# Du Point Method as Tool for Financial Performance Analysis

**[1]Rameshower Aryal; [1]Purushotam Bista**
Email: aryal.rameshower@kbc.edu.np
P4bista75@gmail.com
[1]Kathmandu BernHardt College, Bafal Kathmandu
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## Abstract

*This study undertakes a comprehensive financial performance analysis of Agricultural Development Bank Limited (ADBL) over a specified period, employing the Du Pont method. Focusing on key financial metrics such as Net Profit Margin (NPM), Total Asset Turnover Ratio (TATR), Equity Multiplier (EM), and Return on Equity (ROE), the study aims to provide a detailed examination of ADBL's efficiency in translating revenue into profit, asset utilization, capital structure decisions, and overall profitability. By utilizing the Du Pont method, the analysis aims to break down ROE into its constituent parts, offering valuable insights into the sources of ADBL's financial performance and shedding light on the interplay between profitability, efficiency, and financial leverage. The study adopts a case study research design with quantitative approach with ADBL as the focal point. This approach allows for an in-depth exploration of the relationships between variables that influence the financial decisions within the bank. Findings from the analysis highlight fluctuations in NPM, stable asset utilization as indicated by TATR, an increasing reliance on debt financing depicted by EM, and significant fluctuations in ROE. Correlational analysis underscores the influential role of profitability in achieving better ROE, along with a moderate negative correlation between NPM and EM. In conclusion, these insights empower stakeholders with valuable information for assessing ADBL's financial strength, risk profiles, and strategic decision-making within the banking industry.*

***Keywords****: Du Pont method, Financial Performance, Risk Profiles, Net Profit Margin, Return on Equity*

## 1. Introduction

The Du Pont analysis, sometimes referred to as the Du Pont model or Du Pont equation, is a methodology for financial performance analysis that assesses a business's return on equity(ROE) by dissecting it into its essential parts (Bwacha & Xi, 2016). Since its creation by the Du Pont Corporation in the early 1900s, the model has gained popularity as a method for evaluating financial success. It aids in locating the sources of a business' efficiency and profitability. One of the industries in Nepal that is expanding the fastest is banking. The financial industry is become increasingly intricate. Assessing the banking industry in Nepal is a difficult undertaking. When separating good banks from bad ones, a lot of variables need to be considered. The Du Pont model, which gauges a bank's performance based

on several critical parameters including capital sufficiency, asset quality, management effectiveness, earning quality, and liquidity, has been selected by the research to assess the banking sector's performance. Following the model study's selection of nationalized banks. We provide equal weights to each parameter based on the significance of the study. Financial performance takes into account every facet of the company, including capital, liquidity, earnings, risk, and the stability of the management team. One of the best methods for comparing the financial performance of banks is the Du Pont grading system. Generally speaking, the Du Pont grading system is a quantitative method that is extensively employed in many nations (Shrestha, 2020).

Financial performance analysis is a methodical assessment of a company's financial health that includes a thorough investigation of its financial statements and pertinent data to determine profitability, liquidity, solvency, and efficiency. The ultimate aim is to gain a comprehensive understanding of the company's overall performance, identify areas for improvement, and make well-informed decisions regarding investments, financing, and other financial strategies. This study is used by stakeholders, such as creditors, investors, and management, to evaluate the company's viability, development potential, and capacity to pay debts. Financial performance analysis offers important insights that support risk management, strategic planning, and the optimization of financial results by closely examining important financial measures and ratios.

The market power and efficiency structure models were used in the initial research on banks' performance, which were published in the late 1980s and early 1990s. The assessment of banks' profitability and financial soundness has increased in more sophisticated analytical models with the emergence of diverse data analysis techniques. The Du Pont framework has been the most widely utilized method in recent years to evaluate the financial soundness of financial organizations (Talpur, 2023). The Du Pont model is a very precise, efficient, and useful technique that may be used to predict future risk and evaluate performance in the banking industry. The Du Pont model, which divides ROE into three parts—profitability, efficiency, and financial leverage was used by the study to analyze its data. As a result, the Du Pont research offers the foundation for assessing the company's financial success. Based on the availability of current data, the purposive sampling method's selection of Agricultural Development Bank Limited suggests a purposeful and planned decision.

