

The Effects of Sustainable Development Goals, Digital Currency, Board Independence, And Macroeconomic Factors on Banking Performance in Indonesia: The Mediating Role of Third-Party Funds

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ABSTRACT: This study aims to examine the effect of Sustainable Development Goals (SDGs), Digital Currency, Board Independence and macroeconomic factors proxied by Gross Domestic Product (GDP) and Inflation on banking performance in Indonesia. It also investigates the mediating role of Third-Party Funds (Customer Deposits) in the relationship between these independent variables and banking performance. This research employs a quantitative approach using panel data regression analysis. The sample consists of 34 banking companies listed on the Indonesia Stock Exchange during the observation period 2015 - 2024. The empirical results reveal that GDP has a positive and significant effect on banking performance, while Inflation has a negative and significant effect on ROA. Board Independence also significantly affects banking performance. SDGs and Digital Currency demonstrate direct effects on performance; however, Third-Party Funds do not mediate the relationship between SDGs, Digital Currency, Board Independence, GDP, and Inflation and banking performance. Theoretically, this study extends Financial Intermediation Theory by demonstrating that deposit mobilization does not necessarily serve as the primary transmission channel in improving banking performance. From managerial and policy perspectives, the findings emphasize the importance of strengthening asset quality, risk management, operational efficiency, and macroeconomic stability in sustaining banking performance amid digital transformation and sustainability demands. However, this study is limited by the use of proxy variables to measure SDGs and Digital Currency, which may not fully capture the multidimensional nature of these concepts, the relatively limited observation period that may not reflect long-term structural effects, and the use of Third-Party Funds as the sole mediating variable. Future research is recommended to consider alternative mediating variables and extend the observation period to obtain more comprehensive findings.

KEYWORDS: Banking Performance, Board Independence, Digital Currency, Gross Domestic Product (GDP), Inflation, Sustainable Development Goals (SDGs), Third-Party Funds, Return on Assets (ROA).

I. INTRODUCTION

The banking sector plays a central role in the financial system and economic development by mobilizing public funds, allocating credit, facilitating financial transactions, and performing financial intermediation between surplus and deficit units. In emerging economies such as Indonesia, the performance of the banking sector is particularly important because banks remain the dominant component of the national financial system and serve as a major channel for transmitting monetary policy and supporting economic activity. Consequently, bank performance is not only relevant to institutional profitability but also to financial stability, economic growth, sustainable development, and public confidence in the financial system (Choudhury et al., 2021; Cosma et al., 2020). One of the most widely used indicators of bank profitability is Return on Assets (ROA), which reflects the effectiveness of bank management in utilizing its assets to generate net income. A higher ROA indicates greater efficiency in converting bank assets into profits.

The performance of Indonesian banks, however, has experienced considerable changes in response to structural and macroeconomic developments. Data from the Financial Services Authority (Otoritas Jasa Keuangan/OJK) indicate that banking profitability declined substantially during the COVID-19 pandemic before recovering as economic activity resumed. The banking industry's ROA declined from 2.57% in 2018 to 1.47% in 2020, before increasing to 2.76% in 2023 and approximately 2.82% in 2024. At the same time, the banking sector has continued to demonstrate strong capitalization and asset growth. This coexistence of relatively strong banking fundamentals and fluctuations in profitability suggests that bank performance cannot be

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explained solely by conventional internal financial indicators. Instead, the changing banking environment requires attention to broader structural factors, including sustainable development, digital transformation, corporate governance, and macroeconomic conditions.

One important structural transformation concerns the increasing integration of the Sustainable Development Goals (SDGs) into the financial sector. Since their adoption by the United Nations in 2015, the SDGs have provided a global framework encompassing economic, social, and environmental dimensions of development. The banking sector is particularly relevant to this agenda because banks allocate financial resources to productive activities and therefore have the capacity to support sustainable investment, financial inclusion, green financing, and inclusive economic growth. In Indonesia, the integration of sustainability principles into banking activities has also been strengthened through the Sustainable Finance Roadmap issued by OJK. Theoretically, greater engagement with sustainable development may enhance bank reputation, stakeholder trust, market opportunities, and long-term financial performance (Buallay, 2020; Ozili, 2023).

Nevertheless, the relationship between sustainability and bank performance remains inconclusive. Previous studies have often examined Environmental, Social, and Governance (ESG) or Corporate Social Responsibility (CSR), while relatively fewer studies have explicitly examined SDGs as a standardized global development framework (Ozili, 2023). Buallay (2020) and Buallay et al. (2021), for example, indicate that sustainability practices do not necessarily generate higher profitability, particularly in developing-country contexts. This inconsistency creates a phenomenon gap in Indonesia, where the increasing commitment to sustainable finance has not necessarily been accompanied by a proportional improvement in bank profitability. The literature therefore suggests that the effect of SDGs on bank performance may depend on the mechanisms through which sustainability commitments are translated into financial resources, stakeholder confidence, and banking intermediation.

In this context, Third-Party Funds (Dana Pihak Ketiga/DPK) may represent an important transmission mechanism. DPK consists primarily of demand deposits, savings, and time deposits and represents a major source of bank funding. A bank's ability to attract and retain deposits determines its capacity to perform intermediation, extend credit, and generate interest income. Commitment to sustainability may strengthen public and stakeholder confidence and subsequently encourage customers to maintain funds in banks. Thus, DPK may function not merely as a liquidity indicator but as a channel through which sustainability engagement affects bank profitability. Al Lawati and Hussainey (2022) emphasize the importance of sustainability disclosure in strengthening stakeholder perceptions, while Jawaad and Zafar (2020) highlight the role of stable deposits in supporting banking intermediation.

A second major transformation affecting the banking industry is the rapid development of financial digitalization and digital currency. Technological advances involving digital banking, blockchain, fintech, and digital currency have fundamentally altered the traditional banking business model (Arner et al., 2020; Vives, 2019). Central banks worldwide have increasingly explored digital currency as an instrument for improving payment efficiency, financial inclusion, and the effectiveness of monetary systems (BIS, 2022; Kiff et al., 2020). Indonesia has also experienced substantial growth in digital financial transactions, supported by mobile banking, internet banking, QRIS, and the development of Rupiah Digital. This transformation has created opportunities for banks to reduce transaction costs, expand customer reach, and generate additional fee-based income.

However, digital currency also presents a potential challenge to traditional bank intermediation. The availability of a safe and liquid digital alternative may alter consumers' demand for conventional bank deposits and potentially create disintermediation risks (Brunnermeier & Niepelt, 2019; Kiff et al., 2020). Chiu et al. (2023) argue that digital currency can alter bank funding structures through changes in deposits, reserves, and alternative funding requirements, with potential consequences for bank profitability. This creates an important phenomenon gap in Indonesia: despite the rapid expansion of digital financial transactions and preparations for Rupiah Digital, third-party funds in Indonesian banks have continued to grow. Therefore, the effect of digital currency on bank performance may not operate directly but may instead depend on the ability of banks to retain public deposits and transform technological advantages into effective financial intermediation.

