012). Given these divergent findings in the literature, further exploration into the relationship between organizational slack and company innovation performance is deemed essential.

Available slack refers to the innovative and redundant resources within a firm that are highly liquid and easily accessible, such as cash and marketable securities (Voss et al., 2008). It also encompasses resources that, while currently unused, can be readily mobilized for innovation activities, as managers can easily deploy them (Huang & Li, 2012). With its greater ease of repositioning, available slack can alleviate structural stresses and facilitate more experimentation, research efforts, and product innovation. Encouraged by this leeway, managers may be more inclined to embark on innovative ventures, creating new profitable innovations (Nohria & Gulati, 1996). In line with organizational behavior theory, firms reserve resources to safeguard their core technology from both internal and external changes. Available slack thus enhances innovation power by providing ample funding, thereby simplifying the exploration of innovative ideas.

H_{1a}: Available slack is positively associated with innovation performance.

Recoverable slack is defined as resources that are currently engaged in ongoing processes and absorbed within the business, exceeding what is necessary for routine operations. Unlike available slack, recoverable slack is more rigid, being more deeply integrated into the company's operations and requiring a longer duration to modify (Alrashdan & Alnahedh, 2023; Duan et al., 2020; Laffranchini & Braun, 2014). An illustrative example is an employee count that surpasses the company's operational needs. While this excess in workforce may represent a resource inefficiency under normal business conditions, it can become efficient in scenarios where, for instance, there is a significant increase in product orders. Nevertheless, we posit that recoverable slack negatively influences a firm's innovation performance for two reasons. First, from a financial perspective, employing additional staff implies higher salary expenses, thereby reducing the funds available for corporate innovation. Second, from a human resources standpoint, not all employees may possess the requisite understanding and knowledge crucial for the firm's innovation performance. Consequently, recoverable slack could impede a firm's innovation endeavors under typical business conditions.

H_{1b}**:** Recoverable slack is negatively associated with innovation performance.

Potential slack refers to future resources that are accessible to managers, typically gauged by the amount of debt capacity available to the firm (Chandler et al., 2011). In this study, the magnitude of potential slack is measured using the debt-to-assets ratio (Marlin & Geiger, 2015), reflecting the proportion of a company's assets financed through debt. Resorting to debt financing suggests insufficient internal funding sources, which could curtail the firm's capacity and efficacy in innovation.

H_{1c}**:** Potential slack is negatively related to innovation performance.

Organizations often adopt both short-term and long-term approaches to innovation (Leonard-Barton, 1995). Innovation investment is inherently risky (Baysinger et al., 1991), and managers are more inclined to allocate excess resources to innovation when incentivized by higher compensation, accepting greater risks (Finkelstein & Hambrick, 1997). This reward is particularly pertinent for innovations characterized by significant outcome variability and high potential for failure (Balkin et al., 2000). In this scenario, managers stake their reputations on the market outcome of substantial investments. Guay (1999) noted that CEOs with higher total cash compensation are more likely to diversify investments and engage in riskier projects.

H_{2a}**:** A higher level of total executive compensation strengthens the relationship between available slack and innovation performance.

According to Okoshi et al. (2019), the involvement and management of executive information and knowledge is a critical element for innovation. Executives with superior skills, information access, and proven track records often receive higher compensation as a form of reward (Liu et al., 2021). Additionally, these capabilities in implementing innovations can mitigate uncertainty and minimize losses from unsuccessful innovation endeavors (Zona & Zamarian, 2022). However, if executive capabilities are not complemented by the innovation skills of the broader employee base, this may only reduce the risk of failure and losses without achieving innovation excellence. Conversely, higher total executive compensation might enhance the relationship between recoverable slack and innovation performance.

H_{2b}**:** A higher level of total executive compensation strengthens the relationship between recoverable slack and innovation performance.

Compensation serves as a pivotal control tool, instrumental in aligning the interests of principals and agents (Zona & Zamarian, 2022). This alignment extends to the company's decisions regarding financing, particularly through debt. Utilizing debt as a financing method can elevate the risks of failure and bankruptcy (Yigit, 2018). Executives receiving high compensation are typically motivated to sustain their performance to maintain a favorable reputation among stakeholders (Liu et al., 2021). This includes ensuring that the company possesses adequate funds to meet its debt obligations, both interest and principal payments. Consequently, when a company is heavily indebted, executives might prioritize financial stability over innovation, leading to diminished focus on innovation performance.