## Literature Review

During the literature review, the researcher endeavors to ascertain the insights gained by others on comparable research problems and to collect pertinent information that bears relevance to the specific research problem under consideration (Mitra, 2023).

Ligori et al. (2019) stated that in the land of Gross National Happiness and a developing country like Bhutan, banking system plays a robust role in ensuring sustainable and

equitable economic development. In the age of globalization, banks are important and directly affect the economy in terms of return. Due to its ongoing business expansion, the financial sector's performance over the time had improved. Over time, there was a notable acceleration of credit growth and a notable improvement in the bank's asset management and return-boosting capabilities.

Shabani et al. (2021) illustrated the advantages of the DuPont model, namely the division of complex indicators into the factors of which they are composed. This enables us to identify the primary reasons for changes in the complicated performance metrics of Kosovo's small and medium-sized businesses as well as their relationships. This study examines the financial performance of forty small and medium-sized businesses that were active in Kosovo between 2016 and 2018 using the DuPont model of financial analysis, which is based on capital analysis of the return model. This research will be realized with the statistical software SPSS, using ROE (return on equity) as the dependent variable and AU (Assets utilization), EM (equity multiplier) and PM (profit margin) as the independent variables.

Putri et al. (2022) analyzed the rate of return on investment in PT. Mayora Indah Tbk. PT. Mayora Indah Tbk., is a manufacturing company engaged in food and beverages and at the same time the largest coffee candy manufacturing company in the world. The Return on Investment analysis with the Du Pont System approach was used to measure the rate of return on investment in this study. Utilizing documentation methodologies, the industry average assessment indicators from all organizations, including research objects—namely, manufacturing companies in the food and beverage subsector—are used to collect data.

Pathak et al. (2022) stated that banks play an important role not only in the growth of the financial system but also in the development of the overall economy of a nation. As a result, academic study, bank management, financial markets, and bank regulatory agencies have all become interested in the factors that determine bank performance. This study looks at how certain bank-specific factors affect joint venture banks' financial performance in Nepal. Bank performance is positively impacted by management effectiveness as well, but only to a limited extent by net interest margin. Similar to this, operating expenses have a large negative influence on banks' net interest margin and liquidity has a considerable negative impact on return on equity and net interest margin (Pathak et al., 2022)the determinants of bank performance have attracted the interest of academic research, bank management, and financial markets as well as of bank regulatory bodies. This paper examines the impact of bank-specific variables on the financial performance of joint venture banks in Nepal. The data are collected from the supervision report of Nepal Rastra Bank and annual reports of the sample banks for 10 years from the fiscal year 2009/10 to 2018/19. Based on the results of the Breusch-Pagan LM test and Hausman Test, fixed effects regression models are applied to examine the effects of bank-specific variables on the financial performance of Nepalese joint venture banks. The result shows that there is a significant positive

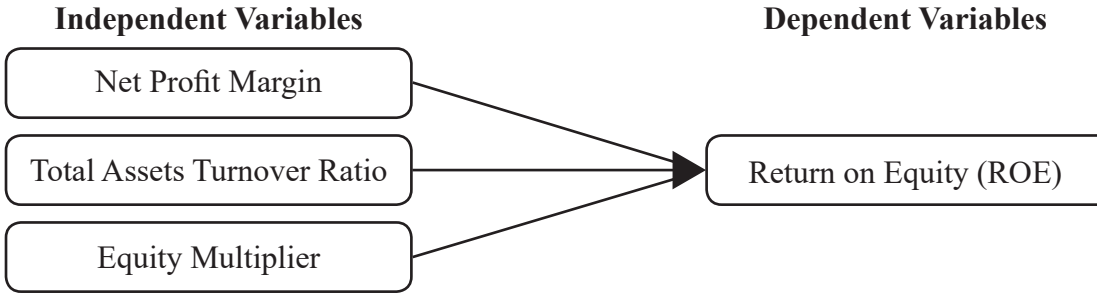
impact of size and employee expenses on the performance of banks measured in terms of return on assets, return on equity and net interest margin. Management efficiency has also a positive impact on the performance of banks but it is significant only on net interest margin. Similarly, there is a significant negative impact of liquidity on return on equity and net interest margin and a significant negative impact of operating expenses on the net interest margin of the banks.",”container-title”:”Janapriya Journal of Interdisciplinary Studies”,”DOI”:”10.3126/jjis.v11i1.51645”,”ISSN”:”2773-8000”,”issue”:”1”,”language” :”en”,”license”:”Copyright (c.

