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Debt Equity Ratio (DER) Analysis in Conventional Banks in Indonesia

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Abstract

This study generated a precise contour map of the Al-Amin Living Lab and Glugur Rimbun Industrial Park site in Sampe Cita Village using geodetic GPS measurements at 20-meter grid intervals and Global Mapper processing, revealing that approximately 60% (±12 hectares) of the land features relatively flat contours ideal for main facilities, while the remaining 40% (±8 hectares) consists of steep terrain near river channels suited for green spaces, conservation, or nature trails. These topographic variations inform critical planning aspects, including building placement, circulation, drainage, and site engineering, ensuring designs adapt to natural conditions and adhere to sustainable architectural principles. The resulting map provides an essential basemap for developing this educational, innovative, and eco-edutourism area, serving as a foundational reference for future implementation. For future research, integrating hydrological modeling with this contour data could optimize flood risk assessment and water management strategies, enhancing the site's long-term resilience.

INTRODUCTION

The last significant global financial crisis occurred in 2008, when the world banking sector faced a dynamic period characterized by changes such as regulations, market expectations, and macroeconomics. Recently major banks in several jurisdictions warned of capital and liquidity challenges, as funding costs increased, regulatory tightening and net interest margins declined. At the global level, the international accounting institution, the International Accounting Standards Board (IASB), is redesigning its accounting model for assessing banking risk, with a focus on debt exports and interest rate fluctuations. The goal of this change is to provide greater transparency on how banks manage the risks in their portfolios. This reflects how concerns have arisen globally over banking stability amid economic turmoil and changing international financial conditions.(White, 2025)(White, 2025).

Indonesian banking is currently also experiencing the same conditions due to global financial dynamics. According to reports, the financial services sector remains resilient amid global economic uncertainty. Capital and financial liquidity conditions are still maintained, as well as a relatively stable risk profile. Nonetheless, the real challenge arises as analysts and financial institutions warn of a potential decline in net interest margins due to rising cost of funds and credit costs in credit expansion efforts (OJK, 2025)(Hana, 2025) (Ramadhan, Panggabean, & Lubis, 2022).

JPMOrgan stated that in the first quarter of 2025, liquidity, cost of funds, and asset quality of banks were the main factors determining the performance of banks in Indonesia. On the other hand, domestic monetary policy has also changed, Bank Indonesia in May 2025

lowered the benchmark interest rate (BI-Rate) as a reflection of the response to controlled inflation, and this is an effort to support the level of liquidity and growth of Indonesia's national economy.(Hana, 2025)(Moneter, 2025).

One measure of banking performance besides profitability is the DER ratio. The DER ratio is a ratio that describes the ratio of the value of debt to equity owned by a company. The DER ratio is a key indicator of a bank's capital structure, as it reflects how much the bank uses its debt to fund operations and expansion compared to its own capital. An overly debt-based capital structure (high DER value) can increase the potential for a bank's return under favorable credit conditions and interest rates, but it also increases the risk of bankruptcy or hardship when market conditions deteriorate. It can be said that DER is one of the barometers of the balance between risk and bank returns (Dwilita & Tambunan, 2019)

Empirically, studies related to DER have been conducted. DER has a significant influence on the performance of banks. One study showed that Leverage was positively correlated with bank performance indicators such as Return On Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) in the banking consolidation period in Nigeria. In developing countries, with the characteristics of bank funding, the majority of which come from third-party funds or deposits, DER can be a capital management tool that can increase operational efficiency and profitability, provided that risk management is done carefully.(Offor, 2025).

(Lily & Danarsari, 2024)In Indonesia, although banking regulations require capital adequacy, DER remains relevant as a measure of leverage and financial health of banks. Banks with leverage ratios above the threshold (as per regulations) have better efficiency. This confirms that DER or leverage is not just a measure of risk, but is also an important metric in evaluating a bank's ability to optimize capital and assets to generate operational and financial performance. This study was conducted to provide an overview of the DER ratio in Indonesia's national banks, especially in conventional banks in the period from 2018 to 2024.

