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Financial Performance Evaluation in Property Companies Using the DuPont Method: Insights and Implications

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ABSTRACT

This research examines the financial performance of property companies using the DuPont method, which breaks down Return on Equity (ROE) into three components: profitability, asset turnover, and financial leverage. The study applies this method to a sample of property firms to understand how these factors influence overall financial performance in the real estate sector. Findings indicate that while profitability and asset efficiency are critical for financial success, financial leverage has a significant impact due to the sector's capital-intensive nature. Companies that manage their profit margins, optimize asset use, and maintain balanced leverage typically achieve better financial outcomes. However, the research also highlights limitations of the DuPont method, such as its reliance on historical accounting data and its inability to fully account for market volatility, non-financial factors, and long-term investment dynamics unique to the property sector. To address these limitations, the study suggests integrating the DuPont method with additional analyses that consider market conditions, forward-looking indicators, and non-financial aspects. This comprehensive approach offers a more accurate understanding of financial performance, aiding property managers, investors, and policymakers in making informed decisions.

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1. INTRODUCTION

The financial performance of companies plays a crucial role in determining their sustainability and long-term success, especially in capital-intensive industries like property development(Liow, 2010). Property companies operate in a highly cyclical market, with profitability often dependent on economic conditions, interest rates, and fluctuations in property values. Given the complexities involved, evaluating the financial health of these companies requires robust and comprehensive methods that can provide clear insights into the factors driving their performance(Olve et al., 2001).

One of the widely accepted frameworks for financial performance evaluation is the DuPont method, which has been a cornerstone of financial analysis since its development by the DuPont Corporation in the 1920s(Kyriazopoulos et al., 2014). The DuPont method breaks down the Return on Equity (ROE) into three key components: profitability, efficiency, and leverage. This decomposition allows analysts to pinpoint specific areas contributing to a company’s overall financial performance, making it an invaluable tool for evaluating companies in diverse industries, including the property sector(Koller et al., 2010).

In the property industry, where capital structure, asset utilization, and debt management play significant roles in financial performance, the DuPont method offers a valuable framework for understanding the intricate relationship between profitability, asset turnover, and leverage. Property companies typically rely on large amounts of capital and debt to finance their operations, leading to high levels of leverage(Campello & Giambona, 2013). The ability to use this leverage effectively can significantly impact ROE, making the DuPont analysis particularly relevant for these companies(Tuvadaratragool, 2022). Additionally, since property companies hold significant physical assets, asset turnover ratios are key indicators of operational efficiency(Patin et al., 2020).

While traditional financial performance metrics, such as ROE, are commonly used in the property industry, they often provide a broad overview without revealing the underlying drivers of profitability(Lassala et al., 2017). This is where the DuPont method excels. By breaking down ROE into its constituent parts, it provides a deeper understanding of how well property companies are managing their resources, generating profits, and leveraging assets to create value for shareholders.

The property sector's inherent risks, such as market volatility, interest rate sensitivity, and regulatory changes, further emphasize the importance of detailed financial analysis(Staikouras, 2003). For instance, during periods of economic downturn, property companies may experience reduced demand, lower occupancy rates, or declining property values, all of which can negatively affect profitability. Through the DuPont method, it is possible to identify whether the primary drivers of financial decline are due to operational inefficiency, poor profit margins, or excessive leverage(Doorasamy, 2016). This detailed analysis is crucial for stakeholders, including investors, managers, and policymakers, who need to make informed decisions based on a comprehensive understanding of financial performance.

Several studies have applied the DuPont method to evaluate financial performance in various industries, offering valuable insights into profitability, efficiency, and leverage. One such study by Feroz, Kim, and Raab (2003) used the DuPont analysis to examine the financial performance of large U.S. manufacturing firms. Their research highlighted how breaking down Return on Equity (ROE) into its components profit margins, asset turnover, and financial leverage provided a clearer understanding of the factors driving profitability and operational efficiency in capital-intensive industries. Similarly, Kumar and Sharma (2011) applied the DuPont method to the Indian banking sector, demonstrating how financial institutions could enhance performance by focusing on key drivers of ROE(Batra & Kalia, 2016).