Corporate governance represents another critical determinant of banking performance. Because banks operate with high leverage, complex assets, and substantial dependence on depositor funds, effective monitoring mechanisms are essential for controlling managerial opportunism and excessive risk-taking. Board independence is therefore expected to strengthen monitoring, improve transparency, reduce conflicts of interest, and enhance the quality of strategic decision-making. Previous studies have reported that greater board independence can reduce risk and improve bank stability (Mollah & Zaman, 2015; Pathan & Faff, 2013). Mollah et al. (2018) and Sun et al. (2017) further emphasize the role of independent directors in improving risk management and operational efficiency, while Setiawan and Wahyudi (2021) report a positive relationship between board independence and bank performance in Indonesia.

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Despite these arguments, empirical evidence concerning the direct effect of board independence on profitability remains mixed. Some studies report insignificant effects on ROA, suggesting that independent boards may influence bank performance indirectly through improved monitoring, depositor confidence, risk management, and funding stability rather than through an immediate increase in profitability (Mollah et al., 2018). In banking, where depositor confidence is fundamental to the sustainability of third-party funds, board independence may therefore influence performance through its ability to strengthen public confidence and stabilize bank funding. This provides a theoretical basis for positioning DPK as a potential mediating mechanism between board independence and bank performance.

In addition to institutional and technological factors, macroeconomic conditions remain fundamental determinants of banking performance. Economic growth, inflation, and interest-rate conditions influence households' income, saving behavior, credit demand, funding costs, and asset quality. From the perspective of financial intermediation theory, stronger economic growth can increase household income and productive investment, thereby encouraging deposit accumulation and credit demand. Empirical evidence indicates that GDP growth can increase bank deposits and strengthen the capacity of banks to expand credit (Amene & Dereje, 2017; Morina & Osmani, 2019; Menza, 2019). Similarly, Harini et al. (2024) and Naisya and Sitorus (2024) demonstrate that economic conditions influence deposit behavior and the availability of bank funding.

Inflation, meanwhile, can affect banking performance through purchasing power, interest rates, credit quality, and funding costs. Moderate and predictable inflation may allow banks to adjust lending rates and preserve margins, whereas excessive inflation can increase financial uncertainty, weaken borrowers' repayment capacity, and reduce profitability (Nguyen et al., 2023; Demirgüç-Kunt et al., 2021). The relationship between macroeconomic conditions and bank performance is therefore not necessarily direct. Changes in GDP and inflation may first influence households' saving decisions and deposit accumulation before affecting banks' capacity to provide productive credit and generate returns. Consequently, DPK may again serve as an important transmission mechanism linking macroeconomic conditions to bank profitability.

The role of DPK is particularly important because it represents the interface between external economic conditions and internal banking intermediation. Higher GDP can increase household income and savings, while stable inflation can strengthen confidence in the banking system. Conversely, macroeconomic instability may reduce the willingness of households to hold deposits and increase liquidity pressures. Once mobilized, DPK provides banks with funds that can be allocated to productive lending and investment activities, generating interest and fee income that ultimately affect ROA. Previous research has generally found a positive association between deposits and bank profitability because larger and more stable deposits provide banks with a relatively stable source of funding for credit expansion (Hassan & Bashir, 2013; Gul et al., 2011; Ahmed et al., 2018). Nevertheless, the effect of DPK may depend on how effectively banks manage the cost and allocation of these funds, as excessive or volatile deposits may not automatically translate into higher profitability (Mollah & Lipy, 2019).

Taken together, these developments indicate that the determinants of banking performance have become increasingly multidimensional. Sustainability commitments, digital transformation, corporate governance, and macroeconomic conditions operate simultaneously within the banking system, while their effects may be transmitted through the capacity of banks to mobilize and utilize third-party funds. Existing studies, however, have largely examined these determinants separately. Research on sustainability has predominantly focused on ESG or CSR and direct profitability outcomes (Buallay, 2020; Ozili, 2023), while studies on digital currency have primarily emphasized payment efficiency, financial stability, and macroprudential risks (Kiff et al., 2020; Chiu et al., 2023). Similarly, corporate governance studies have largely examined the direct relationship between board characteristics and bank performance, with comparatively limited attention to the role of depositor funding as an intermediate mechanism.

This fragmentation reveals a significant research gap. To date, limited empirical evidence has simultaneously integrated SDGs, digital currency, board independence, and macroeconomic conditions within a single framework explaining bank performance, particularly by positioning Third-Party Funds (DPK) as a mediating mechanism. More specifically, the literature has not sufficiently explained whether and how sustainability commitments, technological transformation, governance quality, and macroeconomic conditions influence bank profitability through the mobilization of public funds. In the Indonesian context, this gap is particularly relevant because the banking industry is simultaneously undergoing sustainable-finance implementation, rapid digital transformation, governance strengthening, and adaptation to post-pandemic macroeconomic conditions.

Accordingly, this study investigates the effects of Sustainable Development Goals, digital currency, board independence, and macroeconomic conditions on banking performance in Indonesia, with Third-Party Funds as a mediating variable. By integrating these dimensions into a unified empirical framework, this study contributes to the literature in three ways. First, it extends the banking-performance literature by examining SDGs as a distinct sustainability dimension rather than relying solely on broader ESG or CSR measures. Second, it incorporates digital currency into the analysis of bank profitability, thereby addressing the

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emerging implications of monetary and financial digitalization for traditional banking intermediation. Third, it conceptualizes DPK not merely as a conventional liquidity or funding indicator but as a transmission mechanism through which sustainability, digitalization, governance, and macroeconomic conditions may influence bank performance. This integrated perspective is expected to provide a more comprehensive explanation of the determinants of banking performance and offer relevant implications for banking management, regulators, and policymakers in Indonesia.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Sustainable Development Goals (SDGs) and Third-Party Funds

Sustainable Development Goals (SDGs) have become increasingly relevant to banking because sustainability-oriented practices can strengthen institutional reputation, transparency, and stakeholder trust. Banks with stronger sustainability performance are more likely to attract depositors who value responsible and ethical financial institutions. Duong (2023) found that banks with stronger sustainability performance can expand their depositor base, while Elliott et al. (2021) and Le & Nguyen (2023) reported that SDG adoption and ESG disclosure support deposit growth and funding stability. Although Bătae, Dragomir & Feleagă (2021) identified a potential trade-off between sustainability orientation and deposit mobilization, the broader evidence suggests that SDG-oriented banking can strengthen financial inclusion and expand the depositor base (Tijani, 2025; Scholtens & van't Klooster, 2020). Therefore, SDG implementation is expected to strengthen public confidence and increase DPK.

H1: Sustainable Development Goals (SDGs) have a positive effect on Third-Party Funds (DPK).

