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# DO FINANCIAL INNOVATIONS MATTER? EXPLORING STRATEGY–PERFORMANCE LINKAGES IN INDONESIAN BANKING UNDER COMPETITIVE PRESSURE

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## ABSTRACT

The aim of this research is to examine the mediating role of financial innovation and the moderating role of market competitiveness in the relationship between business strategy and firm performance after the Indonesian Financial Services Authority (OJK) introduced regulations on digital banking services, and to further analyze the impact of the COVID-19 pandemic. The paper consists of 294 observations of banking firms for the period 2018–2023. The results were examined through Hayes' PROCESS Macro Model 15. These findings relate to Resource-Based View (RBV) and Industrial Organization (IO) theories. Across the timeline, major regulatory changes, financial technology development, and customer preferences occurred for banks. The effectiveness of strategy implementation is one major determinant contributing to the variation in firm performance. Banks are therefore recommended to align their business strategies with the level of market competitiveness to enhance performance. This study has several limitations: (1) there are data gaps especially in the NSFR ratio which was imputed by KNN; (2) there is scant empirical literature that substantiates hypotheses 7a and 7b; and (3) there are limitations in time and resources for manual data collection of financial innovation data. However, the research was conducted, and the results were positive. The novelty of this study lies in the development of a more holistic moderated-mediation research model using Hayes' PROCESS Macro. Another novelty is the attempt to reconstruct the measurement of business strategy variables to complement existing models.

***Keywords:*** *Business strategy, financial product innovation, market competitiveness, banking performance, Indonesian banking industry*

## 1. INTRODUCTION

Performance is an indicator of the company's ability to manage resources and is reflected in financial reports (Ahmed et al., 2012; Wahyuni et al., 2022; Gartenberg et al., 2019). It is closely linked to business strategy-driven decisions regarding where firms will compete and position themselves in the industry (Alghababsheh et al., 2022; Langfield-Smith, 1997; Sun & Hong, 2002). This study uses the Miles and Snow (1978) business strategy typology.

Results from studies explaining the impact of business strategy on firm performance show mixed results and suggest that performance may be related to factors such as financial product innovation and market competitiveness. Product innovation is crucial for competition; it is one of the key drivers of economic growth and a competitive advantage through improved products, services, and market positioning (Caldwell and O'Reilly III, 2003; Hogan and Coote, 2014; Tellis et al., 2009). In this research, financial product innovation is used as a mediating variable linking business strategy and banking performance. Prospector banks emphasize aggressive innovation, while defender banks focus on efficiency and stability but also on innovation to retain customers. Innovation leads to better margins and amplifies the effects of strategy on performance. Innovative companies invest significantly more in R&D (Zahra, 1996), developing unique products and services to create competitive advantage and improve performance.

Market competitiveness is selected as a moderating variable to determine if the effect of business strategy variables on company performance changes after considering market competitiveness. The variety of related findings in previous studies encourages new observations; company performance cannot be solely explained by business strategy and innovation, but also by moderated factors from market competitiveness that could strengthen or weaken the relationship. In competitive environments, companies must be aggressive and inventive to survive and create suitable business strategies to reduce competition. Proper business plans will facilitate better service and product quality, efficiency, customer relations, and customer service provision by firms for their customers (Porter, 1979, 2008). The effects of business strategies on overall company performance may also deteriorate because being a strong player in a competitive market is known to induce multiple strategies to fight for market share, such as charging customers a price they cannot afford to meet to have their product available to win the competition, thereby weakening company performance. A high level of competition can also both enhance and attenuate the effect of market innovation on business performance.

There have been several economic crises in Indonesia, including the 1997–1998 crisis (Sadli, 1998; Sharma, 2001), the 2008 crisis (Direktorat Riset Ekonomi dan Kebijakan Moneter, 2009; Nezky, 2013), the 2013 crisis (Maulidia et al., 2023), and the COVID-19 pandemic crisis (Tanjung, 2023). These events brought major reforms: the State Finance Law, Banking Law, prudential guidelines, and independence granted to Bank Indonesia (Kantharia & Biradar, 2023). Especially the pandemic accelerated the digitization of Banking (Sebayang et al., 2024) through digital payments. Banking digitalization in Indonesia was institutionalized by Financial Services Authority Regulation No. 12/POJK.03/2018 on digital banking services (Financial Services Authority Regulation No. 12/POJK.03/2018 on the Implementation of Digital Banking Services by Commercial Banks, 2018). Since then, commercial banks have been providing a multitude of digital services like payments, funds transfers, mobile banking, balance checks, and investments (Sebayang et al., 2024). Given the wide-reaching consequences of the COVID-19 pandemic, the fundamentals of Indonesia's banking sector remain intact, as illustrated in Figure 1 by the negative trend in the non-performing loan ratio from 2.42% (October 2023) to 2.19% (December 2023), which minimizes the risk of default. The banking sector was selected for this study due to the phenomenon of the COVID-19 pandemic in Indonesia, which significantly impacted the banking sector, and because the banking sector is an essential sector in a country.

Loan disbursement benefited by 11.35% in December 2022 (Financial Services Authority (OJK), 2024, as summarized in Figure 2) and liquidity remained unchanged, thanks to LPS deposit guarantees of up to Rp2 million per bank at a 4.25% interest rate (Deposit Insurance Corporation, 2024). This has great potential for the banking industry. Banks can strengthen these competitive advantages through innovative strategies that create a "new normal" business environment (Porter, 1985). Efficient financial instruments are one of the ways to reduce liquidity issues for banks. Using Industrial Organization Theory and Resource-Based View Theory, this research investigates the influence that business strategy, innovation of financial products, and market competition have on enhancing firm performance.

# 2. LITERATURE REVIEW

## 2. 1. INDUSTRIAL ORGANIZATION THEORY

Industrial Organization Theory highlights the significance of the market context, represented by the model "industry structure → conduct (strategy) → performance" (Porter, 1981). It posits that a company's strategic behaviour is shaped by industry structure and competitive dynamics. In this study, the theory explains how external factors, pacifically market competitiveness affects the relationship between business strategy, financial product innovation, and firm performance.

## 2. 2. RESOURCES BASED VIEW THEORY

The Resource-Based View (RBV) theory highlights internal resources and capabilities as key drivers of competitive advantage and performance. It explains how financial innovation and strategic practices enhance bank performance, with financial product innovation mediating the effect of business strategy on firm performance (Lado et al., 1992; Wernerfelt, 1984).