H_{2c}: A higher level of executive compensation intensifies the relationship between potential slack and innovation performance.

Research Method

The research sample consisted of all companies (except SIC 6) listed in the Indonesia Stock Exchange from 2010 – 2019. Financial data was obtained from the OSIRIS database, while data on CEO compensation and good corporate governance were obtained from the company's annual reports. The sampling period is limited by the availability of the company's annual report and the economic recession consequence of Covid-19. We found initial sample of 7.913 companies in the year observations from 2010 – 2019. Afterwards, we excluded the missing data on each variable. As a result, the final sample for this study is 1,081 firm-year observations. Table 1 summarized the sample of criteria selection.

In alignment with the methodology of Duan et al. (2020), this research quantifies a company's innovation performance, the dependent variable, using the return on intangible assets (calculated as net income divided by net intangible assets). The rationale behind this choice is that returns on intangible assets effectively capture the novelty of

Table 1. Sample of Criteria Selection

Criteria	Sample
All observation (2010 – 2019)	7913 firm-year observation
Drop Missing Data	
SIC	(2498) firm-year observation
IP	(3546) firm-year observation
COMPEN	(694) firm-year observation
Controls	(94) firm-year observation
Final Sample	1081 firm-year observation

Source: Processed Data, 2023

innovations and the market value of new products. Additionally, this metric reflects the allocation of funds for innovative projects and encapsulates managerial decision-making regarding investments and innovative strategies (Bartolini, 2013).

Following the framework established by Marlin & Geiger (2015) and Leitner & Meyer (2013), organizational slack, serving as an explanatory variable, is categorized into three segments: available slack, recoverable slack, and potential slack. This tripartite categorization represents the most nuanced approach in existing literature. Available slack, representing resources yet to be absorbed by the organization, such as excess liquidity or retained earnings, is measured using the current ratio (current assets divided by current liabilities). Recoverable slack refers to resources that have been integrated into

Table 2. Variable Operational Definition

Variable	Definition	Measurement	Source
Dependent Variables			
IP	Innovation performance	(Net profit / Intangibles)	OSIRIS
Independent Variables			
AS	Available slack	Current Asset / Current Liabilities	OSIRIS
RS	Recoverable slack	Administrative expense / sales	OSIRIS
PS	Potential slack	Debt / Asset	OSIRIS
Interacting Variables			
COMPEN	Executive compensation	Natural logarithm of executive compensation	Annual Report
Control Variables			
BOARD	Board size	Natural logarithm of total board	Annual Report
INDCOM	Independent commissioner	Total of independent commissioner	Annual Report
FSIZE	Firm size	Natural logarithm of total assets	OSIRIS
FAGE	Firm age	(Year – Year IPO) + 1	OSIRIS
HG	Firm growth	Dummy 1 if firms in SIC categories high growth and 0 if otherwise	OSIRIS
DEP	Depreciation ratio	Depreciation / Total Asset	OSIRIS
MTB	Market-to-book ratio	Market value of equity / Book value of equity	OSIRIS

Source: Processed Data, 2023

the organization's structures, processes, or routines, often manifesting as surplus overhead costs, and is quantified using the ratio of administrative expenses to sales. Potential slack, denoting the organization's capacity to garner additional resources externally (e.g., through debts, loans, or equity capital), is measured by the debt-to-assets ratio.

Executive compensation is utilized as an interaction variable in this study, proxied by the natural logarithm of total executive compensation (Hadley, 2019). Consistent with the methodology of Core et al. (2008), executive compensation is computed as the aggregate of an executive's salary, bonuses, other annual compensations, restricted stock grants, long-term incentives, the value of option grants, and all other forms of compensation.