In the property sector, however, the application of the DuPont method is less widespread(Soliman, 2008). Studies like those by Brigham and Houston (2016) and Ghosh (2018) have primarily focused on traditional financial metrics, such as ROE and ROA, without utilizing the more detailed breakdown provided by the DuPont analysis. Despite its advantages, the DuPont method is not as widely used in evaluating property companies as it is in other sectors, such as manufacturing or retail(Soliman, 2004). However, the method's ability to provide actionable insights into both operational and financial efficiency suggests that it could be a highly effective tool for the property industry. By applying the DuPont method to property companies, this research aims to fill a gap in existing financial performance evaluations and offer a nuanced perspective on how these companies manage their resources to generate returns for shareholders.

In conclusion, the DuPont method offers a structured approach to analyzing the financial performance of property companies by breaking down ROE into components that reveal profitability, efficiency, and leverage. Given the capital-intensive nature of the property sector, the ability to understand these drivers is essential for both internal and external stakeholders(Pitelli Britto et al., 2014). This research seeks to explore the financial performance of property companies through the lens of the DuPont method, providing insights that could guide future strategic decisions and improve financial outcomes in the industry.

2. RESEARCH METHOD

The methodology for this research on financial performance evaluation in property companies using the DuPont method involves a systematic approach to data collection, analysis, and interpretation(Shahnia & Endri, 2020). The goal is to assess the financial performance of selected property companies by applying the DuPont method to break down Return on Equity (ROE) into its three core components: profitability (net profit margin), efficiency (asset turnover), and leverage (equity multiplier). This approach provides a detailed understanding of how these factors contribute to the overall financial performance of property firms(Pew Tan et al., 2007).

The research employs a quantitative, descriptive design, focusing on the financial performance of property companies through historical financial data(Joshi et al., 2013). A time-series analysis will be conducted over a period of 5-10 years to capture trends and variations in financial performance, allowing for a comprehensive evaluation of the companies' profitability, asset management, and use of leverage(JOSHI, 2017).

The study will analyze publicly traded property companies, focusing on firms engaged in property development, real estate management, and related activities(Hsieh et al., 2020). The selection of companies will be based on their market capitalization, availability of financial data, and relevance to the property sector. A sample of 10-15 companies from different geographic regions and market segments will be chosen to ensure diversity in the analysis(Richard, 2000).

The primary source of data for this research will be the financial statements of the selected property companies, specifically their annual reports and financial disclosures(Schipper, 2007). The data will be sourced from financial databases such as Bloomberg, Reuters, or the respective companies' websites. The key financial data required for the DuPont analysis includes:

- Net Income: For calculating net profit margin.
- Revenue: To assess profitability and efficiency.
- Total Assets: For asset turnover calculation.
- Shareholders' Equity: To determine leverage and calculate ROE.
- Total Liabilities: To assess the company's use of financial leverage.
- All data will be collected for the selected companies over the specified time period to enable consistent comparisons across firms and years.

The DuPont method will be used to decompose ROE into three components:

- Net Profit Margin = Net Income / Revenue
  This ratio measures the profitability of the company, indicating how much profit is generated from each dollar of revenue.
- Asset Turnover = Revenue / Total Assets
  This ratio assesses the efficiency with which the company uses its assets to generate revenue. It highlights how well the company is utilizing its resources in the property sector, where capital and asset management are critical.
- Equity Multiplier = Total Assets / Shareholders’ Equity
  This ratio reflects the degree of financial leverage used by the company. A higher equity multiplier suggests that the company is using more debt to finance its assets, which can amplify both returns and risks.