## 2. 3. BUSINESS STRATEGY AND COMPANY PERFORMANCE

The RBV theory approach can improve company financial and non-financial performance (Abuzaid, 2018; Herdinata et al., 2024). Competitive advantage can be enhanced through the implementation of business strategies. The implementation of good business strategies will improve the efficiency of assets used in service production, thereby minimizing operational costs and improving company performance (Ricardianto et al., 2023).

$H_{1a}$: *Prospector strategy has a positive effect on company performance*

$H_{1b}$: *Defender strategy has a positive effect on company performance*

## 2. 4. BUSINESS STRATEGY AND FINANCIAL PRODUCT INNOVATION

The Resource-Based View Theory is applied for bettering business strategy and financial product innovation. Strategic leadership through innovative implementation is key to business strategy (Fahed-Sreih & El-Kassar, 2017). A good business strategy creates an environment conducive to innovation, which encourages innovation and vice versa to grow. In turn, this business strategy that supports innovation will build a corporate culture that is open to new ideas, controlled risk-taking, and learning from failure. A culture of innovation will promote creative thinking, encouraging employees to suggest ideas and test different solutions, which will have repercussions for the level of innovation in the organization.

$H_{2a}$: *Prospector strategy has a positive effect on financial product innovation*

$H_{2b}$: *Defender strategy has a positive effect on financial product innovation*

## 2. 5. FINANCIAL PRODUCT INNOVATION AND COMPANY PERFORMANCE

The Resource-Based View Theory is defined as a company's ability to maintain its competitive advantage based on its capacity to develop, acquire, and utilize valuable, non-perfectly imitable, and non-substitutable resources for the same strategic purposes (Barney, 1991; Morales-serazzi et al., 2023). The main aspect of achieving competitive advantage is having the ability to innovate. Innovation significantly impacts on company performance, even though it is fraught with uncertainty and risk. Innovation can be the key to banking success in an ever-changing environment and intense competition. By continuously innovating, banks can improve performance, achieve sustainable growth, and remain relevant in a dynamic market.

$H_3$: *Financial product innovation has a positive impact on company performance*

## 2. 6. BUSINESS STRATEGY, FINANCIAL PRODUCT INNOVATION, AND COMPANY PERFORMANCE

According to J. Barney (1991) strategy and innovation are two essential ingredients of creating and maintaining sustainable competitive advantage for a company. According to Baron & Kenny (1986), a variable is treated as mediating if it can explain the relation between the predictor variable and the criterion variable to explain the relationship between the two variables. The same mathematical effect is found with mediation. The mediation component was introduced because previous research did not produce consistent results. Therefore, mediation was introduced to address this issue. Innovation can be a mediator between the business strategy and company performance because when an organization implements an innovation-oriented business strategy, it can enhance the organization's ability to create new products, services, or processes that add value to customers and differentiate the company from its competitors.

*$H_{4a}$: Financial product innovation mediates the effect of prospector strategy on company performance.*

*$H_{4b}$: Financial product innovation mediates the effect of defender strategy on company performance.*

## 2. 7. MODERATED-MEDIATION HYPOTHESIS

Industrial Organization Theory argues that a company's strategy/behavior to act in a certain way is greatly influenced by external factors such as the level of competition (Demessie & Shukla, 2023). This theory states that for a company's strategy to produce optimal results and contribute to competitive advantage, external factors must be considered. Therefore, it is reasonable to assume that companies that incorporate sustainability into their corporate strategy can gain a reputation from various stakeholders.

*$H_{5a}$: Market competitiveness plays a moderating role between prospector strategy and company performance, such that the influence is stronger when companies involve market competitiveness in business strategy management to achieve maximum company performance.*

*$H_{5b}$: Market competitiveness plays a moderating role between defender strategies and company performance in such a way that the influence is stronger when companies involve market competitiveness in business strategy management to achieve maximum company performance.*

Given that high market competitiveness is responsible for a high level of creativity and innovation in companies, it will be able to create a competitive advantage for the companies themselves, which enhances the corporate performance (Demessie & Shukla, 2023; Menon et al., 1999). Product and process innovation are sometimes seen as distinct phenomena that contribute to organizational competitiveness and growth in different ways (Damanpour, 2010; Knight, 1967). Market competitiveness has a moderating effect which amplifies the role that financial product innovation plays in company performance. However, because companies which have strong market competitiveness can improve company results through innovation, they will tend to survive in the long run as a competitive company in contrast to competing companies.

*$H_6$: Market competitiveness plays a moderating role between financial product innovation and company performance, such that the influence becomes stronger when companies involve market competitiveness in financial product management to achieve maximum company performance.*