Additionally, this study incorporates several control variables, divided into two main categories: governance features and firm characteristics. Governance features include board size (BOARD) and independent commissioners (INDCOM). Firm characteristics encompass company size (FSIZE), company age (FAGE), growth (HG), depreciation ratio (DEP), and market-to-book ratio (MTB). Depreciation and market-to-book ratios are employed as indicators of financial performance. To further refine the analysis, the study controls for industry and year fixed effects to address time-invariant heterogeneity at the industry level and time-varying heterogeneity. These operational definitions and measurements of all variables are delineated in Table 2.

This study used regression analysis to answer our hypothesis. We used three regression model in testing the relationship between organizational slack and innovation formally. Firstly, H1a addressed whether the relationship between available slack and innovation performance. The first empirical model as shown below in (1):

$IP_{i,t} = \beta_0 + \beta_1 AS_{i,t} + \beta_2 COMPEN_{i,t} + \beta_3 Control + \beta_4 Year_{i,t} + \beta_5 Industry_{i,t} + \varepsilon$.....................(1)

The coefficient of interest in Equation (1a) is β_1. A positive and significant β_1 support H1a. Secondly, H1b addressed whether the relationship between recoverable slack and innovation performance. The second empirical model as shown below in (2):

$IP_{i,t} = \beta_0 + \beta_1 RS_{i,t} + \beta_2 COMPEN_{i,t} + \beta_3 Control + \beta_4 Year_{i,t} + \beta_5 Industry_{i,t} + \varepsilon$....................(2)

The coefficient of interest in Equation (1b) is β_1. A positive and significant β_1 support H1b. Then, we used third empirical model to answer H1c. The third empirical model as shown below in (3).

$IP_{i,t} = \beta_0 + \beta_1 PS_{i,t} + \beta_2 COMPEN_{i,t} + \beta_3 Control + \beta_4 Year_{i,t} + \beta_5 Industry_{i,t} + \varepsilon$....................(3)

The coefficient of interest in Equation (1c) is β_1. A positive and significant β_1 support H1c.

We implemented the following regression to test the relationship between organizational slack and innovation performance with executive compensation as interacting variable. H2a for available slack, H2b for recoverable slack, and H2c for potential slack. The regression model as shown below in:

$IP_{i,t} = \beta_0 + \beta_1 AS{*}COMPEN_{i,t} + \beta_2 AS_{i,t} + \beta_3 COMPEN_{i,t} + \beta_4 Control + \beta_5 Year_{i,t} + \beta_6 Industry_{i,t} + \varepsilon$..(4)

$IP_{i,t} = \beta_0 + \beta_1 RS{*}COMPEN_{i,t} + \beta_2 RS_{i,t} + \beta_3 COMPEN_{i,t} + \beta_4 Control + \beta_5 Year_{i,t} + \beta_6 Industry_{i,t} + \varepsilon$..(5)

$IP_{i,t} = \beta_0 + \beta_1 PS{*}COMPEN_{i,t} + \beta_2 PS_{i,t} + \beta_3 COMPEN_{i,t} + \beta_4 Control + \beta_5 Year_{i,t} + \beta_6 Industry_{i,t} + \varepsilon$..(6)

The potential endogeneity issue in this study arises from the correlation between organizational slack treatment variables and observable variables. Prior research, such as Shipman et al. (2017), has addressed this problem using the Propensity Score Matching (PSM) approach. Nevertheless, some argue that the coarsened exact model (CEM) is a more robust method than PSM for examining the impact of observable variables on regression outcomes (DeFond et al., 2016; Harymawan, 2020). CEM is favored because it avoids random matching problems. Consequently, this study incorporates CEM as an additional sensitivity test to enhance the robustness of the findings.

Result and Discussion

Table 3 shows the descriptive statistics. The result shows that available slack has the farthest range, in which the minimum value is 0.067 while the maximum value is 46.997. Meanwhile, recoverable slack and potential slack have a relatively short range of values.

Table 4 shows the correlation matrix for all variables used in the primary analysis. The results shows that available slack is positively correlated with innovation performance. Meanwhile, recoverable and potential slack are negatively correlated with innovation performance. However, using a correlation matrix, the test could not answer the correlation between organizational slack and executive compensation with innovation performance. Therefore, to answer the hypothesis, we used multivariate analysis. The results of the multivariate analysis are shown in Tables 5 and 6.