Al-Khoury et al. (2022) stated in today's business environment, financial analysis is considered one of the most reliable tools to judge performance, especially in the banking sector. The current study examines the financial performance of Arab Bank, one of Jordan's most well-known and lucrative banks. Using the DuPont system of financial analysis of return on equity (ROE) model, it looks at the financial performance of the Arab Bank from 2000 to 2019. The three primary components of this strategy are the equity multiplier (EM), total assets turnover (TAT), and net profit margin (NPM). This study's primary goal is to evaluate the cooperative's productivity and profitability for one of the banks in Jordan.

Mahdi (2023) applied the Du Ponte model evaluates and measures indicators that assist the management of Iraqi banks listed with the Iraqi Securities Commission in assessing their financial performance for both regular and secondary markets. This is done by analyzing productivity, efficiency, and effectiveness as tools that aid in future decision-making and the best utilization of available economic resources. This study's significance emphasizes the value of using the modified Du Ponte model, which evaluates and assesses metrics like return on equity, return on assets, multiples of equity, and other metrics that assist bank management in avoiding roadblocks to success and efficiency analysis.

The existing literature (Ally et al., 2013; Ligori et al., 2019; Shabani et al., 2021; Al-Khoury et al., 2022) extensively explores the application of the Du Pont model in assessing the financial performance of commercial banks, employing correlation as a primary analytical tool and Net Profit Margin, Total Assets Turnover Ratio, Equity Multiplier as independent variable. However, there is a noticeable research gap in the context of the recently emerged sample bank and the availability of new, updated data also time and context. The literature (Putri et al., 2022; Arsad et al., 2022; Mahdi, 2023) predominantly focuses on various commercial banks, and while this provides valuable insights, it fails to address the unique characteristics and performance dynamics of the newly introduced sample bank. Moreover, the reliance on historical data may not fully capture the current financial landscape, necessitating a fresh examination using the most recent financial statements and calculations. Therefore, this study aims to bridge this gap by employing the Du Pont model on the new sample bank, utilizing recent data to analyze its financial performance. The research will not only contribute to the existing body of knowledge but will also offer a contemporary perspective, ensuring the relevance and applicability of findings to the current financial scenario.

**Conceptual Review**




*Source: Ligori et al., 2019*

## 3. Research Design

The research design involves a quantitative approach to analyze the financial performance of Agricultural Development Bank Limited (ADBL) utilizing the DuPont Method. Data collection involved gathering financial statements of ADBL over study period. A case study involves a thorough examination of one or more organization or groups within organization. It often includes collecting data over time to provide an in-depth analysis of the context and processes related to the subject being studies. This approach can indeed be viewed more as a research strategy or design rather than a strict method. A case study focuses on understanding the specific dynamics within a single setting can employ both quantitative and qualitative research strategies in data collection (Gaya, & Smith, 2016). Quantative case study research design is used to explain how tangible resources actually created and sustained competitive advantage for the firm (Ray et al., 2004).

### Population and Sample

During study period 20 commercial banks operating in the Nepal are the total population. To fulfil the objectives of the study, among the 20 commercial banks only ADBL was selected for sample as the study is concerned to case study. In selecting sample, purposive sampling method was used for selecting sample. The selection was done based on the researcher prior knowledge and working experiences on this Bank.

### Nature and Sources of Data

For this study, secondary data were used. Secondary data were collected mainly from different published sources like annual reports, journal, internet etc. Secondary data published in the annual reports of concerned organizations was collected through their web sites and matching with the NRB annual report.

### Data Analysis Tools

The data obtained from the different annual data from ADBL annual report published by the NRB. For this study, required data was taken from the secondary source, and presented in this study. For presentation, different tables and charts was used.