2.2. Digital Currency and Third-Party Funds

Digitalization has transformed the way banks provide financial services and interact with customers. Greater digital accessibility, transaction convenience, and service efficiency can encourage customers to maintain funds within the banking system. Ozili (2020) and Luo et al. (2022) found that digital banking contributes to deposit growth, while Le & Nguyen (2020) showed that digital innovation improves customer satisfaction and loyalty. Although CBDC may potentially substitute conventional deposits (Paul et al., 2025; Vives, 2019), digital financial services can also strengthen financial participation and depositor trust when integrated effectively with banking services. Nguyen & Dang (2022) further demonstrated that secure digital banking services enhance customer confidence in maintaining deposits. Thus, greater digital intensity is expected to increase DPK.

H2: Digital Currency has a positive and significant effect on Third-Party Funds (DPK).

2.3. Board Independence and Third-Party Funds

Board independence represents an important corporate governance mechanism for strengthening monitoring and controlling excessive bank risk-taking. Independent directors are expected to promote more prudent decision-making, thereby improving bank stability and depositor confidence. Agha et al. (2023) and Harkin et al. (2020) emphasize that board independence strengthens monitoring and reduces excessive risk-taking. Ramly & Ramli (2022) further indicate that stronger board independence can improve depositor stability through better risk management. Since depositor confidence is closely associated with perceived bank safety, stronger board independence is expected to support deposit mobilization.

H3: Board Independence has a positive effect on Third-Party Funds (DPK).

2.4. Gross Domestic Product (GDP) and Third-Party Funds

Economic growth affects household and corporate income and consequently their capacity to save. Higher GDP is therefore generally expected to increase bank deposits. Trinh & Pham (2022), Kumar et al. (2021), and Tan & Floros (2018) provide evidence that economic growth strengthens bank deposits through increased income and savings. Nevertheless, Banke & Yitayaw (2022) and Bohara (2024) report that economic expansion may reduce deposits when households shift funds toward consumption, real assets, or alternative investments. Despite these contrasting findings, the dominant argument suggests that stronger economic activity increases savings capacity and supports DPK growth.

H4: Gross Domestic Product (GDP) has a positive and significant effect on Third-Party Funds (DPK).

2.5. Inflation and Third-Party Funds

Inflation can influence deposit behavior by reducing the real value of savings and increasing economic uncertainty. High inflation may encourage households to allocate funds toward consumption or real assets rather than bank deposits. Al-Homaidi et al. (2020), Nguyen & Dang (2022), Hasanov et al. (2025), and Hidayah & Tanjung (2023) report negative effects of inflation on

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deposits. Although moderate inflation may increase deposit rates and temporarily attract savings (Ali & Puah, 2019; Bekele, 2023), persistent and high inflation is generally expected to weaken the real attractiveness of bank deposits.

H5: Inflation has a negative and significant effect on Third-Party Funds (DPK).

2.6. Sustainable Development Goals (SDGs) and Banking Performance

From the stakeholder perspective (Freeman, 1984), sustainability-oriented banking can enhance reputation, legitimacy, stakeholder trust, and long-term value creation. Abdulghani (2024) and Kotsantonis & Pinney (2021) found positive relationships between sustainability practices and bank financial performance. However, Jílková, Knihová & Heroldová (2025) and Gheiby, Khaje Saeed & Pak Maram (2025) found that sustainability implementation may reduce short-term profitability because of compliance costs, green investment requirements, and economic uncertainty. Despite these potential short-term costs, sustainable banking is expected to improve long-term competitiveness, reputation, and financial performance.

H6: Sustainable Development Goals (SDGs) have a positive effect on banking performance.

2.7. Digital Currency and Banking Performance

Digital transformation can improve banking performance by reducing transaction costs, increasing operational efficiency, expanding customer access, and creating new revenue opportunities. Ozili (2020) and Luo et al. (2022) found that digitalization improves bank efficiency and performance, while Nguyen (2021) highlighted its contribution to banking competitiveness and productivity. Conversely, Ghosh (2020) and Zhao & Li (2023) show that high initial investment and cybersecurity costs may reduce profitability during the early stages of digital transformation. Nevertheless, as digital capabilities mature, efficiency gains and broader customer reach are expected to outweigh these initial costs.

H7: Digital Currency has a positive effect on banking performance.

2.8. Board Independence and Banking Performance

Board independence strengthens monitoring, reduces agency problems, and improves risk-management quality. Koutoupis, Kyriakogkonas & Kampouris (2020), Bezawada & Adaelli (2020), and Ernawati & Santoso (2022) found that stronger board independence improves bank efficiency and profitability. Although Aebi et al. (2017), García-Meca et al. (2019), and Dliaul Khaq, Miyasto & Rini (2015) reported contrasting findings, the prevailing evidence suggests that independent boards enhance monitoring and managerial accountability, thereby supporting bank performance.

H8: Board Independence has a positive effect on banking performance.

2.9. Gross Domestic Product (GDP) and Banking Performance

Economic expansion generally improves banking performance by increasing credit demand, investment activity, asset quality, and financial intermediation. Tan & Floros (2018), Trinh & Pham (2022), Doğan & Yildiz (2023), and Abdelmoneim & Yasser (2023) support a positive relationship between GDP growth and bank profitability. Although Barros & Williams (2019) and Klein (2016) indicate that excessive economic or credit expansion may increase inefficiency and credit risk, sustainable economic growth is generally expected to create favorable conditions for banking profitability.

H9: Gross Domestic Product (GDP) has a positive effect on banking performance.

2.10. Inflation and Banking Performance

Inflation affects bank profitability through operating costs, interest margins, credit risk, and asset quality. High inflation can increase operating expenses, weaken borrowers' repayment capacity, and create uncertainty in interest-rate management. Al-Homaidi et al. (2020), Trujillo-Ponce (2015), Athanasoglou et al. (2016), and Hasanov et al. (2025) report negative effects of inflation on bank profitability. Although moderate inflation may temporarily improve margins when lending rates adjust faster than deposit rates (Ali & Puah, 2019; Kanasro et al., 2021), excessive inflation is expected to reduce banking performance.

H10: Inflation has a negative effect on banking performance.

2.11. Third-Party Funds and Banking Performance

Third-Party Funds constitute a major source of bank financing and support the financial intermediation function. Larger and more stable deposits provide banks with greater capacity to extend productive credit and generate interest income. Ongore & Kusa (2019), Kumar et al. (2021), Nguyen & Dang (2022), and Arodi et al. (2023) provide evidence that DPK contributes positively to bank profitability. However, the effect depends on funding costs and the efficiency of converting deposits into productive assets (Trujillo-Ponce, 2017; Adusei, 2018). Thus, DPK is expected to improve banking performance when managed efficiently.

H11: Third-Party Funds (DPK) have a positive and significant effect on banking performance.