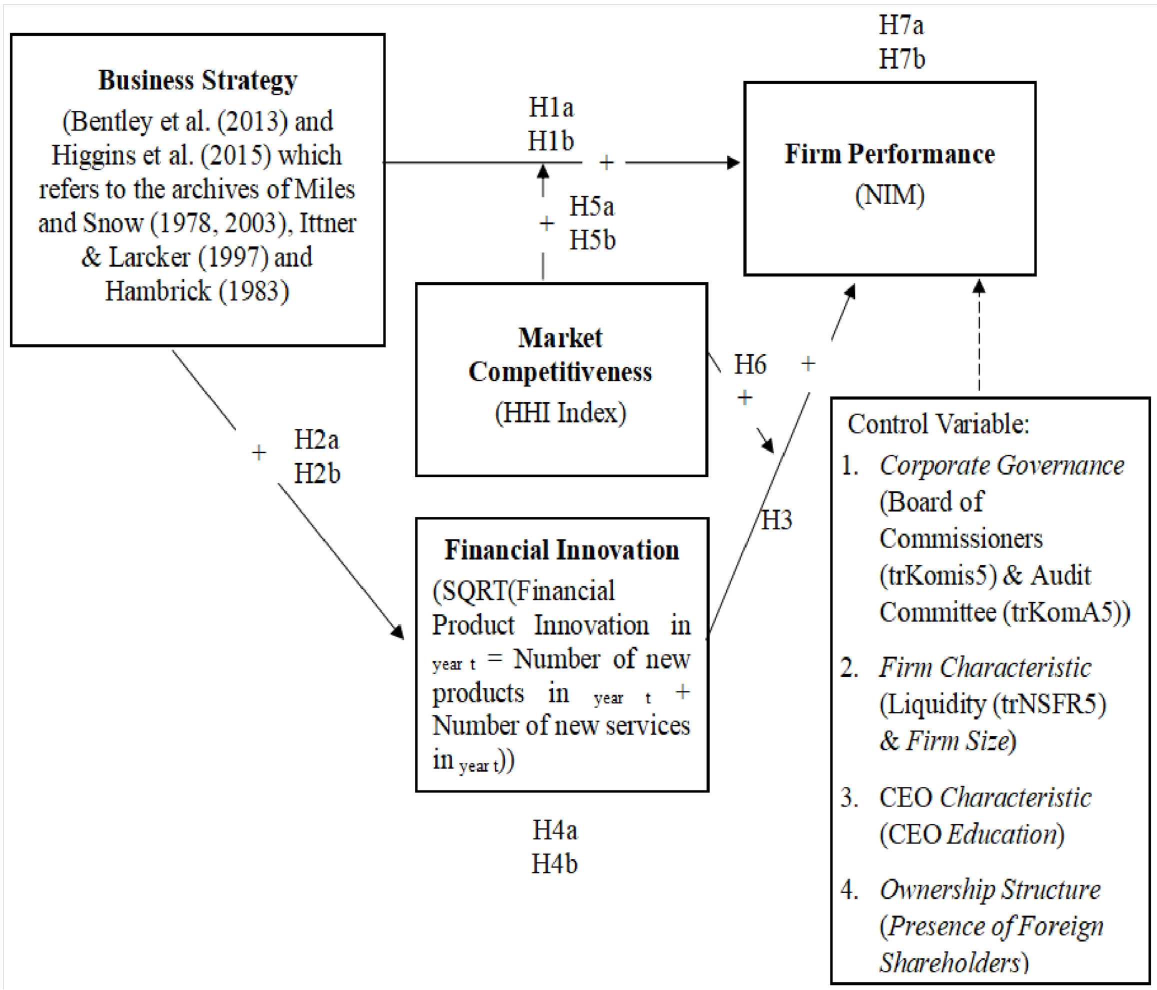
Based on the above analysis, we propose a moderated mediation model, where the indirect effect of market competitiveness on prospector strategy, defender strategy, and company performance is mediated through financial product innovation.

*$H_{7a}$: Market competitiveness plays a moderating role in the indirect effect between the influence of prospector strategy on company performance through financial product innovation, such that the indirect effect is stronger when financial product innovation is high compared to when financial product innovation is low.*

*$H_{7b}$: Market competitiveness plays a moderating role in the indirect effect between the influence of the defender strategy on company performance through financial product innovation, such that the indirect effect is stronger when financial product innovation is high compared to when financial product innovation is low.*

Based on the theoretical framework above, the model of this study focuses on the relationship between business strategy, financial product innovation, market competitiveness, and company performance as depicted in the framework model in Figure 3.

Figure 3. Conceptual Framework Hayes Model 15




Sources: Authors' work based on existing literature

Notes:

"+" = indicates a positive effect

$H_{1a}$–$H_{7b}$ = Hypotheses 1a through 7b

→ = depict the direction of the main variable relationships

- - - - - - = depict the direction of the control variable relationships

Business strategy plays an important role in determining a company's performance and a good execution can bring out a good performance of a bank. Innovation in financial products mediates this relationship, and market competitiveness moderates it by enhancing the effects of strategy and innovation in competitive sectors. Under extremely competitive conditions, efficiency is important for better performance. This study disregards the moderating role of market competitiveness on innovation by examining the role of firm performance consistent with the Resource-Based View and Industrial Organization Theory.

## 3. RESEARCH METHODOLOGY

This study is moderated mediation research examined using the popular Hayes Process Macro model 15 (Hayes, 2022). The research model is presented as follows:

Equation for Hypothesis 1a:

$$KP_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 CEOEd_{it} + \beta_3 KomAud_{it} + \beta_4 Komis_{it} + \beta_5 LQ_{it} + \beta_6 FZ_{it} + \beta_7 ForSha_{it} + \varepsilon_{it} \quad (1)$$

Equation for Hypothesis 1b:

$$KP_{it} = \beta_0 + \beta_1 DEF_{it} + \beta_2 CEOEd_{it} + \beta_3 KomAud_{it} + \beta_4 Komis_{it} + \beta_5 LQ_{it} + \beta_6 FZ_{it} + \beta_7 ForSha_{it} + \varepsilon_{it} \quad (2)$$

Equation for Hypothesis 2a:

$$INOV_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 CEOEd_{it} + \beta_3 KomAud_{it} + \beta_4 Komis_{it} + \beta_5 LQ_{it} + \beta_6 FZ_{it} + \beta_7 ForSha_{it} + \varepsilon_{it} \quad (3)$$

Equation for Hypothesis 2b:

$$INOV_{it} = \beta_0 + \beta_1 DEF_{it} + \beta_2 CEOEd_{it} + \beta_3 KomAud_{it} + \beta_4 Komis_{it} + \beta_5 LQ_{it} + \beta_6 FZ_{it} + \beta_7 ForSha_{it} + \varepsilon_{it} \quad (4)$$

Equation for Hypothesis 3:

$$KP_{it} = \beta_0 + \beta_1 INOV_{it} + \beta_2 CEOEd_{it} + \beta_3 KomAud_{it} + \beta_4 Komis_{it} + \beta_5 LQ_{it} + \beta_6 FZ_{it} + \beta_7 ForSha_{it} + \varepsilon_{it} \quad (5)$$

Equation for Hypothesis 4a:

$$KP_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 INOV_{it} + \beta_3 CEOEd_{it} + \beta_4 KomAud_{it} + \beta_5 Komis_{it} + \beta_6 LQ_{it} + \beta_7 FZ_{it} + \beta_8 ForSha_{it} + \varepsilon_{it} \quad (6)$$

Equation for Hypothesis 4b:

$$KP_{it} = \beta_0 + \beta_1 DEF_{it} + \beta_2 INOV_{it} + \beta_3 CEOEd_{it} + \beta_4 KomAud_{it} + \beta_5 Komis_{it} + \beta_6 LQ_{it} + \beta_7 FZ_{it} + \beta_8 ForSha_{it} + \varepsilon_{it} \quad (7)$$