Table 5 presents the correlation between organizational slack and innovation performance. The study found that the availability of slack is positively correlated with innovation performance (coeff = 0.039*, t = 1.84). This demonstrates that slack availability

Table 3. Descriptive Statistics

	Mean	Median	Minimum	Maximum
IP	0.357	0.027	-9.727	20.493
AS	2.232	1.453	0.067	46.997
RS	0.209	0.139	0.011	2.182
PS	0.500	0.506	0.069	1.171
COMPEN	23.693	23.663	19.650	28.731
BOARD	2.246	2.303	1.386	2.944
INDCOM	1.800	2.000	0.000	4.000
FSIZE	29.117	29.106	25.139	32.916
FAGE	14.546	14.000	1.000	36.000
DEP	0.033	0.024	0.000	0.181
MTB	2.633	1.397	-2.939	33.454
HG	0.558	1.000	0.000	1.000

Source: Processed Data, 2023

can enhance a company's innovation performance and rejects our hypothesis 1a. This result confirms the previous study of Nohria & Gulati (1996), which found that available slack can encourage the company to be involved in new profitable innovations. We also found that recoverable and potential slack have a negative correlation with innovation performance (coeff = -0.872**, t = -1.97 & coeff = -0.935**,t = -2.36). This result indicates that recoverable and potential slack can decrease a company's innovation performance, confirming our hypotheses 1b and 1c. Recoverable slack was relatively stiffer because it has already merged in the firms, and a long time is needed to change it (Laffranchini & Braun, 2014). Meanwhile, potential slack reflects funding assets used debt. These two types of slack can reduce financial resource allocation to improve innovation.

The result of regression analysis to answer the second hypothesis is shown on Table 6. In the first column, we found that interaction between available slack and executive compensation positively correlate with innovation performance

Table 4. Pearson Correlation Matrix

		[1]	[2]	[3]	[4]	[5]	[6]
[1]	IP	1.000					
[2]	AS	0.052*	1.000				
		(0.086)					
[3]	RS	-0.083***	0.442***	1.000			
		(0.006)	(0.000)				
[4]	PS	-0.071**	-0.461***	-0.200***	1.000		
		(0.020)	(0.000)	(0.000)			
[5]	COMPEN	-0.011	-0.083***	-0.171***	-0.005	1.000	
		(0.723)	(0.006)	(0.000)	(0.861)		
[6]	BOARD	-0.006	-0.106***	-0.128***	-0.059*	0.552***	1.000
		(0.846)	(0.000)	(0.000)	(0.052)	(0.000)	
[7]	INDCOM	-0.029	-0.049	-0.007	-0.018	0.397***	0.624***
		(0.338)	(0.109)	(0.821)	(0.544)	(0.000)	(0.000)
[8]	FSIZE	0.006	-0.054*	-0.152***	0.100***	0.709***	0.585***
		(0.855)	(0.076)	(0.000)	(0.001)	(0.000)	(0.000)
[9]	FAGE	-0.034	0.023	0.019	0.004	0.119***	0.160***
		(0.269)	(0.454)	(0.530)	(0.894)	(0.000)	(0.000)
[10]	DEP	-0.095***	-0.167***	-0.055*	0.051*	0.091***	0.067**
		(0.002)	(0.000)	(0.073)	(0.094)	(0.003)	(0.028)
[11]	MTB	-0.007	0.009	-0.011	-0.000	0.097***	0.085***
		(0.830)	(0.768)	(0.722)	(0.988)	(0.001)	(0.005)
[12]	HG	0.031	0.074**	0.149***	-0.001	-0.010	-0.078**
		(0.307)	(0.015)	(0.000)	(0.985)	(0.742)	(0.010)

		[7]	[8]	[9]	[10]	[11]	[12]
[7]	INDCOM	1.000					
[8]	FSIZE	0.471***	1.000				
		(0.000)					
[9]	FAGE	0.148***	0.122***	1.000			
		(0.000)	(0.000)				
[10]	DEP	0.078***	0.042	0.039	1.000		
		(0.010)	(0.164)	(0.198)			
[11]	MTB	-0.069**	0.056*	0.063**	-0.063**	1.000	
		(0.024)	(0.066)	(0.040)	(0.040)		
[12]	HG	0.072**	0.081***	-0.339***	0.236***	-0.058*	1.000
		(0.018)	(0.008)	(0.000)	(0.000)	(0.058)	