### 3.1. Statistical Tools:

**Descriptive Statistical Tools**: Quantitative research methods is used in this study. So various statistical tools is used in this research. Mean is a descriptive character that represent a single value and depicts the characteristics of the whole group. It is a representative of the entire mass of homogenous data, its value lies somewhere in between the two extremes, i.e. the largest and the smallest items. It is obtained by dividing the sum of the quantities by the number of items. The amount of variation or dispersion of a set of data values can be measured using the standard deviation. The standard deviation's useful characteristic is that, in contrast to the CV, it is expressed in the same units as the data. Within the data collection, there is a larger deviation if the data points are farther from the mean. Therefore, the standard deviation increases with data spread. The coefficient of variation (CV) is the ratio of the standard deviation to the mean and shows the extent of variability in relation to the mean of the population. The higher the CV, the greater the dispersion.

### 3.2. Correlation Coefficient

A statistical method for determining the strength of a relationship between two variables is correlation. Because they can reveal a predictive relationship that can be used in real-world situations, correlations are valuable tools. Over time, the nature and degree of any link between two or more variables change concurrently. To determine the degree of relationship between independent and dependent variables for each sample in this study, correlation is computed for the responses given on a Likert scale.

## 4. Results and Discussion

Data analysis summarizes collected data. It involves the interpretation of data gathering through the use of analytical and logical reasoning to determine pattern, relationships and trend.

### 4.1. Current Ratio

Current assets are the resources that a business owns and expects to use or sell within a year. Current assets are important to a business because by converting them to cash they allow it to pay its day-to-day operating expenses, bill and loan payments. Current assets include cash, cash equivalents, cash receivable, stock inventory, marketable securities, pre-paid liabilities and other liquid assets.

The FY ADBL data reveals a consistently stable Current Ratio around 1 for the years 2012/13 to 2021/22, with an average of 1.187, indicating that, on average, the company maintains slightly more current assets than current liabilities.

**Table 1 Current Ratio**

| FY | ADBL |
|---|---|
| 2012/13 | 1.23 |
| 2013/14 | 1.21 |
| 2014/15 | 1.19 |
| 2015/16 | 1.22 |
| 2016/17 | 1.23 |
| 2017/18 | 1.24 |
| 2018/19 | 1.23 |
| 2019/20 | 1.19 |
| 2020/21 | 1.17 |
| 2021/22 | 1.16 |
| Average | 1.187 |
| Standard Deviation | 0.0619 |
| CV | 5.21 |

*Source: Annual Report 2012 to 2022*

The low standard deviation of 0.0619 and a coefficient of variation of 5.21% suggest a relatively low level of variability around the mean, reflecting a consistent financial position over the specified period. While the Current Ratio provides insight into short-term liquidity and the company's ability to cover immediate obligations, it's essential to consider other financial metrics and industry benchmarks for a comprehensive evaluation of the company's overall financial health and stability.

### 4.2.2 Cash and Bank Balance to Current Asset Ratio

The current ratio compares all of a company's current assets to its current liabilities. These are usually defined as assets that are cash or will be turn into case in a year or less and liabilities that will be paid in a year or less.

**Table 2 Cash and Bank Balance to Current Asset ratio**

| FY | ADBL |
|---|---|
| 2012/13 | 0.11 |
| 2013/14 | 0.08 |
| 2014/15 | 0.11 |
| 2015/16 | 0.16 |
| 2016/17 | 0.17 |
| 2017/18 | 0.14 |
| 2018/19 | 0.13 |
| 2019/20 | 0.15 |
| 2020/21 | 0.11 |
| 2021/22 | 0.05 |
| Average | 0.122 |
| Standard Deviation | 0.0277 |
| CV | 22.65 |

*Source: Annual Report 2012 to 2022*

The FY ADBL data demonstrates an average value (mean) of 0.122, indicating the central tendency of the financial metric over the years 2012/13 to 2021/22. The standard deviation, measuring the extent of individual values' deviation from the mean, is relatively low at 0.0277, signifying a limited variability in the FY ADBL values. The coefficient of variation (CV) stands at 22.65%, providing a percentage-based measure of the standard deviation relative to the mean. This moderate CV suggests a moderate level of relative variability around the mean FY ADBL, implying a certain degree of stability in the financial metric across the specified period. Analyzing these statistics collectively offers insights into the consistency and reliability of the FY ADBL data, aiding in the assessment of financial performance and risk.