Equation for Hypothesis 5a:

$$KP_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 SAING_{it} + \beta_3 PROS_{it} * \beta_4 SAING_{it} + \beta_5 CEOEd_{it} + \beta_6 KomAud_{it} + + \beta_7 Komis_{it} + \beta_8 LQ_{it} + \beta_9 FZ_{it} + \beta_{10} ForSha_{it} + \varepsilon_{it} \quad (8)$$

Equation for Hypothesis 5b:

$$KP_{it} = \beta_0 + \beta_1 DEF_{it} + \beta_2 SAING_{it} + \beta_3 DEF_{it} * \beta_4 SAING_{it} + \beta_5 CEOEd_{it} + \beta_6 KomAud_{it} + + \beta_7 Komis_{it} + \beta_8 LQ_{it} + \beta_9 FZ_{it} + \beta_{10} ForSha_{it} + \varepsilon_{it} \quad (9)$$

Equation for Hypothesis 6:

$$KP_{it} = \beta_0 + \beta_1 INOV_{it} + \beta_2 SAING_{it} + \beta_3 INOV_{it} * \beta_4 SAING_{it} + \beta_5 CEOEd_{it} + \beta_6 KomAud_{it} + + \beta_7 Komis_{it} + \beta_8 LQ_{it} + \beta_9 FZ_{it} + \beta_{10} ForSha_{it} + \varepsilon_{it} \quad (10)$$

Equation for Hypothesis 7a:

$$KP_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 SAING_{it} + \beta_3 PROS_{it} * \beta_4 SAING_{it} + \beta_5 INOV_{it} + \beta_6 CEOEd_{it} + + \beta_7 KomAud_{it} + \beta_8 Komis_{it} + \beta_9 LQ_{it} + \beta_{10} FZ_{it} + \beta_{11} ForSha_{it} + \varepsilon_{it} \quad (11)$$

Equation for Hypothesis 7b:

$$KP_{it} = \beta_0 + \beta_1 DEF_{it} + \beta_2 SAING_{it} + \beta_3 PROS_{it} * \beta_4 SAING_{it} + \beta_5 INOV_{it} + \beta_6 CEOEd_{it} + + \beta_7 KomAud_{it} + \beta_8 Komis_{it} + \beta_9 LQ_{it} + \beta_{10} FZ_{it} + \beta_{11} ForSha_{it} + \varepsilon_{it} \quad (12)$$

## 3. 1. OPERATIONAL DEFINITIONS AND MEASUREMENT OF VARIABLES

### 3. 1. 1. DEPENDENT VARIABLE

Business strategy as the dependent variable is measured using a 4–20 score continuum approach, combining the methods of Bentley et al. (2013) and Higgins et al. (2015), which refer to the archives of Miles and Snow (1978, 2003), Ittner & Larcker (1997), and Hambrick (1983), namely:

1. $MA_{\frac{EMP}{SALES},t} = \frac{1}{5}\sum_{i=t-4}^{t} \frac{Number\ of\ Employees_i}{Interest\ Income_i}$
2. $MA_{MtoB,t} = \frac{1}{5}\sum_{i=t-4}^{t} \frac{Stock\ Market\ Price_i}{Amount\ of\ Capital_i}$
3. $MA_{Marketing,t} = \frac{1}{5}\sum_{i=t-4}^{t} \frac{Marketing\ Expenses_i}{Interest\ Income_i}$
4. $MA_{PPENT,t} = \frac{1}{5}\sum_{i=t-4}^{t} \frac{Fixed\ Assets_i}{Total\ Assets_i}$

Information:

*MA* = *Moving Average* in year *t*

*Number of Employees*$_i$ = Ratio of number of employees in year i

*Interest Income*$_i$ = Interest income ratio in year i

$\frac{1}{5}\sum_{i=t-4}^{t}$ = represents the sum from year t-4 to t. $\frac{1}{5}$ is used to give equal weight to each year in the five years.

Once the proxy measurements have been completed, the four measurement variables are then sorted from lowest to highest value, as follows:

Table 1. Business Strategy Score Composition

The score obtained by the highest value

The score obtained by the lowest value

| EMP/*SALES* | MtoB | *Marketing* | Fixed Assets Intensity |
|---|---|---|---|
| 5 | 5 | 5 | 1 |
| 4 | 4 | 4 | 2 |
| 3 | 3 | 3 | 3 |
| 2 | 2 | 2 | 4 |
| 1 | 1 | 1 | 5 |

Source: (Higgins et al., 2015) and illustrated in the table by researchers (2023)

Higgins et al. (2015) and Bentley et al. (2013) state that the highest strategy score reflects a prospector company, while the lowest score reflects a defender. Therefore, the total score from the four indicators is used to classify the strategy, with a maximum score of 20 indicating a prospector and a minimum of 4 indicating a defender.

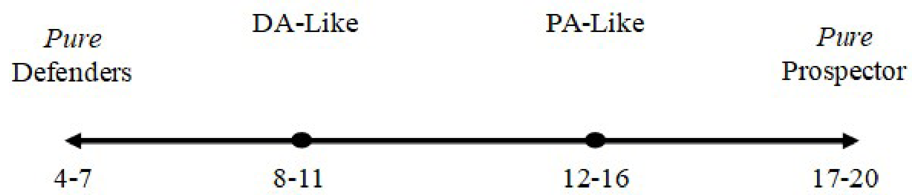
Table 2. Strategy Determination Criteria

| Value Range | Strategy Used |
|---|---|
| 4-11 | Defender |
| 12-20 | Prospector |

Source: Researcher's Calculation Results (2023)

Figure 4 shows a visualization of the spectrum or continuum depicting the position from defender to prospector.

Figure 4. Spectrum or Continuum of Business Strategy Position




Source: (Anwar & Hasnu, 2016)

### 3. 1. 2. INDEPENDENT VARIABLE

Knight (1967) states that product-based innovation is a new product or service introduced to meet external user or market needs. Therefore, this study measures innovation by examining the number of new products or services released by banking companies each year.