Source: Processed Data, 2023

(coeff = 0.050*, t = 3.16). These findings support the presence of an interaction effect that can influence the relationship between the availability of slack and a company's innovation performance. Furthermore, this outcome confirms hypothesis 2a. This result confirms the argument of Finkelstein & Hambrick (1997) that executives with higher compensation tend to be deposed by using available slack to invest in innovation. Next, in the second column, we found that the interaction between recoverable slack and executive compensation has a positive but insignificant correlation with innovation performance (coeff = 0.505, t = 1.37). This result demonstrates that executive compensation does not correlate with the relationship between recoverable slack and a company's innovation performance, thereby rejecting hypothesis 2b. This result supported our argument which although the executive has the adequate ability, it is not

Table 5. The Results of Regression on Organizational Slack and Innovation Performance

	IP (1)	IP (2)	IP (3)
AS	0.039^{*} (1.84)		
RS		-0.872^{**} (-1.97)	
PS			-0.935^{**} (-2.36)
COMPEN	0.017 (0.25)	0.004 (0.06)	-0.004 (-0.05)
BOARD	0.098 (0.28)	-0.002 (-0.01)	-0.049 (-0.13)
INDCOM	-0.086 (-0.74)	-0.055 (-0.46)	-0.082 (-0.70)
FSIZE	-0.034 (-0.48)	-0.040 (-0.59)	0.004 (0.06)
FAGE	0.004 (0.57)	0.006 (0.89)	0.005 (0.77)
DEP	-5.977^{*} (-1.95)	-7.083^{**} (-2.35)	-6.263^{**} (-2.05)
MTB	-0.005 (-0.40)	-0.003 (-0.24)	-0.004 (-0.34)
HG	-0.284 (-0.96)	-0.117 (-0.41)	-0.303 (-1.07)
_cons	1.650 (0.86)	2.436 (1.22)	1.895 (0.99)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
R^2	0.052	0.057	0.057
R^2_adjusted	0.030	0.035	0.035
N	1081	1081	1081

Source: Processed Data, 2023

Table 6. The Result of Regression Analysis for Interaction

	IP (1)	IP (2)	IP (3)
AS_COMPEN	0.050***		
	(3.16)		
RS_COMPEN		0.505	
		(1.37)	
PS_COMPEN			-0.475**
			(-2.12)
AS	-1.087***		
	(-3.06)		
RS		-12.370	
		(-1.48)	
PS			10.217*
			(1.91)
COMPEN	-0.094	-0.092	0.244
	(-1.47)	(-1.30)	(1.52)
BOARD	0.070	-0.039	-0.097
	(0.20)	(-0.11)	(-0.26)
INDCOM	-0.083	-0.051	-0.090
	(-0.71)	(-0.43)	(-0.78)
FSIZE	-0.021	-0.020	0.012
	(-0.30)	(-0.31)	(0.17)
FAGE	0.006	0.006	0.006
	(0.86)	(0.81)	(0.91)
DEP	-5.206*	-6.751**	-6.180**
	(-1.68)	(-2.24)	(-2.04)
MTB	-0.005	-0.005	-0.007
	(-0.41)	(-0.36)	(-0.53)
HG	-0.374	-0.252	-0.333
	(-1.25)	(-0.80)	(-1.21)
_cons	3.883*	4.155*	-4.012
	(1.88)	(1.78)	(-1.07)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
R^2	0.059	0.061	0.061
R^2_adjusted	0.036	0.037	0.037
N	1081	1081	1081

Source: Processed Data, 2023

completed with employee capability in innovation. It can only mitigate the failure risk and losses without being able to achieve an innovation advantage. Then, in the third column, we found that the interaction between potential slack and executive compensation negatively correlates with innovation performance (coeff = -0.475, t = -2.12). These findings support the presence of an interaction effect that can influence the relationship between the potential slack and a company's innovation performance. Furthermore, this outcome confirms hypothesis 2c. This result supported the findings of research from Yin

Liu et al. (2021) that executives with higher compensation will try to maintain their performance to look good in the eyes of stakeholders by ensuring that the company had sufficient funds to pay interest and principal debt. Therefore, when the company is involved in debt, the executive is not focused on innovation performance, thereby triggering less involvement in innovation performance.