This study aims to provide a descriptive analysis of the Debt to Equity Ratio (DER) as an indicator of the capital structure and leverage levels in conventional banks in Indonesia during the period from 2018 to 2024. The novelty of the research lies in its comprehensive examination of DER across Indonesian banks, analyzing how global economic conditions, regulatory changes, and liquidity pressures influence capital structure and bank stability. This study uniquely presents a longitudinal analysis of DER variations and identifies how these fluctuations correlate with the financial health and risk management strategies of banks in Indonesia, making it one of the first to address this gap in the local banking literature.

The objectives of this research are to assess the capital structure of conventional banks, to identify trends in leverage, and to examine the relationship between DER and bank stability and profitability. Benefits of the study include providing policymakers and financial analysts with insights into the health of the banking sector, offering a tool for assessing the resilience of banks against financial shocks, and contributing to the broader understanding of capital management in Indonesia's banking industry. Moreover, the research provides

valuable information for investors and regulators by analyzing the link between DER and bank performance, enabling them to make informed decisions in future banking policies and investments.

METHOD

The study employs a quantitative descriptive analysis of Debt-to-Equity Ratio (DER) data from conventional banks in Indonesia over 2018–2024. It focuses on secondary data processing, calculating maximum, minimum, and average DER values per year, as shown in Table 1 (e.g., 2024 max: 13.42, min: 0.05, average: 4.62).

Data appears sourced from financial reports or databases of Indonesian conventional banks listed on the stock exchange, though exact sources (e.g., OJK or IDX) are not specified. Analysis techniques include statistical summaries and graphical representations (line charts/figures 1–7) to visualize DER trends, bank health categories (healthy <70, fairly healthy 70–100, unhealthy >100), and patterns like stability in large banks (e.g., BBCA, BBNI).

The population comprises all conventional banks in Indonesia, with no explicit sampling method detailed (likely census of available banks per year). No advanced statistical tests (e.g., regression) are used; the approach prioritizes longitudinal trends over causal inference.

RESULTS AND DISCUSSION

Descriptive Analysis

In the descriptive analysis, the maximum value, minimum value and average value of the DER ratio data in conventional banking for the observation period from 2018 to 2024 were used. Here are the results of the data processing:

Table 1. Table of Zaximum, Minimum and Average Values of DER Ratios in conventional banks for 2018 to 2024

Year	MAX	MIN	Averange
2018	11,13	0,089	5,02
2019	11,33	2,59	5,20
2020	11,33	2,70	5,46
2021	9,69	0,03	5,29
2022	8,77	0,03	4,84
2023	13,40	0,05	4,80
2024	13,42	0,05	4,62

In the table above it appears that the highest value of the DER ratio occurs in 2024, the minimum value of the DER ratio occurs in 2020 and the highest average value of the conventional bank DER ratio for the observation year is in 2020.

Chart Analysis

The graph is used in this study to provide a more specific picture of the upward or downward behavior of the DER ratio in the observation period, namely from 2018 to 2024. A DER value that is too high describes the condition of the bank that is unhealthy or unhealthy if it has exceeded the value of >200%. Meanwhile, banks that are in the healthy category, namely banks that have a DER value that is smaller than 70%, more than 70% but does not exceed the value of 100% are still included in the fairly healthy category. The following is an overview of the bank's health based on DER on the following line chart.

a. Conventional bank DER Ratio Chart in 2018

Figure 1. DER Ratio Value in Conventional Banks in 2018

In the graph image above, the highest DER value is BACA (Bank Capital Indonesia) and the lowest DER ratio value is BMAS (Bank Maspion Indonesia). Banks that are included in the healthy category are BABP, BJBR, MAYA banks, because how much is in the range of 70%.

b. Conventional bank DER Ratio Chart in 2019

Figure 2. DER Ratio Value of Indonesian Conventional Banks in 2019

In the graph above, it appears that the highest DER value in BABP and the lowest value in BSIM, namely BABP is in the category of unhealthy banks, and BSIM is in the healthy category. BJTM is included in the fairly healthy category because it has a value close to 80%

c. Conventional bank DER Ratio Chart in 2020

Figure 3. DER Ratio Value of Indonesian Conventional Banks in 2020

In the graph image above, it appears that BACA is in the category of unhealthy banks because the DER value exceeds 100%, and BBTN and BTPN banks have entered the bank category of being quite healthy because the DER value exceeds 70%. Banks that are included in the healthy category include BBCA, BBNI, BDMN, and other banks that have a DER value below 70%.