## 4.3. Loan and Advance to Current Asset Ratio

Loan and advance to current assets ratio indicate the volume of loan and advances out of the total assets.

The Loan and Advance to Current Asset Ratio, calculated as the proportion of loans

and advances to total current assets, is a key financial metric that provides insights into a company's liquidity and risk management. The data for FY ADBL from 2012/13 to 2021/22 reveals an average ratio of 0.70, suggesting that, on average, approximately 70% of the company's current assets are allocated to loans and advances. The low standard deviation of 0.0321 signifies a relatively stable trend in the ratio over the specified period, with limited deviation from the mean.

**Table 3 Loan and Advance to Current Asset Ratio**

| FY | ADBL |
|---|---|
| 2012/13 | 0.64 |
| 2013/14 | 0.65 |
| 2014/15 | 0.68 |
| 2015/16 | 0.74 |
| 2016/17 | 0.73 |
| 2017/18 | 0.74 |
| 2018/19 | 0.73 |
| 2019/20 | 0.69 |
| 2020/21 | 0.68 |
| 2021/22 | 0.72 |
| Average | 0.70 |
| Standard Deviation | 0.0321 |
| CV | 4.59 |

*Source: Annual Report 2012 to 2022*

The coefficient of variation (CV) of 4.59% reflects a moderate level of relative variability, indicating a consistent and reliable relationship between loans and advances and total current assets. This stability in the Loan and Advance to Current Asset Ratio suggests prudent financial management, ensuring that the company maintains an appropriate balance between liquidity and investment in loans and advances, contributing to its overall financial health.

### 4.4. Cash and Bank Balance to Total Deposit Ratio

Cash deposit ratio is the ratio of how much a bank lends out of the deposit it has mobilised. It indicates how much of banks core fund are being used for lending, the main banking activity. It can also be define as total of cash in hand and balance.

**Table 4 Cash and Bank Balance to Total Deposit Ratio**

| FY | ADBL |
|---|---|
| 2012/13 | 15.73 |
| 2013/14 | 10.38 |
| 2014/15 | 14.84 |
| 2015/16 | 21.17 |
| 2016/17 | 22.29 |
| 2017/18 | 18.71 |
| 2018/19 | 16.28 |
| 2019/20 | 18.15 |
| 2020/21 | 15.04 |
| 2021/22 | 7.74 |
| Average | 15.52 |
| Standard Deviation | 4.41 |
| CV | 28.42 |

*Source: Annual Report 2012 to 2022*

The Cash and Bank Balance to Total Deposit ratio serves as a crucial indicator of a bank's liquidity and its ability to cover depositor withdrawals. The data for ADBL from 2012/13 to 2021/22 reveals an average ratio of 15.52, suggesting that, on average, the bank holds cash and bank balances equivalent to approximately 15.52% of its total deposits. The relatively high standard deviation of 4.41 indicates a notable degree of variability in the ratio over the specified period, reflecting fluctuations in the bank's liquidity position. The coefficient of variation (CV) at 28.42% highlights the moderate level of relative variability compared to the mean, emphasizing the dynamic nature of the bank's liquidity management.

A higher CV implies a greater degree of risk associated with liquidity fluctuations. Overall, the average ratio provides insights into the bank's liquidity management strategy, while the standard deviation and CV offer a measure of the variability and associated risk, aiding in a comprehensive assessment of the bank's financial health and stability

### 4.5. Net Profit Margin

**Table 5 Net Profit Margin**

| FY | ADBL |
|---|---|
| 2012/13 | 51.32 |
| 2013/14 | 34.64 |
| 2014/15 | 41.53 |
| 2015/16 | 44.78 |
| 2016/17 | 73.00 |
| 2017/18 | 54.20 |
| 2018/19 | 44.94 |
| 2019/20 | 27.39 |
| 2020/21 | 18.00 |
| 2021/22 | 18.07 |
| Average | 38.19 |
| Standard Deviation | 14.37 |
| CV | 37.69 |

*Source: Annual Report 2012 to 2022*

The Net Profit Margin (NPM) is a key financial indicator for banks, measuring their efficiency in translating revenue into profit. This metric, expressed as a percentage, is calculated by dividing a bank's net profit by its total revenue. Net profit represents the income left after subtracting all expenses, including operating costs, interest on loans, taxes, and other outlays. Total revenue encompasses all income sources, such as interest earnings, service fees, trading gains, and more.