Table 7. CEM regression for available slack, CEM regression for recoverable slack and CEM regression for potential slack

CEM regression for available slack			CEM regression for recoverable slack			CEM regression for potential slack		
	IP	IP		IP	IP		IP	IP
	-1	-2		-1	-2		-1	-2
AS_COMPEN		0.055***	RS_COMPEN		0.535	PS_COMPEN		-0.491**
		(3.32)			(1.43)			(-2.09)
AS	0.038*	-1.198***	RS	-0.801*	-12.998	PS	-0.865**	10.658*
	(1.74)	(-3.24)		(-1.83)	(-1.53)		(-2.10)	(1.91)
COMPEN	-0.010	-0.132**	COMPEN	0.011	-0.091	COMPEN	-0.024	0.235
	(-0.15)	(-1.99)		(0.16)	(-1.32)		(-0.34)	(1.39)
Controls	Yes	Yes	Controls	Yes	Yes	Controls	Yes	Yes
_cons	2.547	5.142**	_cons	2.433	4.251*	_cons	2.368	-3.672
	(1.24)	(2.29)		(1.20)	(1.79)		(1.19)	(-0.95)
Year FE	Yes	Yes	Year FE	Yes	Yes	Year FE	Yes	Yes
Industry FE	Yes	Yes	Industry FE	Yes	Yes	Industry FE	Yes	Yes
R^2	0.050	0.058	R^2	0.053	0.057	R^2	0.051	0.055
R^2_adjusted	0.026	0.033	R^2_adjusted	0.030	0.033	R^2_adjusted	0.028	0.031
N	1017	1017	*N*	1039	1039	*N*	1023	1023

Addressing the potential endogeneity issue in this study, stemming from the correlation between organizational slack treatment variables and observable variables, prior research, such as Shipman et al. (2017), employed the Propensity Score Matching (PSM) approach. However, some scholars argue that the coarsened exact model (CEM) is a superior alternative to PSM for assessing the impact of observable variables on regression results (DeFond et al., 2016; Harymawan, 2020). The rationale is that the CEM approach is less susceptible to random matching problems. Therefore, this study incorporates CEM as an additional sensitivity test. All CEM tests were conducted at strata 3. Following the matching criteria, the matched sample yielded 1.017 firm-year observations for available slack, 1.039 firm-year observations for recoverable slack, and 1.023 firm-year observations for potential slack. Subsequently, the results of regression analyses using matched samples are presented in Table 7 for available slack and innovation performance.

Table 7 shows CEM model of recoverable slack on innovation performance. Standard errors are clustered by firm and year. All continuous variables are winsorized at the 1% and 99% levels. Significance is at *10%, **5%, ***1%. This table shows CEM model of potential slack on innovation performance. Standard errors are clustered by firm and year. All continuous variables are winsorized at the 1% and 99% levels. Significance is at *10%, **5%, ***1%. Overall, the writer found all of CEM results consistent with the main findings (Tables 5 & 6). These findings indicated that the results in this study are strongly related to the effects of the observed variables.

Conclusion

This study examines the correlation between organizational slack and innovation performance, with executive compensation serving as an interaction variable in this relationship. The sample comprises 1,081 firm-year observations from companies listed on the Indonesia Stock Exchange (IDX), excluding those classified under SIC 6, spanning from 2010 to 2019. Regression analysis was employed to test the hypotheses.

The analysis revealed varying correlations between different types of organizational slack and innovation performance. Firstly, a positive correlation was observed between available slack and innovation performance, with the presence of higher executive compensation further strengthening this relationship. Secondly, the study identified a negative correlation between recoverable slack and innovation performance. However, the interaction of recoverable slack with executive compensation did not significantly influence this correlation. Thirdly, potential slack demonstrated a negative correlation with innovation performance, which was intensified by higher executive compensation levels. To validate these findings, the Conditional Effect Model (CEM) was applied, and the results of the CEM regression corroborated the study's primary conclusions.