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2.12. SDGs, Third-Party Funds, and Banking Performance

SDGs may affect banking performance indirectly through DPK. Sustainability-oriented practices can strengthen bank reputation and customer trust, encouraging deposit mobilization. The resulting increase in DPK provides banks with greater resources to perform financial intermediation and finance sustainable activities. Buallay (2019), Ciciretti et al. (2020), Le et al. (2023), and Farah et al. (2025) support the role of stable funding and sustainability practices in strengthening bank performance. Therefore, DPK is expected to transmit the positive effect of SDGs to banking performance.

H12: Sustainable Development Goals (SDGs) have a positive effect on banking performance through Third-Party Funds (DPK).

2.13. Digital Currency, Third-Party Funds, and Banking Performance

Digitalization can expand customer access, improve service efficiency, and encourage deposit mobilization. Al-Dmour et al. (2019) and Nazari-tehrani & Mashali (2020) show that digital banking increases access and supports DPK growth, while stronger DPK enhances banks' capacity to conduct financial intermediation. Accordingly, DPK may function as a transmission mechanism through which digital intensity contributes to banking performance.

H13: Digital Currency has a positive effect on banking performance through Third-Party Funds (DPK).

2.14. Board Independence, Third-Party Funds, and Banking Performance

Board independence can improve banking performance through stronger governance, risk management, and depositor confidence. Effective independent oversight enhances the perceived safety and credibility of banks, which can encourage deposit mobilization. The resulting DPK strengthens the bank's intermediation capacity and supports profitability. Habtoor (2022), Bezawada & Adaelli (2020), Koutoupis, Kyriakogkonas & Kampouris (2020), and Idris & Ousama (2021) provide support for the relationship between board characteristics, governance, and bank performance.

H14: Board Independence has a positive effect on banking performance through Third-Party Funds (DPK).

2.15. Gross Domestic Product (GDP), Third-Party Funds, and Banking Performance

GDP growth can improve banking performance through increased income, savings, and deposit mobilization. Higher DPK subsequently strengthens banks' ability to extend productive credit and generate income. Demirgüç-Kunt & Huizinga (2019), Trinh & Pham (2022), and Dahlia & Wardhana (2025) support the role of savings and deposit mobilization in linking economic growth with bank profitability. Therefore, DPK is expected to mediate the relationship between GDP and banking performance.

H15: Gross Domestic Product (GDP) has a positive effect on banking performance through Third-Party Funds (DPK).

2.16. Inflation, Third-Party Funds, and Banking Performance

High inflation can reduce the real value of savings and encourage households to shift funds toward consumption or real assets, thereby weakening DPK. Lower DPK reduces the funding available for financial intermediation and may subsequently reduce bank profitability. Flamini et al. (2019), Athanasoglou et al. (2018), and Mahabbah et al. (2025) support the adverse effects of inflation on deposits and bank performance. Thus, DPK is expected to serve as a transmission mechanism between inflation and banking performance.

H16: Inflation has a negative effect on banking performance through Third-Party Funds (DPK).

2.17. Loan to Deposit Ratio and Banking Performance

Loan to Deposit Ratio (LDR) reflects the extent to which banks utilize deposits to finance lending activities and simultaneously indicates their liquidity position. A higher LDR may increase bank profitability when deposits are efficiently converted into productive loans because greater lending generates additional interest income. Boďa & Zimková (2021) and Le et al. (2020) emphasize that LDR represents an important indicator of liquidity and the efficiency of financial intermediation. Hadian & Phety (2021) further found that an appropriately managed LDR can increase interest income and improve Return on Assets (ROA). Therefore, a higher LDR is expected to contribute positively to banking performance.

H17: Loan to Deposit Ratio (LDR) has a positive effect on banking performance.

2.18. Ownership and Banking Performance

Ownership structure can influence banking performance through differences in monitoring mechanisms, managerial incentives, and strategic orientation. Institutional ownership may strengthen monitoring and encourage efficiency, while private ownership can provide stronger incentives for profitability. Cornett et al. (2020) found that institutional ownership can improve bank performance through stronger monitoring, while Barry et al. (2018) reported higher profitability among privately owned banks. Similar evidence was provided by Simanjuntak (2019) and Al-Fayoumi et al. (2020), who found that institutional ownership positively affects bank performance. Although some studies report negative effects associated with ownership

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concentration and managerial entrenchment (Damayanti & Lantara, 2021; La Porta, Lopez-de-Silanes & Shleifer, 2022), the dominant evidence in the dissertation supports a positive relationship.

H18: Ownership has a positive effect on banking performance.

2.19. Non-Performing Loan and Banking Performance

Non-Performing Loan (NPL) represents credit risk and the quality of bank assets. Higher NPL generally reduces profitability because problematic loans decrease interest income and increase loan-loss provisions and credit-management costs. Messai & Jouini (2018) and Makri, Tsagkanos & Bellas (2019) found that higher NPL significantly reduces bank profitability. Ozili (2023) and Moudud-UI-Huq & Hossain (2020) similarly reported a negative relationship between NPL and ROA, particularly because deteriorating credit quality reduces net interest income and increases provisioning costs. Although Widiastih & Syamsuddin (2024) reported a positive relationship under effective credit-risk management, the prevailing evidence indicates that higher NPL weakens bank profitability.

H19: Non-Performing Loan (NPL) has a negative effect on banking performance.

III. RESEARCH METHOD

3.1. Research Design

This study employs a quantitative research design with an explanatory approach to examine the effects of Sustainable Development Goals (SDGs), Digital Currency, Board Independence, and macroeconomic factors on banking performance, with Third-Party Funds (DPK) serving as a mediating variable. The study uses secondary panel data obtained from the financial statements and annual reports of banking companies listed on the Indonesia Stock Exchange (IDX) during the 2015–2024 observation period. The quantitative approach is used to test the proposed hypotheses and identify the relationships among the variables in the research model.

3.2. Variables and Measurement

Banking performance is measured by Return on Assets (ROA), calculated as net income divided by total assets (Ozili, 2023). The independent variables consist of SDGs, Digital Currency, Board Independence, GDP, and Inflation. SDGs are measured by the proportion of SDG indicators disclosed by the bank to the 17 SDGs (Caby et al., 2022). Digital Currency is measured through digital transaction intensity, calculated as digital transactions relative to total bank transactions (Bousrih, 2023). Board Independence is measured by the proportion of independent commissioners to total commissioners (Habtoor, 2022). GDP is measured using the value of the financial and insurance services sector's GDP (Doğan & Yildiz, 2023), while Inflation is measured based on the annual change in the Consumer Price Index (CPI) (Ali & Puah, 2019).

Third-Party Funds (DPK) constitute the mediating variable and are measured by the annual growth of DPK (Arodi et al., 2023). Three control variables are included in the model: Loan to Deposit Ratio (LDR), Ownership, and Non-Performing Loan (NPL). LDR is measured as total loans divided by total third-party funds (Sindhu et al., 2022). Ownership is measured by institutional ownership, calculated as institutional shares divided by total outstanding shares (Nguyen et al., 2022). NPL is measured as non-performing loans divided by total loans (Kalkavan, 2025).