SQRT (Financial Product Innovation $_{\text{in year t}}$ = Number of new products $_{\text{in year t}}$ + Number of new services $_{\text{in year t}}$)

### 3. 1. 3. MODERATING VARIABLE

Market competitiveness is measured using market concentration, specifically the Herfindahl-Hirschman Index (HHI). The HHI formula is as follows (Pandey et al., 2023; Thome et al., 2023):

$$s_i^2 = \Sigma\left(\frac{Net\ Interest\ Revenue_1}{Total\ Net\ Interest\ Revenue}\right)^2 + \left(\frac{Net\ Interest\ Revenue_2}{Total\ Net\ Interest\ Revenue}\right)^2 + \left(\frac{Net\ Interest\ Revenue_3}{Total\ Net\ Interest\ Revenue}\right)^2 + \dots + \left(\frac{Net\ Interest\ Revenue_n}{Total\ Net\ Interest\ Revenue}\right)^2$$

$$\text{HHI} = \sum_{i=1}^{n} s_i^2$$

### 3. 1. 4. MEDIATING VARIABLE

The performance of banking companies in this study is measured using the Net Interest Margin (NIM) because, as explained in the background section, the COVID-19 pandemic has significantly impacted Indonesia. In contrast, other ratios are used as additional tests.

### 3. 1. 5. CONTROL VARIABLE

There are six (6) control variables in this study, namely:

1) Corporate governance is proxied by:
   a. Commissioners, measured by summing the number of commissioners on each company's board each year.
   b. Audit committee, measured by summing the members of the audit committee in each company each year.
2) Firm characteristics is proxied by:
   a. Liquidity, measured by:

   $$\text{NSFR} = \frac{Available\ amount\ of\ stable\ funding\ (ASF)}{Required\ amount\ of\ stable\ funding\ (RSF)}$$

   b. firm size, measured by logarithm natural from total assets.

3) CEO characteristics measured by:

$$\text{CEO } Education = Average\ \frac{\sum Education\ Level\ Score}{Number\ of\ CEOs}$$

4) *Ownership structure* is proxied by the *presence of a foreign shareholder*. The presence of foreign shareholders is measured using a dummy variable, where companies with foreign shareholders are coded as 1, and those without are coded as 0 (Karabag & Berggren, 2014).

### 3. 2. SAMPLE AND DATA COLLECTION

This study employed a quantitative approach using Hayes' Macro Process for hypothesis testing. Secondary data were collected from banks' financial and annual reports for 2018–2023, accessed through official bank websites. The period was chosen following the issuance of POJK No. 12/POJK.03/2018 on digital banking services. Population details are shown in Table 3.

Table 3. Population of Indonesian Banking Companies

| Type of Bank/Year | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| Conventional Commercial Banks – State-Owned Banks | 4 | 4 | 4 | 4 | 4 | 4 |
| Conventional Commercial Banks – Regional Development Banks | 27 | 27 | 27 | 27 | 27 | 27 |
| Conventional Commercial Banks – National Private Banks | 75 | 71 | 70 | 68 | 68 | 67 |
| Total Banks | 106 | 102 | 101 | 99 | 99 | 98 |

Source: (Otoritas Jasa Keuangan (OJK), 2021, 2022)

Based on the population collected in Table 3, the list of companies selected as samples consists of 49 companies. However, during data collection, 15 (Fifteen) companies were excluded from the sample due to incomplete data, resulting in a final sample of 34 companies.

## 4. RESULT AND DISCUSSION

### 4. 1. DESCRIPTIVE STATISTIC

Defender strategy, market competitiveness, and company performance have homogeneous data distributions (mean values higher than standard deviations). In contrast, financial product innovation shows greater variability (mean = 3.34; range = 0–16). Overall, most Indonesian banks tend to maintain market positions, prioritize internal efficiency, and avoid major risks, while fewer adopt dynamic and innovative strategies.

## 4. 2. CORRELATION MATRIX

Table 4. Pairwise Correlations for Defender

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Strategi Bisnis (Defender) | 1 | | | | | | | | | |
| Daya Saing Pasar (HHI) | -0,007 | 1 | | | | | | | | |
| Inovasi Produk Keuangan | 0,060 | -0,124 | 1 | | | | | | | |
| Kinerja Perusahaan (NIM) | -0,062 | 0,081 | 0,238* | 1 | | | | | | |
| CEO Education | 0,050 | 0,018 | -0,052 | -0,111 | 1 | | | | | |
| Komite Audit | -0,167*** | 0,043 | 0,348** | 0,216* | 0,042 | 1 | | | | |
| Komisaris | -0,077 | 0,041 | 0,545** | 0,215* | 0,053 | 0,685** | 1 | | | |
| Likuiditas | 0,283** | 0,001 | -0,262** | 0,050 | 0,082 | -0,307** | -0,284** | 1 | | |
| Firm Size | -0,018 | 0,514** | 0,050 | 0,160 | 0,083 | 0,199* | 0,257** | -0,085 | 1 | |
| Presence of Foreign Shareholders | 0,032 | -0,010 | 0,085 | -0,034 | -0,106 | -0,121 | -0,069 | 0,023 | -0,220 | 1 |
| VIF | 1,135 | 1,432 | 1,576 | - | 1,034 | 1,988 | 2,468 | 1,244 | 1,567 | 1,108 |

Note: ***p<0,1, **p<0,01, *p<0,05

Source: Researcher's Calculation Results (2023)

Table 5. Pairwise Correlations for Prospector

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Strategi Bisnis (Prospector) | 1 | | | | | | | | | |
| Daya Saing Pasar (HHI) | -0,072 | 1 | | | | | | | | |
| Inovasi Produk Keuangan | -0,396** | -0,024 | 1 | | | | | | | |
| Kinerja Perusahaan (NIM) | -0,529** | -0,004 | 0,340** | 1 | | | | | | |
| CEO Education | 0,183 | -0,034 | 0,079 | -0,205* | 1 | | | | | |
| Komite Audit | 0,002 | 0,121 | 0,023 | 0,283** | -0,071 | 1 | | | | |
| Komisaris | -0,356** | 0,080 | 0,329** | 0,340** | 0,154 | 0,330** | 1 | | | |
| Likuiditas | 0,177 | -0,031 | -0,018 | -0,126 | 0,347** | -0,290** | -0,181 | 1 | | |
| Firm Size | -0,286** | 0,363** | 0,139 | 0,208* | -0,032 | 0,151 | 0,323** | -0,073 | 1 | |
| Presence of Foreign Shareholders | 0,188 | 0,010 | -0,065 | -0,002 | 0,072 | 0,013 | 0,498** | 0,056 | 0,010 | 1 |
| VIF | 1,833 | 1,170 | 1,314 | - | 1,361 | 1,365 | 3,026 | 1,315 | 1,352 | 2,008 |

Note: ***p<0,1, **p<0,01, *p<0,05

Source: Researcher's Calculation Results (2023)

## 4. 3. HYPOTHESIS TESTING

Using SPSS 27 with the Hayes Process Macro (Model 15), the analysis shows that H1a, H1b, and H2a have significant negative effects, while only H2b is supported. Financial product innovation does not mediate the relationship (H4a not supported), but it positively mediates the effect of the defender strategy under low to moderate market competitiveness (H4b supported). Market competitiveness does not moderate the prospector strategy's effect (H5a not supported) but strengthens the defender strategy's impact (H5b supported). It also does not moderate the effect of financial product innovation (H6 not supported), and its indirect moderating roles (H7a and H7b) are insignificant.