The findings are consistent with organizational behavior theories, highlighting a positive association between available slack and innovation performance, amplified by increased executive compensation. The negative correlation between recoverable slack and innovation performance points to potential issues of resource misallocation, with executive compensation not significantly affecting this dynamic. In the case of potential slack, its negative impact on innovation performance is mitigated by higher executive compensation, underscoring the importance of strategic leadership. These insights suggest that organizations should focus on optimizing resource allocation and aligning executive compensation with innovation objectives. The results underscore the necessity of a balanced approach in organizational strategy and policy to effectively nurture innovation.

However, this study has several limitations that should be taken into account. First, recoverable slack was measured using administrative expenses due to data limitations. Future research could employ alternative proxies for recoverable slack, such as firm working capital, as used by Alrashdan & Alnahedh (2023), to better capture its impact on innovation performance. Second, this study considered overall executive compensation. Future research might benefit from categorizing executive compensation into cash and stock compensation to more precisely discern the effects of each compensation type.

References

Alessandri, T. M., & Pattit, J. M. (2014). Drivers of R&D investment: The interaction of behavioral theory and managerial incentives. *Journal of Business Research*, *67*(2), 151–158. https://doi.org/https://doi.org/10.1016/j.jbusres.2012.11.001

Alrashdan, A., & Alnahedh, M. (2023). Slack resources and firm performance: evidence from GCC countries. *International Journal of Organizational Analysis*, *31*(7), 3348–3371.

Bartolini, E. (2013). Accountable Care Organizations and Innovation: A Changing Landscape. *Health Affairs Blog*, *June 28*.

Birchall, D., Chanaron, J.-J., Tovstiga, G., & Hillenbrand, C. (2011). Innovation performance measurement: current practices, issues and management challenges. *International Journal of Technology Management*, *56*(1), 1–20.

Bourgeois, L. J. (1981). On the Measurement of Organizational Slack. *The Academy of Management Review*, *6*(1), 29–39. https://doi.org/10.2307/257138

Chari, M. D. R., David, P., Duru, A., & Zhao, Y. (2019). Bowman's risk-return paradox: An agency theory perspective. Journal of Business Research, 95, 357–375. https://doi.org/10.1016/j.jbusres.2018.08.010

Chen, J. K. C., Ho, Y.-S., Wang, M.-H., & Chen, Y.-Y. (2010). Evaluation innovation research performance and trend of the worldwide. *PICMET 2010 TECHNOLOGY MANAGEMENT FOR GLOBAL ECONOMIC GROWTH*, 1–13.

Chen, Y.-M., Yang, D.-H., & Lin, F.-J. (2013). Does technological diversification matter to firm performance? The moderating role of organizational slack. Journal of Business Research, 66(10), 1970–1975. https://doi.org/10.1016/j.jbusres.2013.02.020

Cheng, J. L. C., & Kesner, I. F. (1997). Organizational slack and response to environmental shifts: The impact of resource allocation patterns. Journal of Management, 23(1), 1–18. https://doi.org/10.1016/S0149-2063(97)90003-9

Core, J. E., Guay, W., & Larcker, D. F. (2008). The power of the pen and executive compensation. Journal of Financial Economics, 88(1), 1–25. https://doi.org/10.1016/j.jfineco.2007.05.001

Daniel, F., Lohrke, F. T., Fornaciari, C. J., & Turner, R. A. (2004). Slack resources and firm performance: a meta-analysis. Journal of Business Research, 57(6), 565–574. https://doi.org/10.1016/S0148-2963(02)00439-3

DeFond, M. L., Erkens, D. H., & Zhang, J. (2016). Does PSM Really Eliminate the Big N Audit Quality Effect? Marshall School of Business Working Paper No. ACC 02.14. https://dx.doi.org/10.2139/ssrn.2472092

Duan, Y., Wang, W., & Zhou, W. (2020). The multiple mediation effect of absorptive capacity on the organizational slack and innovation performance of high-tech manufacturing firms: Evidence from Chinese firms. International Journal of Production Economics, 229, 107754. https://doi.org/10.1016/j.ijpe.2020.107754

Finkelstein, S., & Hambrick, D. C. (1997). Strategic Leadership: Top Executive and Their Effects on Organizations. *The Academy of Management Review*, *22*(3), 802–805.