The NPM holds significant implications for the bank's financial health and performance. A higher NPM signifies efficient cost management and strong profitability relative to revenue, generally seen favourably by investors and shareholders. Conversely, a lower NPM suggests inefficiency in expense control and potentially weaker profitability. Comparing a bank's NPM to industry benchmarks or competitors can provide valuable insights, as can tracking trends over time. Several factors, including interest rates, operating efficiency, loan quality, and economic conditions, can influence a bank's NPM, making it a crucial metric for assessing and straitening financial performance.

The Net Profit Margin, a critical financial metric, represents the percentage of profit a company retains from its total revenue after deducting all expenses.

In the case of ADBL from 2012/13 to 2021/22, the Net Profit Margin exhibits an average of 38.19%, indicating that, on average, the bank retains approximately 38.19% of its total

revenue as net profit. The standard deviation of 14.37 reflects a moderate level of variability around the mean, suggesting fluctuations in the bank's ability to convert revenue into profit over the specified period. The coefficient of variation (CV) at 37.69% indicates a relatively high level of relative variability compared to the mean, Signaling a degree of volatility in the Net Profit Margin. This metric is crucial for evaluating the bank's profitability, and while the average indicates a healthy margin, the standard deviation and CV offer insights into the risk and variability associated with the bank's profitability over time.

### 4.6.Total Asset Turnover Ratio

The Total Asset Turnover Ratio (TATR) is a crucial financial metric that assesses a company's efficiency in utilizing its total assets to generate revenue. In the context of two banks, ADBL, this ratio provides valuable insights into their ability to maximize the use of their assets to generate income over a ten-year period from fiscal year 2012/13 to 2021/22. The Total Asset Turnover Ratio is a key financial metric that measures a company's efficiency in utilizing its total assets to generate revenue. In the case of ADBL from 2012/13 to 2021/22, the average Total Asset Turnover Ratio is 2.18, indicating that, on average, the bank generates revenue equivalent to approximately 2.18 times its total assets. The standard deviation of 0.69 reflects a moderate level of variability around the mean, suggesting fluctuations in the efficiency of asset utilization over the specified period.

**Table 6 Total Asset Turnover Ratio**

| FY | ADBL |
|---|---|
| 2012/13 | 2.97 |
| 2013/14 | 1.72 |
| 2014/15 | 3.46 |
| 2015/16 | 2.16 |
| 2016/17 | 2.32 |
| 2017/18 | 2.54 |
| 2018/19 | 2.77 |
| 2019/20 | 1.86 |
| 2020/21 | 1.59 |
| 2021/22 | 0.90 |
| Average | 2.18 |
| Standard Deviation | 0.69 |
| CV | 31.65 |

*Source: Annual Report 2012 to 2022*

The coefficient of variation (CV) at 31.65% indicates a relatively high level of relative variability compared to the mean, Signaling a degree of volatility in the asset turnover efficiency. This ratio provides insights into the bank's ability to maximize revenue generation from its asset base, with the average suggesting a reasonably efficient utilization of assets, while the standard deviation and CV highlight the variability and associated risk in this efficiency over time.

### 4.7. Equity Multiplier

The Equity Multiplier is a financial ratio that provides insight into a company's capital structure and financial leverage. It is a critical metric for assessing how a company utilizes debt to finance its assets in comparison to shareholders' equity. The Equity Multiplier is calculated by dividing a company's total assets by its total shareholders' equity.

A large percentage of a company's assets may be backed by debt, indicating increased financial leverage, according to a high Equity Multiplier. On the other hand, a low stock Multiplier suggests a lower level of financial risk for the company as it implies a greater reliance on stock funding.