# 5. DISCUSSION

## 5. 1. PROSPECTOR BUSINESS STRATEGY AND COMPANY PERFORMANCE

Hypothesis *1a* is not supported and even demonstrates a significant negative impact, the prospector strategy positively affects company performance. This conclusion runs counter to the Resource-Based View (RBV) theory, which states the prospector strategy is expected to improve performance by innovation and exploration of new markets (J. Barney, 1991). But it suggests that pursuing the prospector strategy is likely to involve huge investment into R&D, technology, and market expansion. Company performance will deteriorate if such investments are not balanced by sufficient revenue or efficiency.

Descriptive analysis indicates that prospector strategies are more aggressive (average value of 14.1800) than defender strategies (9.4423); this does not enhance the performance of banking companies and has a negative effect instead. Perhaps innovation costs exceed benefits (decreasing NIM), or markets are reluctant to accept innovative products. Such findings are consistent with the conditions in the Indonesian banking sector during 2018–2023 because of an uncertain situation owing to the COVID-19 and global economic fluctuations.

## 5. 2. DEFENDER BUSINESS STRATEGY AND COMPANY PERFORMANCE

Not only does the hypothesis that the defender business strategy positively affects company performance not hold; it also has a big negative effect. This is contrary to the Resource-Based View (RBV) theory. We know that while the number of defender companies (104) is higher than prospector companies (100), the intensity of the defender strategy implementation is comparatively low, as evidenced by the lower mean value (as compared to prospector companies). This low implementation intensity likely constrains banks from being able to respond to major changes. Interestingly, prospector companies have lower mean performance values than defenders, which means that defender companies are better able to maintain their performance. These findings are consistent with the 2018–2023 Indonesian bank industry conditions, characterized as it was by regulations, financial technology and customer preferences.

## 5. 3. PROSPECTOR BUSINESS STRATEGY AND FINANCIAL PRODUCT INNOVATION

Hypothesis 2a; that the prospector strategy affects financial product innovation positively – is not supported, and results in significant negative results. This finding is not relevant to RBV theory. With their prospector strategy, banks may struggle with regulatory obstacles, which hinder financial product innovation. The data further indicates that, in view of the existing measures, banks prefer to focus on strengthening digital services and expanding financial inclusion rather than innovating with new high-risk products.

Descriptive analysis supported this conclusion, indicating that defender companies had higher average financial product innovation value (3.3365) than prospectors. This shows that most banks are focusing on the extension of their competitive advantage by consolidating their products and services, even innovating for their existing products, including efficiency and competitiveness in the market segments. A lower average score for prospectors than for defenders indicates that the innovations made by prospectors were not as significant as those of defenders in the banking sector during 2018-2023.

## 5. 4. DEFENDER BUSINESS STRATEGIES AND FINANCIAL PRODUCT INNOVATION

Hypothesis 2b, which states that defender business strategy has a positive effect on financial product innovation, is supported, and this result is consistent with the Resource-Based View (RBV) theory. Although such findings may be rare, their relevance is evident from the need for defender banks to adapt to the rapid development of digital technology and fintech in Indonesia during 2018–2023. To retain markets and customers shifting to digital services, these banks must introduce innovations such as mobile banking, internet banking, and stronger security features.

## 5. 5. FINANCIAL PRODUCT INNOVATION AND COMPANY PERFORMANCE

Hypothesis 3, which states that financial product innovation has a positive impact on company performance, is not supported, whether analysed using the defender or prospector company sample. The results of this study do not support the RBV theory. When linked to the observation period from 2018 to 2023, Indonesian banking requires more time to translate the contribution of innovation into an increase in NIM.

## 5. 6. PROSPECTOR BUSINESS STRATEGY, FINANCIAL PRODUCT INNOVATION, AND COMPANY PERFORMANCE

Hypothesis 4a, which states that financial product innovation mediates the effect of prospector strategy on company performance, is not supported and is inconsistent with the Resource-Based View (RBV) theory. This finding is consistent with the conditions of the Indonesian banking industry during 2018-2023, a period marked by accelerated change due to the emergence of fintech and digitalization.

The impact of financial product innovation as a mediator between prospector strategy and company performance depends on market competitiveness. The negative effect of financial product innovation decreases when competitiveness is high, as banks must continue to innovate to attract and retain customers. Conversely, if competitiveness is low, innovation may not be as important or become a burden.

## 5. 7. DEFENDER BUSINESS STRATEGY, FINANCIAL PRODUCT INNOVATION, AND COMPANY PERFORMANC

Hypothesis 4b, which posits financial product innovation plays as a mediation of the positive impact of defender strategy on financial performance, is confirmed in low and moderate competitive environments. What this implies is that simple and efficient product innovations can add great value to defender companies in a less competitive environment. The results indicate that there exists a positive mediating effect of financial product innovation under low-moderate, and high competitiveness, albeit this positive effect in relation to the latter wanes with increasing competitiveness.

With low competitiveness and moderate competitiveness, banks, who adopt a defender strategy, do not face highly competitive pressure, so the innovation of financial product is an accepted trend of the market because customers are relatively loyal. In high competition, defender banks may struggle due to being conservative and less aggressive than prospectors.

The findings from this study are applicable to RBV theory. Financial product innovation emerges as a valuable resource in terms of low and moderate competitiveness, as it meets stable market needs. On the other hand, in high competitiveness, such innovation becomes unspecialised and less relevant to significant performance.