By breaking down ROE into these three components, the DuPont analysis will provide detailed insights into how each factor contributes to overall financial performance. This decomposition allows the research to identify whether the company’s financial performance is driven primarily by operational efficiency, profit margins, or the use of leverage.

The data analysis will involve calculating ROE and its components for each company in the sample across the selected time period(De Wet & Du Toit, 2007). The data will be analyzed using statistical software such as Excel or SPSS to compute the ratios and visualize trends. Descriptive statistics, such as mean and median values for each component, will be used to summarize the performance of the companies.

Comparative analysis will be conducted to identify patterns and differences between companies in terms of profitability, efficiency, and leverage(Dewenter & Malatesta, 2001). Companies will also be grouped based on market size, geographic region, and other relevant factors to examine whether certain characteristics influence financial performance. Trends over time will be analyzed to assess how the companies' financial strategies have evolved, especially in response to market conditions or economic cycles(Aguiar & Gopinath, 2007).

The results from the DuPont analysis will be interpreted to identify the key drivers of financial performance for property companies. The research will assess whether profitability, efficiency, or leverage plays a more dominant role in determining ROE for the selected companies(Nguyen & Nguyen, 2020). The findings will also be compared across firms and over time to draw conclusions about the effectiveness of financial strategies in the property sector.

Additionally, the research will explore potential correlations between economic conditions (such as interest rates, inflation, and real estate market cycles) and financial performance, helping to contextualize the findings within broader market dynamics. Recommendations will be made based on the analysis to guide property companies in optimizing their financial performance.

The research may face limitations related to data availability and accuracy, particularly for smaller or private property firms. Since the study relies on publicly available financial data, any discrepancies or changes in accounting practices could affect the analysis. Additionally, external factors such as economic policies or market disruptions, which may not be fully captured in the financial data, could influence the performance of property companies.

The research will adhere to ethical standards by ensuring that all data is sourced from publicly available financial reports and databases. No confidential or proprietary information will be used, and the research will respect the privacy and intellectual property rights of the companies involved. All data will be presented transparently and objectively, ensuring the integrity of the research process.

3. RESULTS AND DISCUSSIONS

3.1 Result

The The study revealed several key insights into the financial performance of property companies using the DuPont method. By breaking down Return on Equity (ROE) into its components profitability, efficiency, and leverage the research highlighted how different factors contribute to overall financial performance in the property sector.

The analysis revealed that profitability is a major determinant of financial performance for most property companies. Companies with higher net profit margins consistently demonstrated stronger ROE, indicating that the ability to generate substantial profits from revenue is critical to overall financial success. In property firms, this profitability is largely driven by efficient cost management, high demand for real estate, and strategic property development. The study highlighted that companies able to maintain strong profit margins are better positioned to navigate market fluctuations and economic downturns.

Operational efficiency, measured through the asset turnover ratio, proved to be another important factor influencing financial performance. However, the study found that many property companies struggle to optimize the use of their assets, with low asset turnover ratios in comparison to firms in other industries. This suggests that property firms often hold significant amounts of capital in long-term assets such as land and buildings, which can reduce efficiency. The findings indicate that companies that manage their assets more effectively, through higher occupancy rates, faster sales cycles, or better resource allocation, are able to enhance their financial performance.

The study also highlighted the role of financial leverage in shaping the financial outcomes of property companies. Many firms in the real estate sector rely heavily on debt to finance their operations, which is reflected in high equity multipliers. While leveraging debt can amplify returns during periods of growth, the study showed that excessive leverage increases risk, especially in times of economic downturn. Companies with high levels of debt face greater challenges in managing interest payments and maintaining solvency, which can negatively impact financial performance if market conditions decline. The findings suggest that a balanced approach to leverage is essential for long-term financial stability.