**Table 7 Equity Multiplier**

| FY | ADBL |
|---|---|
| 2012/13 | 10.74 |
| 2013/14 | 11.88 |
| 2014/15 | 10.31 |
| 2015/16 | 10.41 |
| 2016/17 | 11.30 |
| 2017/18 | 8.14 |
| 2018/19 | 7.88 |
| 2019/20 | 9.95 |
| 2020/21 | 12.89 |
| 2021/22 | 14.28 |
| Average | 10.68 |
| Standard Deviation | 2.11 |
| CV | 19.79 |

*Source: Annual Report 2012 to 2022*

This ratio is especially crucial for comprehending the possible benefits and hazards connected to a company's capital structure. When a business is doing well, a large equity multiplier can boost profits; however, it also raises the possibility of financial trouble during recessions or other adverse business situations. On the other hand, a lower Equity Multiplier suggests more stability but can also reduce the possibility of larger returns.

The Equity Multiplier can give banks information about their risk profile. A bank may be more exposed to financial risks and more leveraged if its Equity Multiplier is larger. On the other hand, a lower Equity Multiplier can point to a stronger capital position and a more cautious strategy.

ADBL's Equity Multiplier exhibits fluctuations over the years. It starts at 10.74 in 2012/13 and experiences some variation before reaching its peak at 14.28 in 2021/22. Notably, ADBL's Equity Multiplier shows an upward trend, indicating a gradual increase in financial leverage over the decade.

The higher variability in ADBL's Equity Multiplier implies a potentially higher risk associated with its capital structure. While increased leverage can amplify returns in favourable economic conditions, it also exposes the bank to greater financial risks during economic downturns or challenging periods.

Throughout the ten years, ADBL's Equity Multiplier—a measure of how much of a company's assets are financed by shareholders' equity—showed erratic patterns. ADBL's Equity Multiplier has a CV of 17.02%, an average of 10.21, and a range of 6.97 to 13.64. These CV values suggest both companies experienced moderate variability in their capital structures, indicating potential shifts in their debt-to-equity ratios and financial risk management practices. These fluctuations in the Equity Multiplier highlight changes in their financing strategies and financial risk profiles.

### 4.7. Return on Equity (ROE)

A key financial indicator that assesses a business's profitability and effectiveness in producing returns for its owners is return on equity, or ROE. It is computed by dividing a company's net income (or profit) by the equity held by its shareholders, and it is expressed as a percentage. A key measure of a business's performance and financial health, return on equity (ROE) offers insightful information to analysts, investors, and management.

**Table 8 Return on Equity**

| FY | ADBL |
|---|---|
| 2012/13 | 16.10 |
| 2013/14 | 10.09 |
| 2014/15 | 21.66 |
| 2015/16 | 12.05 |
| 2016/17 | 12.60 |
| 2017/18 | 13.01 |
| 2018/19 | 14.71 |
| 2019/20 | 11.70 |
| 2020/21 | 11.20 |
| 2021/22 | 6.67 |
| Average | 12.79 |
| Standard Deviation | 3.68 |
| CV | 28.79 |

*Source: Annual Report 2012 to 2022*

Return on Equity (ROE) is a fundamental financial metric that evaluates a company's profitability in relation to its shareholders' equity. For ADBL from 2012/13 to 2021/22, the average ROE is 12.79%, signifying that, on average, the bank generates a return of approximately 12.79% on its shareholders' equity. The standard deviation of 3.68 indicates a moderate level of variability around the mean, suggesting fluctuations in the bank's ability to deliver consistent returns over the specified period. The coefficient of variation (CV) at 28.79% highlights the relative variability in ROE compared to the mean, emphasizing the dynamic nature of the bank's profitability. The decreasing trend in ROE from 16.10% in 2012/13 to 6.67% in 2021/22 may indicate challenges or changes in the bank's financial performance. Overall, ROE provides valuable insights into the bank's efficiency in utilizing equity capital to generate profits, with the average, standard deviation, and CV offering a comprehensive view of the variability and associated risk in its return on equity.

## 4.9. Correlational Analysis

Correlational analysis is a statistical method used to examine the relationship between two or more variables, aiming to quantify the degree and dir ection of their association. In this analysis, researchers calculate a correlation coefficient, typically represented by the symbol "r," which ranges from -1 to +1. A positive correlation indicates a direct

relationship, meaning that as one variable increases, the other tends to increase as well. Conversely, a negative correlation implies an inverse relationship, suggesting that as one variable increases, the other tends to decrease. A correlation coefficient of 0 indicates no linear relationship between the variables.