3.3. Population, Sample, and Data Collection

The population comprises banking companies listed on the Indonesia Stock Exchange and supervised by the Financial Services Authority (OJK) during 2015–2024. Banking companies are selected because they provide relatively complete and regularly reported information regarding DPK, NPL, LDR, ownership structure, ROA, SDG disclosure, and digital activities. The banking sector is also particularly relevant to the study because of its role in sustainable finance, financial intermediation, and digital transformation.

The sample is selected using purposive sampling based on predefined criteria. The criteria require banks to be listed on the IDX during the observation period and to provide complete and relevant data for all variables. From 47 banking companies identified in the population, 7 banks listed after 2014 and 6 banks with incomplete data were excluded. Consequently, 34 banking companies were included in the final sample, resulting in 340 firm-year observations (34 banks × 10 years) for the 2015–2024 period. The study relies on secondary data obtained from the Indonesia Stock Exchange (IDX), the Financial Services Authority (OJK), Statistics Indonesia (BPS), Bank Indonesia (BI), and the respective websites of the sampled banks.

3.4. Data Analysis

The study employs panel-data regression to analyze the relationships among the variables. Panel data combine cross-sectional observations of individual banks with time-series observations over the 2015–2024 period, allowing the analysis to account for both differences across banks and changes over time. The empirical analysis is conducted using EViews 13.0.

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The panel-data estimation involves the selection of the appropriate panel regression model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Model selection is conducted using the relevant specification tests. The selected model is subsequently used to examine the direct effects of the independent variables on DPK and banking performance, as well as the mediating effects of DPK.

The structural relationships are specified through two main equations:

$$DPK_{it} = \alpha + \beta_1 SDG_{it} + \beta_2 DC_{it} + \beta_3 BI_{it} + \beta_3 GDP_{it} + \beta_4 INF_{it} + \epsilon_{it} \dots\dots\dots (1)$$

$$ROA_{it} = \alpha + \gamma_1 SDG_{it} + \gamma_2 DB_{it} + \gamma_5 BI_{it} + \gamma_3 GDP_{it} + \gamma_4 INF_{it} + \delta_1 DPK_{it} + \gamma_6 LDR_{it} + \gamma_7 NPL_{it} + \gamma_8 OWN_{it} + \mu_{it} \dots\dots\dots (2)$$

IV. RESULT

4.1. Descriptive Statistic

Descriptive statistics are presented to provide an overview of the characteristics and distribution of the variables used in the study. The analysis includes the minimum, maximum, mean, and standard deviation values for the dependent, independent, mediating, and control variables based on 340 bank-year observations during the 2015–2024 observation period. The results of the descriptive statistical analysis are presented in Table 1.

Table 1. Descriptive Statistic

Variabel	N	Mean	Maximum	Minimum	Std.Deviation
ROA	340	0.005344	0.128025	-0.802829	0.051984
SDG	340	0.591522	1.000000	0.000000	0.332510
DC	340	0.369388	1.616438	0.000000	0.364292
BI	340	0.471103	0.700000	0.333333	0.080872
GDP	340	34.14243	34.45845	33.77177	0.211715
INF	340	0.029990	0.055100	0.015600	0.010455
DPK	340	1.110039	3.295550	0.750980	0.185531
LDR	340	0.863953	9.076427	0.001376	0.902729
OWN	340	0.706997	0.993331	0.127901	0.208957
NPL	340	0.027344	0.189089	0.000021	0.031713

Source: Output from EViews 13 (2025)

Based on the descriptive statistics presented in Table 1, the variables exhibit varying levels of dispersion across the 340 bank-year observations. Banking performance, measured by ROA, has a mean of 0.005344 and a standard deviation of 0.051984. The maximum ROA of 0.128025 was recorded by Bank Woori Saudara Indonesia 1906 Tbk (SDRA) in 2018, while the minimum of -0.802820 was recorded by Bank Bukopin Tbk (BBKP) in 2021, indicating substantial variation in bank profitability during the observation period.

The SDGs variable has a mean of 0.591522 and a standard deviation of 0.332510, with a maximum value of 1.000000 reported by several banks and a minimum value of 0.000000 recorded by Bank Bumi Arta (BNBA) during 2015–2018. Digital Currency has a mean of 0.369388 and a standard deviation of 0.364292, with a maximum value of 1.616438 and a minimum of 0.000000, with the latter occurring in several banks before 2020. Board Independence has a mean of 0.471103 and a standard deviation of 0.080872. The maximum value of 0.700000 was recorded by Bank Negara Indonesia Tbk (BBNI) in 2021 and 2022, while the minimum value of 0.333333 was recorded by several banks.

For the macroeconomic variables, GDP has a mean of 34.14243 and a standard deviation of 0.211715, ranging from 33.77177 in 2015 to 34.45845 in 2024. Inflation has a mean of 0.029990 and a standard deviation of 0.010455, with a maximum of 0.055100 in 2022 and a minimum of 0.015600 in 2021. These figures reflect relatively limited variation in GDP but greater changes in inflation over the observation period.

The mediating variable, DPK, has a mean of 1.110039 and a standard deviation of 0.185531. The maximum value of 3.295550 was recorded by Bank Oke Indonesia Tbk (DNAR) in 2019, while the minimum value of 0.750980 was recorded by Bank Capital Indonesia Tbk (BACA) in 2022. Among the control variables, LDR has a mean of 0.863953 and a standard deviation of

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0.902729. Its maximum value of 9.076427 was recorded by Bank Oke Indonesia Tbk (DNAR) in 2016, while the minimum value of 0.001376 was recorded by Bank Negara Indonesia Tbk (BBNI) in 2021.

Ownership has a mean of 0.706997 and a standard deviation of 0.208957. The maximum value of 0.993331 was recorded by Bank CIMB Niaga Tbk (BNGA) during 2015–2019, whereas the minimum value of 0.127901 was recorded by Bank Capital Indonesia Tbk (BACA) in 2020. Finally, NPL has a mean of 0.027344 and a standard deviation of 0.031713. The maximum NPL of 0.189089 was recorded by PT Bank Panin Dubai Syariah Tbk (PNBS) in 2023, while the minimum value of 0.000021 was recorded by Bank Pembangunan Daerah Jawa Barat dan Banten Tbk (BJBR) in 2024.

4.2. Regression Analysis Result

Table 2 presents the results of the panel data regression analysis using the Fixed Effects Model (FEM) for both the DPK and ROA equations. The analysis examines the direct effects of the independent variables on Third-Party Funds (DPK) and banking performance, while also incorporating LDR, Ownership, and NPL as control variables. The estimated coefficients, probability values, adjusted R-squared, F-statistics, and selected regression models are reported in Table 2.