### 5. 8. PROSPECTOR BUSINESS STRATEGY, MARKET COMPETITIVENESS, AND COMPANY PERFORMANCE

Hypothesis 5a, the assumption that market competitiveness serves as a moderator for prospector strategy and firm performance, is not validated. These findings contrast with Industrial Organization theory, which says that external factors like market competitiveness influence company strategy effectiveness (Demessie & Shukla, 2023).

Due to strict regulations in the banking sector, prospector strategies are not as effective in competing markets as they should be. Furthermore, the observation period of 2018–2023, which reflects the COVID-19 pandemic, digitalization, and fintech competition, demonstrates that external pressures dominate the banking sector's performance, so that the influence of market competitiveness, by itself, will be less than the level of external forces.

However, the average value of prospector firms (0.1619) suggests that this industry functions in an "ideal" competitive environment, where there is no one dominant player (Basturk, 2012). This creates space for prospector banks to expand without great hurdles from bigger companies.

This finding also coincides with prudential regulations to protect deposits and maintain the banking system's health (Brownbridge et al., 2002). In Indonesia, there are rigid and stringent regulations in BI and OJK that make it so that prospector banks remain prudent, even though they can be aggressive.

### 5. 9. DEFENDER BUSINESS STRATEGY, MARKET COMPETITIVENESS, AND COMPANY PERFORMANCE

Hypothesis 5b, which states that the influence of market competitiveness has a moderator effect on the relationship between defender strategy and company performance, is confirmed by the Industrial Organization theory. Hence it is concluded that defender strategies are appropriate for competitive markets in which conservative strategies and resource efficiency improve according to the competitive environment.

Defender companies have similar average market competitiveness values (0.1582), and prospector companies have similar average market competitiveness values (0.1619); however, the slight difference implies that competitiveness is not responsible for performance differences. Differences in performance are probably due to how well businesses have put plans into practice, against similar levels of competition. Defensive strategies in the banking sector are thus less detrimental in terms of maintaining firm performance (Ung et al., 2018), as compared with aggressive strategies, particularly in the presence of heavy competition (Capello & Fratesi, 2009).

The average value of defender companies (0.1582) in the industry suggests having an optimal competitive environment, aligned with Basturk (2012) benchmark criteria and prudential regulations (Brownbridge et al., 2002) that are geared at banking system safety. This is also consistent with the view that defender companies are stable in the competitive landscape, concentrating on securing position for current products and markets (Demessie & Shukla, 2023; Gu et al., 2019; Leonidou et al., 2023; Porter, 1979, 2008; Zamani et al., 2013).

### 5. 10. FINANCIAL PRODUCT INNOVATION, MARKET COMPETITIVENESS, AND FIRM PERFORMANCE

Hypothesis 6, which states that market competitiveness moderates the relationship between financial product innovation and firm performance, is not supported. These results align more closely with the Resource-Based View (RBV) theory, which emphasizes internal capabilities such as financial product innovation (as seen in H2b regarding defender strategies). Conversely, Industrial Organization theory is not strongly supported because market competitiveness, as an external element, does not exhibit moderating effects, whether in prospector or defender firms.

These findings contradict some previous studies, such as Hou et al. (2019), Jermias (2006), and Prajogo & Oke (2016), but are consistent with Winowod et al. (2018), who also found that business competition does not moderate product innovation on product performance. During the 2018–2023 period, banks innovated more to accommodate customers' digital needs than to compete on price or margins. Additionally, amid the COVID-19 pandemic, financial product innovation was more focused on the ability to adapt to changing consumer needs than on competition between banks.

### 5. 11. THE INDIRECT EFFECT OF MARKET COMPETITIVENESS ON PROSPECTOR BUSINESS STRATEGIES AND COMPANY PERFORMANCE

Hypothesis 7a, which states that market competitiveness moderates the indirect effect between prospector strategies and company performance through financial product innovation, is not supported. This implies that market competitiveness does not significantly strengthen the relationship. The bootstrap confidence interval includes zero, which means that market competitiveness does not play a statistically significant moderating role in this indirect effect.

This study does not support Industrial Organization theory, which states that a competitive market environment encourages innovation and improved performance. Researchers suspect that the observation period (including the COVID-19 pandemic) and market fluctuations could have affected competitiveness patterns. Meanwhile, prospector strategies those focused on exploring new markets and unique product innovations, may be less dependent on current competitive market conditions. The forward-looking and proactive nature of these strategies implies that their innovations may be carried out regardless of direct competition, rendering market competitiveness insignificant as a moderator.

### 5. 12. THE INDIRECT EFFECT OF MARKET COMPETITIVENESS ON DEFENDER BUSINESS STRATEGY AND COMPANY PERFORMANCE

Hypothesis 7b, which states that market competitiveness moderates the indirect effect between defender strategies and company performance through financial product innovation, is not supported. This means that market competitiveness does not significantly strengthen this relationship. Since the bootstrap confidence interval includes zero, the moderating effect of market competitiveness is not statistically significant, leading to the conclusion that market competitiveness does not moderate this indirect effect.

The findings of this study support the Resource-Based View (RBV) argument, which emphasizes the importance of internal factors over external pressures in this context. Consistent with the previous H4b results showing that financial product innovation positively mediates the defender strategy at low and medium competitiveness levels, this study reaffirms that internal advantages through innovation are more critical than the impact of external variables such as market competitiveness.

### 5. 13. ADDITIONAL TEST

This article utilises the Friedman Test and Wilcoxon Test to look at Indonesian banking performance differences between periods: pre-pandemic (2018–2019), during the pandemic period (2020–2022), and post-pandemic years (2023). They were set accordingly with Indonesia's official COVID-19 declaration of 2 March 2020 and its reclassification as endemic on 21 June 2023.

According to the Friedman Test results (Asymp. Sig = 0.010) clearly exhibits that there is substantial performance variation between the three stage states:

1. Pre-pandemic (Mean Rank = 2.28) Performance was highest, under the auspices of efficient interest margin controls, sound lending, and a stabilized economy.
2. Post-pandemic (Mean Rank = 2.13): Performance increased moderately however not to the levels as before.
3. During the pandemic (Mean Rank = 1.59): Performance plummeted on account of the pandemic´s crippling effect on NIM.