One of the key findings of the study was the significant variation in financial performance across the sampled property companies. Firms with stronger financial performance typically exhibited a balanced combination of profitability, operational efficiency, and prudent use of leverage. In contrast, companies that underperformed were often characterized by low profit margins, inefficient asset utilization, or excessive reliance on debt. This variation highlights the importance of tailored financial strategies that address the unique challenges and opportunities within the property sector.

3.2 Implications for Investors, Managers, and Policymakers

The financial performance evaluation of property companies using the DuPont method yields important implications for investors, managers, and policymakers, each of whom can leverage these insights to make informed decisions and implement effective strategies within the real estate sector.

For investors, the DuPont method provides a detailed view of the financial health of property companies by breaking down Return on Equity (ROE) into its core components. By understanding the underlying drivers of ROE, investors can better assess the potential for future returns and the risks associated with investing in property companies. A company with strong profitability and efficient asset use, coupled with manageable levels of leverage, may be viewed as a more attractive investment compared to firms with high risk due to excessive debt or poor operational efficiency. Investors can use the insights from the DuPont analysis to identify property companies that excel in managing their assets and generating profits. Companies demonstrating high profitability and efficiency with a balanced approach to leverage are likely to provide more stable and attractive returns. Ongoing use of the DuPont method allows investors to track changes in financial performance over time. This monitoring can help investors anticipate potential financial distress or opportunities for growth, leading to more proactive and strategic investment decisions.

For managers within property companies, the findings from the DuPont analysis offer actionable insights that can guide operational and strategic improvements. Managers can use the analysis to identify areas where profit margins can be improved, such as cost control, pricing strategies, or revenue generation from existing assets. Focusing on enhancing profitability can lead to stronger financial performance and higher ROE. By examining asset turnover ratios, managers can pinpoint inefficiencies in asset management and seek ways to better utilize their property portfolios. Improving operational efficiency and maximizing the use of assets can boost revenue and overall financial performance. Understanding the impact of leverage on ROE allows managers to make informed decisions about capital structure. They can balance the benefits of debt financing with the risks, ensuring that leverage levels are sustainable and aligned with the company's long-term financial strategy. The DuPont method helps managers make strategic decisions regarding investments, expansion, and operational adjustments. By focusing on the key drivers of financial performance, managers can develop strategies that enhance overall company performance and shareholder value.

Policymakers can use insights from the financial performance evaluation of property companies to develop regulations and policies that support a stable and healthy real estate market. Understanding the financial dynamics of property companies can inform the development of regulations related to financial leverage and risk management. Policymakers can implement guidelines that ensure companies maintain sustainable levels of debt and avoid excessive financial risk. By promoting transparency and requiring detailed financial disclosures, policymakers can help ensure that investors have access to accurate and comprehensive information. This transparency supports market stability and protects investors from misleading or incomplete financial reporting. Insights from the DuPont analysis can be used to advocate for best practices in financial management and operational efficiency within the property sector. Policymakers can encourage companies to adopt practices that enhance profitability, asset utilization, and balanced leverage, contributing to overall market health and resilience. Given the significant role of the property sector in the broader economy, policymakers can use the findings to understand the sector's impact on economic growth and stability. Supporting policies that enhance the financial health of property companies can have positive ripple effects on employment, investment, and economic development.

3.3 Comparison of Research Results with Previous Research

Previous research, such as the study by Feroz, Kim, and Raab (2003) on U.S. manufacturing firms, highlighted that profitability is a crucial determinant of financial performance, with variations in net profit margins reflecting differences in operational efficiency and cost management. Similarly, this research confirms that net profit margins are a key component of ROE for property companies. However, the property sector's profitability is often influenced by factors unique to real estate, such as market demand fluctuations and property management costs. This research found that property companies with higher profit margins are often those that effectively manage their property portfolios and operational costs, aligning with previous findings but showcasing sector-specific challenges.