d. Conventional bank DER Ratio Chart in 2021

Figure 4. Value of DER Ratio of Indonesian Conventional Banks in 2021

In the chart above, it appears that banks that are below 70% are larger in number, including BINA, BJBR, BNGA and others, while those that exceed 100% do not exist. This year, it can be said that most banks are in the healthy category.

e. Conventional bank DER Ratio Chart in 2022

Figure 5. Valuation of the DER Ratio of Indonesian Conventional Banks in 2022

This year there is 1 bank that has a DER value of more than 70%, namely MAYA while the others are in healthy areas.

f. Conventional bank DER Ratio Chart in 2023

Figure 6. The value of the DER ratio of Indonesian conventional banks in 2023

In 2023, the average bank is in a healthy area, except for only 1 bank that is in an unhealthy condition, namely BBTN, because the DER value exceeds 100%.

g. Conventional bank DER Ratio Chart in 2024

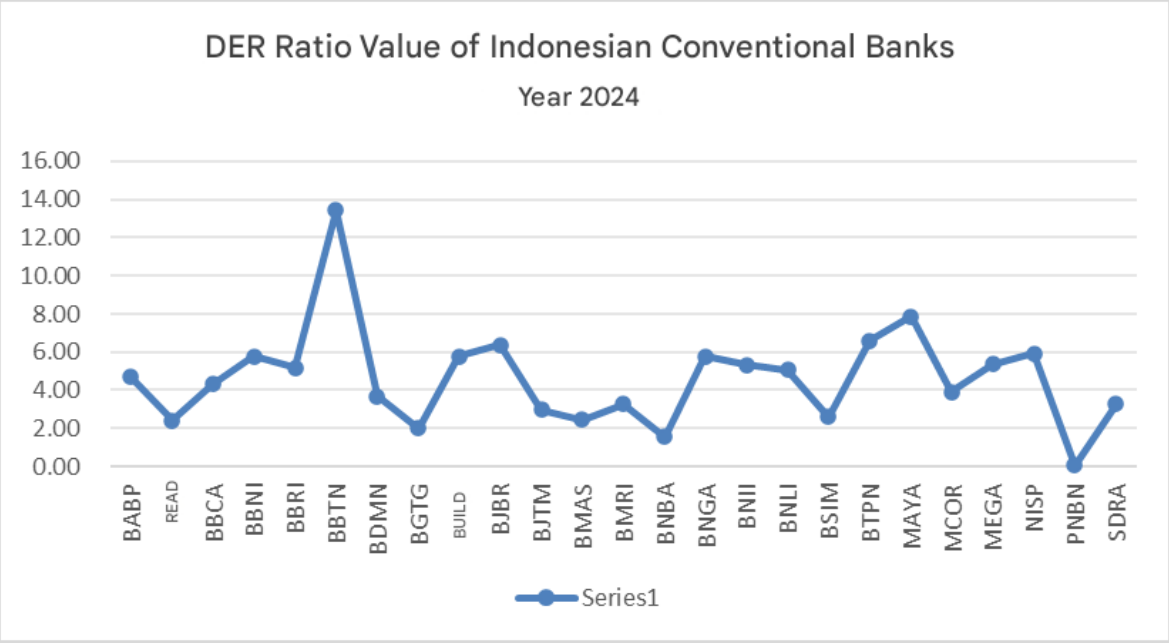

Figure 7. Value of the DER Ratio of Indonesian Conventional banks in 2024

In 2024, it can be said that it is quite good for conventional banks, because only 1 bank is included in the unhealthy category, namely BBTN, and 1 bank is included in the fairly healthy category, namely MAYA. The rest are in areas below 70%, or healthy.

In general, the value of conventional bank DER for the period 2018 to 2024 is in a healthy range and quite healthy. The range of DER values is at 0.03-13.42, meaning it is very low. This shows that national banks have a strong capital structure, supported by their own capital which is relatively large compared to total liabilities. This also reflects that the majority of banks include healthy moderate leverage. Some banks have very low DERs below 1, such as PNBN in 2023-2024 and BGTG in 2021-2022 which indicates a major restructuring or change in the liability structure. Banks with a DER above 8-10 are usually banks that are expanding aggressively or are experiencing capital pressure.