The Wilcoxon Test is even more revealing of the three:

1. Pre vs. During: Negative and highly significant decrease ($p < 0.001$).
2. During vs. After: Significant recovery ($p = 0.001$).
3. Before versus After: No difference ($p = 0.177$).

Banking performance deteriorated more during the pandemic; however, it slowly recovered in the post-pandemic period. Though not yet back to pre-COVID levels, these findings demonstrate the capacity of Indonesia's banks to adjust and to respond to the challenges faced in the long run.

### 5. 14. ROBUSTNESS TEST

The robustness test shows that only H2b and H4b are relatively robust, while most other hypotheses remain unsupported. Overall, only 11% of the hypotheses (including H1b and H6) are supported, indicating weak empirical relationships and low sensitivity across measurements.

## 6. CONCLUSION

This study demonstrates that prospector and defender business strategies negatively influence the performance of banking companies in Indonesia. It is impossible to get product innovation to mediate these effects except for defender strategies in low- to moderate-market competition environments. Market competitiveness only acts as a moderator that increases and strengthens the effect of defender strategies on company performance but is ineffective in other relationships. Tests of robustness indicate that most unsupported hypotheses are robust, i.e., their relationships between tested variables are weak. These results are consistent with the Resource-Based View as a mediating factor in the defender strategy, and with Industrial Organization Theory as the moderating effect of market competition. In general, defender strategy is more secure and adaptive for delivering effectiveness than prospector strategy, which usually is expensive and less valued in the market. Thus, banks are encouraged to connect their businesses to the stages of market competitiveness and ensure that these strategies are implemented with efficiency if they wish to attain long term performance improvements.

### Contribution

This research helps to advance the development of business strategy theory by showing that the success of prospector and defender strategies is contextual, depending on levels of innovation and market competitiveness. These findings further validate the application of the Resource-Based View and Industrial Organization Theory in the Indonesian banking sector. Methodologically, the simultaneous use of mediation and moderation analysis models through the PROCESS Macro Model 15 provides a more comprehensive approach. Practically, this study acts as a reference for banking management in adapting its business strategies to the competitive environment to enhance their performance sustainably.

The results are expected to inform policy, particularly those of the Financial Services Authority as they work to create an innovation-friendly environment for banking institutions. The emergence of more adaptive regulations could serve as mechanisms to help banks produce new types of financial products, especially products grounded in digital technology. This progressive regulatory approach is crucial to maintaining the competitiveness and performance of the banking industry.

### Limitations

There are several limitations of this study. The first limitation was data limitation, most notably the NSFR ratio, and thus the imputation method, KNN, was employed to fill in the missing data. Second, there are limitations in supporting literature for hypotheses 7a and 7b, as these topics have not been extensively researched. Third, time and resource limitations to manually measure data from company financial and annual reports, particularly for the financial product innovation variable, led to an extremely time-consuming process. Nonetheless, the researcher obtained acceptable results in the study.

### Future research

Future research could expand the scope to other sectors or cross-national contexts, utilize primary data to explore deeper strategic aspects, and test non-linear or longitudinal models to capture long-term dynamics.

### Author contribution

A.A Pt. Agung Mirah Purnama Sari: Conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, writing-original draft.

### Disclosure statement

No potential conflict of interest was reported by the author(s).

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### Data availability statement

Data for this original research work will be available by the corresponding author upon request.

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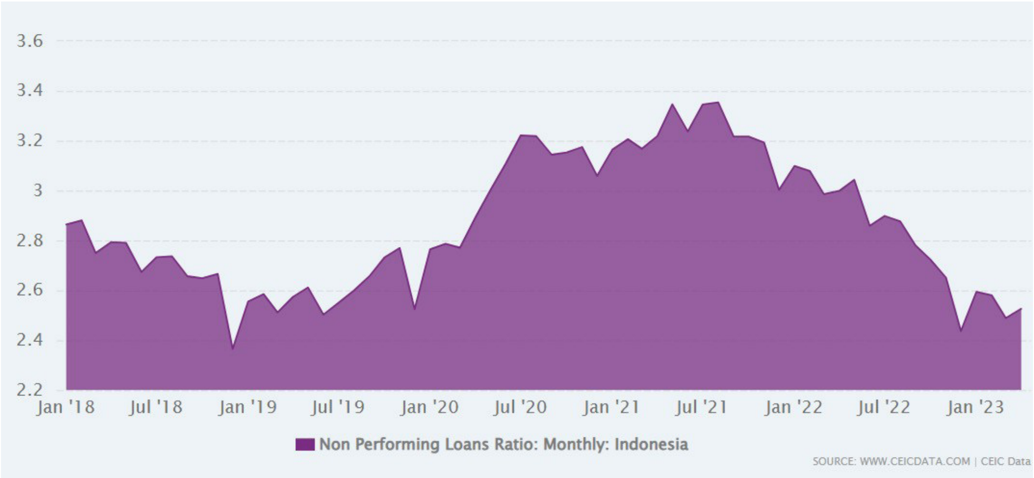
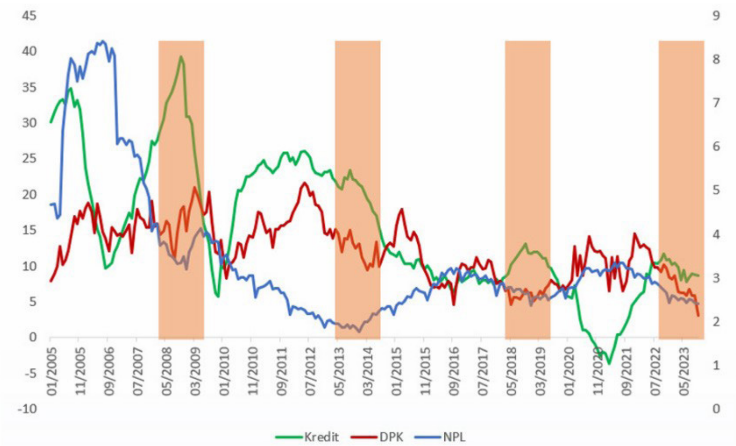
## APPENDIX

Figure 1. Non-Performing Loan Risk Relative to Total Loans in the National Banking Sector




Source: (Ceicdata.com, 2023; Otoritas Jasa Keuangan (OJK), 2024)

Figure 2. Performance of National Banking Loan Disbursement




Source: (Perhimpunan Bank Nasional (PERBANAS), 2024)