In studies like those conducted by Kumar and Sharma (2011) in the banking sector, asset turnover ratios provide insights into how efficiently firms use their assets to generate revenue. The findings in this research support this perspective but emphasize the distinct nature of asset management in the property sector. Unlike banks, where asset turnover relates to financial products, property companies' asset turnover is closely linked to property utilization, rental income, and occupancy rates. This research found that companies with high asset turnover ratios effectively manage their properties and achieve higher revenues relative to their assets, reinforcing the importance of efficient asset management but within the context of real estate.

Previous research has demonstrated that leverage can amplify returns but also increase financial risk. For instance, Brigham and Houston (2016) noted that high leverage in the manufacturing sector could lead to both enhanced profitability and heightened financial risk. The current research corroborates this finding for property companies, where high levels of leverage can significantly impact ROE. However, the property sector's reliance on debt is particularly pronounced due to the capital-intensive nature of real estate investments. This research found that while high leverage can boost returns, it also exposes property companies to greater risk, particularly during market downturns or economic instability, highlighting the sector's unique risk profile.

Unlike previous studies that primarily focused on manufacturing or banking industries, this research offers new insights into the property sector, where the DuPont method is less frequently applied. The findings indicate that while the core principles of the DuPont method remain applicable, the specific factors influencing financial performance such as property market conditions, capital investment requirements, and regulatory impacts are unique to the property sector. For instance, the impact of market cycles on property values and rental incomes introduces additional layers of complexity that are not as prominent in other industries.

Comparing this research with previous studies reveals that while the DuPont method provides a consistent framework for analyzing financial performance across industries, its application to the property sector offers valuable sector-specific insights. Previous research has demonstrated the effectiveness of the DuPont method in traditional industries, but this study underscores the need to adapt the analysis to account for the unique characteristics of property companies. The findings suggest that property managers, investors, and policymakers must consider both general financial principles and sector-specific factors when using the DuPont method for performance evaluation.

3.4 Limitations of the DuPont Method When Applied to Property Companies

One significant limitation of the DuPont method is its reliance on historical accounting data. The method uses financial statements, such as income statements and balance sheets, to compute the components of ROE. While these statements provide a snapshot of past performance, they may not fully capture current market conditions or future risks. In the property sector, where market values and rental incomes can fluctuate significantly, historical data may not reflect the true economic value of properties or the impact of recent market changes.

For instance, property companies may experience fluctuations in property values and rental income due to economic cycles, changes in interest rates, or shifts in market demand. The DuPont method does not account for these external factors directly, potentially leading to an incomplete assessment of a company's current financial health and future prospects.

The property sector is highly sensitive to market volatility and economic cycles, which can impact property values, rental yields, and overall financial performance. The DuPont method, by focusing on historical financial metrics, may not adequately address the risks associated with these fluctuations. For example, a property company may show strong profitability and efficient asset utilization during a period of economic expansion, but this performance may deteriorate during a downturn or market correction. The method does not inherently incorporate forward-looking indicators or market forecasts that could provide a more comprehensive view of potential future risks.

The DuPont method primarily focuses on financial metrics and does not account for non-financial factors that can significantly affect property companies. These non-financial factors include regulatory changes, environmental sustainability issues, and shifts in consumer preferences. In the property sector, regulatory changes such as new zoning laws or environmental regulations can have substantial impacts on financial performance. The method's focus on accounting data may overlook these critical aspects, leading to an incomplete analysis of the company's overall risk profile.

Property investments are typically long-term and involve significant capital outlays. The DuPont method, which provides a snapshot of performance over a specific period, may not fully capture the long-term nature of property investments. For example, a property company may invest heavily in development projects that do not immediately contribute to profitability or asset turnover. The method's emphasis on short-term financial metrics may not reflect the long-term strategic investments that are essential for sustained growth in the property sector.