Geiger, S. W., & Cashen, L. H. (2002). A Multidimensional Examination Of Slack And Its

Impact On Innovation. *Journal of Managerial Issues*, *14*(1), 68–84.

Geiger, S. W., & Makri, M. (2006). Exploration and exploitation innovation processes: The role of organizational slack in R&D intensive firms. *The Journal of High Technology Management Research*, *17*(1), 97–108.

Hadley, B. (2019). Executive compensation and political sensitivity: Evidence from government contractors. Journal of Corporate Finance, 59, 276–301. https://doi.org/10.1016/j.jcorpfin.2016.11.007

Harymawan, I. (2020). Military reform, militarily-connected firms and auditor choice. *Managerial Auditing Journal*, *35*(6), 705–729. https://doi.org/10.1108/MAJ-04-2019-2258

Herold, D. M., Jayaraman, N., & Narayanaswamy, C. R. (2006). What is the Relationship between Organizational Slack and Innovation? *Journal of Managerial Issues*, *18*(3), 372–392.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate governance* (pp. 77–132). Gower.

Kolluru, S., & Mukhopadhaya, P. (2017). Empirical studies on innovation performance in the manufacturing and service sectors since 1995: A systematic review. *Economic Papers: A Journal of Applied Economics and Policy*, *36*(2), 223–248.

Laffranchini, G., & Braun, M. (2014). Slack in family firms: evidence from Italy (2006-2010). Journal of Family Business Management, 4(2), 171–193. https://doi.org/10.1108/JFBM-04-2013-0011

Lee, S. (2015). Slack and innovation: Investigating the relationship in Korea. Journal of Business Research, 68(9), 1895–1905. https://doi.org/10.1016/j.jbusres.2014.12.009

Leitner, J., & Meyer, M. (2013). *Organizational Slack and Innovation BT - Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship* (E. G. Carayannis (ed.); pp. 1412–1419). Springer New York. https://doi.org/10.1007/978-1-4614-3858-8_318

Li, L. (2013). The path to Made-in-China: How this was done and future prospects. International Journal of Production Economics, 146(1), 4–13. https://doi.org/10.1016/j.ijpe.2013.05.022

Liu, Y., Gan, H., & Karim, K. (2021). The effectiveness of chief financial officer board membership in improving corporate investment efficiency. In *Review of Quantitative Finance and Accounting* (Vol. 57, Issue 2). Springer US. https://doi.org/10.1007/s11156-020-00953-2

Marlin, D., & Geiger, S. W. (2015). A reexamination of the organizational slack and innovation relationship. Journal of Business Research, 68(12), 2683–2690. https://doi.org/10.1016/j.jbusres.2015.03.047

Nohria, N., & Gulati, R. (1996). Is Slack Good or Bad for Innovation? *The Academy of Management Journal*, *39*(5), 1245–1264. https://doi.org/10.2307/256998

Raithatha, M., & Komera, S. (2016). Executive compensation and firm performance: Evidence from Indian firms. IIMB Management Review, 28(3), 160–169. https://doi.org/10.1016/j.iimb.2016.07.002

Shipman, J. E., Swanquist, Q. T., & Whited, R. L. (2017). Propensity Score Matching in Accounting Research. The Accounting Review, 92(1), 213–244. https://doi.org/10.2308/accr-51449

Tan, J., & Peng, M. W. (2003). Organizational slack and firm performance during economic transitions: two studies from an emerging economy. *Strategic Management Journal*, *24*(13), 1249–1263. https://doi.org/https://doi.org/10.1002/smj.351

Walker, R. M. (2004). Innovation and organisational performance: Evidence and a research agenda. *Advanced Institute of Management Research Paper*, *002*.