Table 2. Summary of Regression Result

Independent Variable	DPK		ROA	
	Coef.	Prob.	Coef.	Prob.
C	4.221467	0.0030	-0.60958	0.0004
SDG	0.017870	0.5018	-0.01166	0.0005
DC	-0.001612	0.9407	0.002221	0.4139
BI	0.086177	0.0405	-0.02148	0.0212
GDP	0.097334	0.0033	0.018316	0.0003
INF	-0.134389	0.0352	-0.11358	0.0024
DPK	-	-	0.00313	0.3978
LDR	-	-	0.000505	0.7895
OWN	-	-	0.00185	0.8376
NPL	-	-	-0.10447	0.0143
Adj R-Square	0,178987		0,654197	
Prob F stat	0,000000		0,000000	
Selected Model	FEM		FEM	

Source: Output from EViews 13 (2025)

Based on the regression results presented in Table 2, the Fixed Effects Model (FEM) was selected for both the DPK and ROA equations. The model explaining DPK is statistically significant, as indicated by the Prob. F-statistic of 0.0000, with an adjusted R-squared of 0.178987. The results show that SDGs and Digital Currency do not significantly affect DPK, with coefficients of 0.017870 ($p = 0.5018$) and -0.001612 ($p = 0.9407$), respectively. In contrast, Board Independence has a positive and significant effect on DPK ($\beta = 0.086177$; $p = 0.0405$), while GDP also has a positive and significant effect ($\beta = 0.097334$; $p = 0.0033$). Inflation has a negative and significant effect on DPK ($\beta = -0.134389$; $p = 0.0352$). These findings indicate that DPK is more responsive to governance and macroeconomic conditions than to SDG disclosure and digital transaction intensity.

For the ROA model, the Prob. F-statistic of 0.0000 indicates that the model is jointly significant, with an adjusted R-squared of 0.654197. SDGs have a negative and significant effect on ROA ($\beta = -0.011658$; $p = 0.0005$), while Digital Currency has no significant effect ($\beta = 0.002221$; $p = 0.4139$). Board Independence also has a negative and significant effect on ROA ($\beta = -0.021484$; $p = 0.0212$). Conversely, GDP has a positive and significant effect on ROA ($\beta = 0.018316$; $p = 0.0003$), whereas Inflation has a negative and significant effect ($\beta = -0.113580$; $p = 0.0024$). DPK does not significantly affect ROA ($\beta = 0.003130$; $p = 0.3978$), indicating that the proposed mediating pathway through DPK requires further assessment based on the indirect-effect analysis. Among the control variables, LDR and Ownership do not significantly affect ROA, with p-values of 0.7895 and 0.8376, respectively. In contrast, NPL has a negative and significant effect on ROA ($\beta = -0.104470$; $p = 0.0143$), indicating that higher credit risk is associated with lower banking profitability.

Overall, the regression results provide evidence that Board Independence, GDP, and Inflation significantly affect DPK, while SDGs, Board Independence, GDP, Inflation, and NPL significantly affect ROA. However, Digital Currency and DPK do not

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have a significant direct effect on ROA, suggesting that the hypothesized mediation effects through DPK cannot be inferred solely from the direct regression coefficients and should be evaluated using the formal mediation test.

4.3 Direct and Indirect Effects

Table 3 presents the direct and indirect effects of SDGs, Digital Currency, Board Independence, GDP, and Inflation on banking performance through Third-Party Funds (DPK). The direct effect represents the coefficient of each independent variable on ROA, while the indirect effect is calculated as the product of the coefficient of the independent variable on DPK and the coefficient of DPK on ROA (Baron & Kenny, 1986; Ghazali, 2019; Hayes, 2021).

Table 3. Result Direct and Indirect Effects

Variable	Direct Effect	Indirect Effect	Conclusion
SDGs	-0.011658	0.000055933	Direct Effect Only
Digital Currency	0.002221	-0.000005046	Direct Effect Only
Board Independence	-0.021484	0.000269734	Direct Effect Only
GDP	0.018316	0.000304655	Direct Effect Only
Inflation	-0.113580	-0.000420638	Direct Effect Only

Source: Author's calculation based on panel data regression output from EViews 13 (2025)

Based on Table 3, the direct effect represents the coefficient of the independent variable on banking performance (ROA), while the indirect effect represents the effect of the independent variable on ROA through Third-Party Funds (DPK). The indirect effect is obtained by multiplying the coefficient of the independent variable on DPK by the coefficient of DPK on ROA (Ghozali, 2019; Hayes, 2021).

The results show that SDGs have a direct negative effect on ROA with a coefficient of -0.011658 , while the indirect effect through DPK is 0.000055933 . Since the indirect effect is relatively small and insignificant, DPK does not mediate the effect of SDGs on ROA. Thus, the effect occurs directly without mediation by DPK. Digital Currency has a direct effect on ROA with a coefficient of 0.002221 , while its indirect effect through DPK is -0.000005046 . The relatively small and insignificant indirect effect indicates that DPK does not mediate the relationship between Digital Currency and ROA.

Board Independence has a direct negative effect on ROA with a coefficient of -0.021484 , while its indirect effect through DPK is 0.000269734 . Although Board Independence has a significant effect on DPK, the indirect effect is relatively small and insignificant. Therefore, DPK does not mediate the effect of Board Independence on ROA, indicating that the relationship occurs directly. GDP has a direct positive effect on ROA with a coefficient of 0.018316 , while its indirect effect through DPK is 0.000304655 . The relatively small and insignificant indirect effect indicates that DPK does not mediate the effect of GDP on ROA. Thus, the effect of GDP on banking performance occurs directly.

Finally, Inflation has a direct negative effect on ROA with a coefficient of -0.113580 , while its indirect effect through DPK is -0.000420638 . The indirect effect is relatively small and insignificant, indicating that DPK does not mediate the effect of Inflation on banking performance. Overall, the results indicate that DPK does not mediate the effects of SDGs, Digital Currency, Board Independence, GDP, or Inflation on banking performance. Accordingly, the effects identified in the model are predominantly direct effects rather than effects transmitted through DPK.

V. DISCUSSION

5.1. Sustainable Development Goals and Third-Party Funds

The results show that Sustainable Development Goals (SDGs) do not affect Third-Party Funds (DPK). This finding indicates that the level of SDG implementation and disclosure does not directly determine the amount of funds deposited by customers. From the perspective of behavioral finance and depositor rationality, depositors tend to prioritize financial returns, deposit security, interest rates, accessibility, and macroeconomic stability rather than the sustainability commitment of banks. SDG implementation may strengthen reputation and institutional legitimacy in the long term, but these benefits do not necessarily translate into short-term deposit growth. This finding is consistent with Rahman, Ahmad & Arshad (2024), Naomi & Hanggraeni (2025), Saputra & Mayangsari (2022), and Chow & Ho (2024), who indicate that deposit stability is more strongly influenced by bank-specific and macroeconomic factors than sustainability practices.