**Table 9 Correlational analysis**

| | NPM | TATR | EM | ROE |
|---|---|---|---|---|
| NPM | 1.00 | | | |
| TATR | 0.01716 | 1.00 | | |
| EM | -0.39363 | 0.2921 | 1 | |
| ROE | 0.868702 | 0.175163 | 0.02129 | 1 |

*Net Profit Margin (NPM)*

Net Profit Margin (NPM) is a fundamental financial metric that assesses a company's profitability by measuring the percentage of profit relative to its total revenue. The correlation matrix indicates several key relationships involving NPM.

Strong Positive Correlation with ROE (0.8687): The most striking relationship observed in the data is the strong positive correlation between NPM and Return on Equity (ROE). This correlation coefficient of 0.8687 suggests that there is a robust relationship between a company's profitability (NPM) and its overall return on equity. In practical terms, this means that when a company's NPM increases, its ROE tends to rise as well. This is a favourable outcome for investors and stakeholders, as it signifies that a company is efficient in converting its revenues into profits, resulting in higher returns for shareholders.

Moderate Negative Correlation with EM (-0.3936): The correlation between NPM and Equity Multiplier (EM) is moderately negative. This correlation coefficient of -0.3936 implies that, as a company's NPM increases, its EM tends to decrease slightly. EM measures the extent to which a company relies on debt financing, with a higher EM indicating more debt. The negative correlation suggests that companies with healthier profit margins are generally less reliant on debt financing. Lower debt levels can provide financial stability and reduce the risk of financial distress. Thus, the relationship between NPM and EM underscores the importance of profitability in a company's capital structure decisions.

Very Weak Negative Correlation with TATR (-0.0172): The correlation between NPM and Total Asset Turnover Ratio (TATR) is extremely weak, with a coefficient of -0.0172. This suggests that there is almost no discernible linear relationship between NPM and TATR. TATR measures how efficiently a company utilizes its assets to generate revenue. The lack of a significant correlation indicates that NPM and TATR operate relatively independently

in this dataset. It is important to note that while there may not be a linear relationship, companies should still aim to optimize both profitability (NPM) and asset efficiency (TATR) for overall financial success.

## 5. Conclusion

In conclusion, the comprehensive analysis of the financial metrics, as outlined in the findings, provides valuable insights into the intricate dynamics shaping the financial performance and decision-making of banks, with a specific focus on ADBL. The examination of Net Profit Margin (NPM) underscores its pivotal role as a key indicator of a bank's efficiency in translating revenue into profit. The positive correlation between NPM and Return on Equity (ROE) emphasizes the significance of profitability in driving overall financial health, aligning with existing research highlighting the enduring influence of profitability on ROE stability.

Furthermore, the study reveals a moderate negative correlation between NPM and Equity Multiplier (EM), indicating that as profitability increases, there is a tendency for reduced reliance on debt financing. This finding resonates with the broader understanding that profitable companies are better equipped to fund operations without resorting to significant debt, echoing insights from prior studies on capital structure decisions.

The weak correlation between NPM and Total Asset Turnover Ratio (TATR) suggests a limited linear relationship between these metrics, emphasizing that asset efficiency and profitability may operate relatively independently. This nuanced understanding aligns with existing research, acknowledging the multifaceted strategies required for optimizing both asset efficiency and profitability.

The relatively independent behavior of Total Asset Turnover Ratio (TATR) itself, coupled with its weak correlations with other variables, supports the notion that this metric may operate autonomously, particularly in volatile markets. This finding emphasizes the need for tailored strategies in optimizing asset efficiency within dynamic economic landscapes.

The analysis of Equity Multiplier (EM) reveals fluctuations in reliance on debt financing over the decade, with a moderate negative correlation with NPM. This reaffirms the premise that more profitable companies tend to exhibit a lower reliance on debt financing, a crucial consideration in understanding the interplay between profitability and capital structure decisions.

Lastly, the very weak positive correlation between EM and ROE suggests a minor association between a higher Equity Multiplier and slightly improved ROE. However, this correlation underscores the intricate web of factors influencing ROE beyond capital structure decisions, emphasizing the complexity inherent in understanding a company's return on equity.

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