The Debt to Equity Ratio (DER) of conventional Indonesian banks in the 2018–2024 period shows a relatively stable pattern, with the majority of banks in the range of 3–7. This pattern reflects a strong capital structure, as national banks are able to maintain their portion of liabilities to equity at an efficient but safe level. This stability is in line with the view Berger & Bouwman (2013) which states that banks with strong capital tend to have higher resilience to external shocks and keep leverage at a moderate level to reduce the risk of insolvency. The consistency of the DER value of large banks such as BBCA, BMRI, BBNI, and BBRI shows how these banks manage capital risk conservatively and sustainably (N.Berger & Bouwman, 2013) (Melinda, Wiliasih, Irfany, Haq, & Camara, 2024) (Alvido, Kosim, Permana, & Mayasari, 2025).

During the COVID-19 pandemic period (2020–2021), there were a number of banks that experienced an increase in DER, such as BBNI, BBTN, and BINA. The increase can be interpreted as the impact of deteriorating asset quality and increasing credit loss reserves (CKPN). These findings are in line with research by Demirguc-et al. which explains that pandemic pressures triggered a decline in profitability and an increase in bank liabilities globally, causing temporary leverage to increase. However, the surge in DER in some Indonesian banks remained within reasonable limits and did not lead to systemic risks, demonstrating the effectiveness of government and OJK stimulus policies that support financial sector stability (Demirgüç-Kunt, Pedraza, & Ruiz-Ortega, 2021) (Amalia, Prakoso, & Insani, 2023).

However, there is an interesting anomaly in the DER value of several small banks such as BGTG and PNBN which recorded very low numbers (even close to 0 in 2021–2024). Extreme low DER values typically relate to new capital injections, ownership restructuring, or changes in business strategy. This is consistent with the results of the research Gropp & Heider which states that small banks tend to have higher leverage variability than large banks because changes in their capital structure are very sensitive to core capital movements. Low DER may reflect efforts to strengthen capital positions or reduce reliance on liabilities (Gropp & Heider, 2010).

In contrast, BBTN experienced a significant increase in DER in 2023–2024 (13.40–13.42), making it the highest in the entire period. A very high increase in DER indicates pressure in the liability structure or aggressive expansion that is not offset by capital growth. This is relevant to the findings Adrian & Shin, which explains that banks tend to increase leverage during the credit expansion phase, which when not offset by additional capital can increase financial risk. The findings of BBTN's DER value may indicate the need for further analysis of the quality of their assets and funding strategies (Adrian & Shin, 2010).

At the industry level, the stability of Indonesia's conventional bank DER shows that the national banking sector is able to maintain a healthy leverage structure despite facing various economic challenges. This condition is reinforced by the findings Allen, Jackowicz & Kowalewski which states that banks in emerging markets with strong capital regulation tend to have more stable leverage ratios and are not volatile when economic shocks occur. Indonesian capital regulations—such as the implementation of Basel III and risk-based bank rating (RBBR) risk profile assessments—play a major role in keeping DER at a controlled level (Allen, Jackowicz, & Kowalewski, 2013).

The stability of the DER also shows that national banks are successfully managing credit risk, liquidity risk, and market risk in an integrated manner. A moderate DER is an important indicator in maintaining the trust of depositors and stakeholders, as this ratio is directly related to the bank's capacity to absorb losses. With relatively stable DERs, especially in large and medium-sized banks, Indonesian banks are showing the ability to maintain public confidence and long-term financial resilience.

Overall, the historical pattern of the 2018–2024 DER shows that national banks are in a healthy and resilient condition. Despite variations in small banks and significant increases in BBTN, the majority of banks maintain leverage within the industry's normal range. These findings support the Diamond & Rajan (2000) that banks that manage to balance leverage between liabilities and capital are better able to carry out the intermediation function with lower risk. Thus, the value of Indonesian banking DER during the analysis period not only illustrates the stability of the capital structure, but also reflects the effectiveness of regulation, the quality of risk management, and the fundamental strength of the national banking industry.

CONCLUSION

DER data for 2018–2024 shows that the capital structure of conventional Indonesian banks is generally strong, stable, and at a healthy level. Despite fluctuations in some small and medium-sized banks, the large banks showed consistency that reflected excellent risk and capital management. The extreme value of DER in some small banks indicates a significant change in capital structure that needs to be explored in further research.

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