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5.2. Digital Currency and Third-Party Funds

The results indicate that Digital Currency does not affect Third-Party Funds (DPK). This finding suggests that increasing digital transaction intensity does not necessarily encourage customers to increase their deposits in banks. Digital financial services may primarily function as transaction instruments rather than long-term stores of value. From the perspective of digital financial transformation, the effect of digitalization on deposits depends on customer preferences, the structure of bank funding, and the characteristics of the digital instruments adopted. This finding is consistent with Vollmar (2024), Zengin (2024), and Hemingway (2023), who argue that digital currency does not deterministically change bank deposits. Although digitalization can increase financial activity and accessibility, customers' decisions to maintain funds in banks remain strongly influenced by security, returns, and macroeconomic conditions.

5.3. Board Independence and Third-Party Funds

The results show that Board Independence has a positive effect on Third-Party Funds (DPK). This finding indicates that stronger board independence can increase public confidence in banks and encourage deposit mobilization. Based on agency theory, independent commissioners strengthen monitoring, reduce conflicts of interest, and limit excessive managerial risk-taking (Jensen & Meckling, 1976). Stronger governance also improves transparency, financial reporting quality, and risk management, thereby reducing information asymmetry between banks and depositors. This finding is consistent with Benjakik & Habba (2024), Ibe et al. (2025), Onuoha et al. (2021), and Agha et al. (2023), who emphasize the role of board independence in strengthening bank efficiency, governance, and depositor confidence.

5.4. Gross Domestic Product and Third-Party Funds

The results demonstrate that Gross Domestic Product (GDP) has a positive effect on Third-Party Funds (DPK). Economic growth increases household income, business activity, and the availability of surplus funds that can be allocated to bank deposits. Consistent with financial intermediation theory, economic expansion strengthens the role of banks as institutions that mobilize savings and facilitate financial transactions. Higher economic activity also improves economic confidence and encourages households and businesses to manage their liquidity through formal financial institutions. This finding is consistent with Pradhan & Paneru (2017), Morina & Osmani (2019), and Saleh et al. (2023), which identify GDP as an important determinant of bank deposits.

5.5. Inflation and Third-Party Funds

The results indicate that Inflation has a negative effect on Third-Party Funds (DPK). Higher inflation reduces the real purchasing power of income and limits the amount of funds available for saving. From the perspective of money demand theory, persistent inflation reduces the attractiveness of holding financial wealth in bank deposits because the real value of funds is eroded. Inflation can also encourage households to increase consumption or shift their funds toward alternative assets perceived as better stores of value. This finding is consistent with Hasanov et al. (2025), Hidayah & Tanjung (2023), and Jayawarsa et al. (2021), who found that inflation weakens bank deposits and savings.

5.6. Sustainable Development Goals and Banking Performance

The results show that Sustainable Development Goals (SDGs) have a negative effect on banking performance. This finding suggests that greater implementation of sustainability practices may impose short- to medium-term costs on banks. From the perspective of sustainable finance, SDG implementation requires investments in green financing, ESG screening, sustainability reporting, environmental risk management, and organizational adjustments. These costs can reduce short-term profitability before the long-term benefits of sustainability are realized. The finding is consistent with Hansen & Xie (2025), Gutiérrez-Ponce & Wibowo (2023), and Alessandro, Maski & Pangestuty (2023), who indicate that sustainability activities may strengthen institutional resilience and legitimacy without necessarily improving short-term profitability.

5.7. Digital Currency and Banking Performance

The results indicate that Digital Currency does not affect banking performance. This finding suggests that increased digital transaction activity does not automatically translate into higher bank profitability. Digital transformation can improve operational efficiency and customer accessibility, but these benefits may be offset by substantial investments in technological infrastructure, cybersecurity, system maintenance, and digital innovation. Thus, the financial benefits of digitalization depend on the ability of banks to convert technological capabilities into operational efficiency and additional revenue. This finding is consistent with Jailani et al. (2025), Ling (2025), and Yulianingsih et al. (2024), who show that digitalization does not necessarily become a direct determinant of bank profitability.

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5.8. Board Independence and Banking Performance

The results demonstrate that Board Independence has a negative effect on banking performance. Although board independence strengthens monitoring and corporate governance, excessive independence may encourage more conservative managerial decision-making. In the banking industry, stronger oversight may limit aggressive credit expansion and risk-taking, which can reduce opportunities to generate short-term returns. This finding reflects a potential trade-off between governance quality and short-term profitability. The result is consistent with Zureigat et al. (2024), Habtoor (2022), Onyekwere & Babangida (2021), Khalil (2025), and Rehman (2025), who report that stronger board independence does not always improve bank profitability and may negatively affect ROA under certain institutional conditions.

5.9. Gross Domestic Product and Banking Performance

The results show that Gross Domestic Product (GDP) has a positive effect on banking performance. Economic growth creates favorable conditions for banking operations by increasing credit demand, strengthening borrowers' repayment capacity, improving asset quality, and expanding demand for financial services. Consistent with financial intermediation theory and the theory of the business cycle, banks tend to perform better during periods of economic expansion because increased economic activity creates greater opportunities for productive lending and financial services. This finding is consistent with Doğan & Yildiz (2023), Abdelmoneim & Yasser (2023), and Khan (2022), who find that economic growth contributes positively to bank profitability.

5.10. Inflation and Banking Performance

The results indicate that Inflation has a negative effect on banking performance. Higher inflation increases operating costs, reduces the real value of interest income, and increases uncertainty regarding borrowers' repayment capacity. Consequently, banks face greater pressure on profit margins and credit quality. From a macroeconomic perspective, price instability creates unfavorable conditions for financial intermediation and reduces the efficiency of bank asset management. This finding is consistent with Akuku (2024), Hasanov et al. (2025), and Shibeka et al. (2025), who demonstrate that inflationary pressure reduces the profitability of financial institutions.

5.11. Third-Party Funds and Banking Performance

The results demonstrate that Third-Party Funds (DPK) do not affect banking performance. This finding indicates that a larger amount of deposits does not automatically increase bank profitability. From the perspective of financial intermediation, deposits can contribute to profitability only when they are efficiently transformed into productive assets. Higher DPK may also increase funding costs, while unutilized funds can create idle funds and reduce asset efficiency. Therefore, asset quality, operational efficiency, credit allocation, and risk management may play a more important role in determining ROA than the amount of DPK itself. This finding is consistent with Khan (2022), Vohra et al. (2023), and Akande et al. (2025).

5.12. Sustainable Development Goals and Banking Performance through Third-Party Funds

The results indicate that Third-Party Funds (DPK) do not mediate the effect of SDGs on banking performance. Although SDGs have a direct negative effect on banking performance, SDGs do not significantly affect DPK, while DPK itself does not significantly affect ROA. Therefore, the effect of SDGs on banking performance occurs directly rather than through deposit mobilization. This finding suggests that sustainability implementation affects bank profitability primarily through sustainability-related investment, operating costs, risk management, and strategic decisions rather than through changes in customer deposits. The finding is consistent with the results reported by Hansen & Xie (2025), Gutiérrez-Ponce & Wibowo (2023), Alessandro, Maski & Pangestuty (2023), Rahman, Ahmad & Arshad (2024), Naomi & Hanggraeni (2025), and Saputra & Mayangsari (2022).

5.13. Digital Currency and Banking Performance through Third-Party Funds

The results show that Third-Party Funds (DPK) do not mediate the effect of Digital Currency on banking performance. Digital Currency does not significantly affect either DPK or ROA, while DPK also does not significantly affect ROA. This finding indicates that digital transformation primarily functions as a transaction and service mechanism rather than a channel for increasing deposits and profitability. The result can be associated with the phenomenon of defensive digitalization, in which banks invest heavily in digital infrastructure, mobile banking, payment systems, and cybersecurity primarily to maintain competitiveness. Consequently, efficiency gains may initially be absorbed by technology-related investment costs. This finding is consistent with Vollmar (2024), Zengin (2024), Hemingway (2023), Jailani et al. (2025), Ling (2025), and Yulianingsih et al. (2024).

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5.14. Board Independence and Banking Performance through Third-Party Funds

The results indicate that Third-Party Funds (DPK) do not mediate the effect of Board Independence on banking performance. Although Board Independence positively affects DPK, DPK does not significantly affect ROA. At the same time, Board Independence has a direct negative effect on ROA. This finding indicates that the role of board independence operates primarily through internal governance, monitoring, risk control, and managerial decision-making rather than through the mobilization of deposits. In other words, stronger board independence may increase depositor confidence but does not necessarily translate into higher profitability through DPK. This finding is consistent with Zureigat et al. (2024), Habtoor (2022), and the findings regarding the insignificant effect of DPK reported by Khan (2022), Vohra et al. (2023), and Akande et al. (2025).

5.15. Gross Domestic Product and Banking Performance through Third-Party Funds

The results show that Third-Party Funds (DPK) do not mediate the effect of GDP on banking performance. GDP positively affects both DPK and ROA, but DPK does not significantly affect ROA. Thus, the positive effect of economic growth on banking performance occurs directly rather than through deposit mobilization. This finding can be explained by the liquidity growth paradox, whereby economic expansion increases deposits but the additional funds do not necessarily translate into higher profitability if they are not efficiently converted into productive credit. Economic growth may therefore improve ROA through better asset quality, stronger borrower capacity, and increased demand for productive credit rather than simply through the accumulation of DPK.

5.16. Inflation and Banking Performance through Third-Party Funds

The results demonstrate that Third-Party Funds (DPK) do not mediate the effect of Inflation on banking performance. Inflation negatively affects both DPK and ROA, but the insignificant effect of DPK on ROA indicates that the transmission of inflation to bank profitability does not primarily occur through deposit mobilization. Instead, inflation affects profitability directly through increased operating costs, changes in funding costs, interest-rate adjustments, and credit risk. This finding reflects the multidimensional transmission mechanism of inflation in the banking sector, whereby changes in prices and interest rates can influence bank profitability independently of changes in DPK.

5.17. Loan to Deposit Ratio and Banking Performance

The results indicate that Loan to Deposit Ratio (LDR) does not affect banking performance. This finding suggests that the level of credit disbursement relative to deposits is not sufficient to determine bank profitability. From the perspective of financial intermediation, a higher LDR can improve profitability only when the additional credit is productive and accompanied by effective credit-risk management. Therefore, the quality and efficiency of credit allocation are more important than the volume of lending alone. This finding is consistent with Sidhu et al. (2022), Sundari & Priyanto (2024), and Al-Harhi et al. (2024).

5.18. Ownership and Banking Performance

The results show that Ownership does not affect banking performance. This finding indicates that differences in institutional ownership do not necessarily produce differences in bank profitability. In a highly regulated banking industry, the influence of ownership structure may be constrained by common regulatory and supervisory requirements. Consequently, bank performance may depend more strongly on managerial efficiency, risk management, asset quality, and macroeconomic conditions than on ownership characteristics. This finding is consistent with Pradeep (2023), Cobbinah et al. (2024), and Panizza (2024).

5.19. Non-Performing Loan and Banking Performance

The results demonstrate that Non-Performing Loan (NPL) has a negative effect on banking performance. NPL represents credit risk and the quality of bank assets. Higher NPL reduces interest income, increases provisioning requirements, and limits the bank's ability to utilize its assets productively. From the perspective of credit-risk management, deterioration in asset quality directly reduces bank profitability and weakens the efficiency of financial intermediation. This finding is consistent with Veizi & Çelo (2023), Karim, Shammeh & Hasan (2023), and Kalkan (2025), who demonstrate that increasing non-performing loans reduce bank profitability.

CONCLUSIONS

This study examined the effects of Sustainable Development Goals (SDGs), Digital Currency, Board Independence, and macroeconomic factors, represented by Gross Domestic Product (GDP) and Inflation, on banking performance, with Third-Party Funds (DPK) as a mediating variable. The study used a sample of 34 banking companies listed on the Indonesia Stock Exchange over the 2015–2024 period. The findings show that SDGs and Digital Currency do not affect DPK, whereas Board Independence

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and GDP have positive significant effects on DPK, and Inflation has a negative significant effect on DPK. These findings indicate that deposit mobilization in Indonesian banks is more responsive to governance quality and macroeconomic conditions than to sustainability disclosure and digital transaction intensity.

Regarding banking performance, the results demonstrate that SDGs and Board Independence have negative effects on banking performance, while GDP has a positive effect and Inflation has a negative effect. Meanwhile, Digital Currency and DPK do not affect banking performance. These findings suggest that sustainability initiatives and stronger governance may involve short-term costs or more conservative managerial decisions, while economic growth creates more favorable conditions for bank profitability. The negative effect of inflation further confirms the importance of macroeconomic stability for banking performance.

The mediation analysis indicates that DPK does not mediate the effects of SDGs, Digital Currency, Board Independence, GDP, or Inflation on banking performance. Thus, although Board Independence and GDP affect DPK and Inflation affects DPK negatively, changes in DPK do not translate into significant changes in banking performance. The results suggest that DPK is not the primary transmission mechanism through which these factors influence bank profitability in Indonesia. For the control variables, LDR and Ownership do not affect banking performance, whereas NPL has a negative significant effect. The negative effect of NPL highlights the importance of credit risk and asset quality in determining bank profitability. Overall, the findings emphasize that banking performance in Indonesia is influenced more strongly by macroeconomic conditions, governance, sustainability-related costs, and credit risk than by deposit growth or digital transaction intensity alone.

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