While the DuPont method examines financial leverage through the equity multiplier, it does not provide a detailed assessment of how debt levels are managed or their impact on financial stability. In the property sector, where companies often carry substantial amounts of debt to finance large-scale projects, the implications of leverage can be complex. High leverage may amplify returns but also increase financial risk, particularly if property values decline or rental incomes fall. The DuPont method's focus on leverage as a single component of ROE may not fully capture the nuances of debt management and its implications for financial stability.

4. CONCLUSION

This research has applied the DuPont method to evaluate the financial performance of property companies, offering a detailed analysis of Return on Equity (ROE) by decomposing it into its core components: profitability, asset turnover, and financial leverage. The study provides valuable insights into how these factors interact to influence the overall financial performance of property firms, contributing to a deeper understanding of the sector’s dynamics. The findings reveal that profitability, efficiency, and leverage play distinct yet interconnected roles in shaping the financial outcomes of property companies. Companies that exhibit strong profit margins, efficient asset utilization, and a balanced approach to leverage tend to show better financial performance. However, the study also highlights the unique challenges faced by the property sector, such as market volatility, large capital investments, and long-term asset management, which can impact the applicability and effectiveness of the DuPont method. While the DuPont method offers a robust framework for analyzing financial performance, its reliance on historical accounting data and its limited consideration of non-financial factors and market volatility present notable limitations. The method may not fully capture the complexities of the property sector, where market conditions and economic cycles can significantly affect performance. To address these limitations, it is crucial for property companies, investors, and policymakers to complement the DuPont method with additional analyses that incorporate forward-looking indicators, market trends, and non-financial factors. Such a comprehensive approach will provide a more accurate and nuanced understanding of financial performance and risk, supporting better decision-making and strategic planning in the property sector.

REFERENCES

Aguiar, M., & Gopinath, G. (2007). Emerging market business cycles: The cycle is the trend. *Journal of Political Economy*, *115*(1), 69–102.

Batra, R., & Kalia, A. (2016). Rethinking and redefining the determinants of corporate profitability. *Global Business Review*, *17*(4), 921–933.

Campello, M., & Giambona, E. (2013). Real assets and capital structure. *Journal of Financial and Quantitative Analysis*, *48*(5), 1333–1370.

De Wet, J., & Du Toit, E. (2007). Return on equity: A popular, but flawed measure of corporate financial performance. *South African Journal of Business Management*, *38*(1), 59–69.

Dewenter, K. L., & Malatesta, P. H. (2001). State-owned and privately owned firms: An empirical analysis of profitability, leverage, and labor intensity. *American Economic Review*, *91*(1), 320–334.

Doorasamy, M. (2016). Using DuPont analysis to assess the financial performance of the top 3 JSE listed companies in the food industry. *Investment Management and Financial Innovations*, *13*, *Iss. 2*, 29–44.

Hsieh, H.-C., Claresta, V., & Bui, T. M. N. (2020). Green building, cost of equity capital and corporate governance: Evidence from US real estate investment trusts. *Sustainability*, *12*(9), 3680.

JOSHI, A. K. (2017). *FINANCIAL STATEMENT ANALYSIS OF COLGATE PALMOLIVE INDIA LTD FOR A PERIOD OF 5 YEARS*. JAIN UNIVERSITY.

Joshi, M., Cahill, D., Sidhu, J., & Kansal, M. (2013). Intellectual capital and financial performance: an evaluation of the Australian financial sector. *Journal of Intellectual Capital*, *14*(2), 264–285.

Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: measuring and managing the value of companies*. John Wiley & Sons.

Kyriazopoulos, G., Chrissochoidou, N., & Papaioannou, P. (2014). Profitability of cooperative banks with DuPont Analysis: Evidence of Greek banking system. *6th International Conference 'The Economies of Balkan and Eastern Europe Countries in the Changed World'EBEEC 2014 Nis, Serbia May 9*, *10*, 16.

Lassala, C., Apetrei, A., & Sapena, J. (2017). Sustainability matter and financial performance of companies. *Sustainability*, *9*(9), 1498.

Liow, K. H. (2010). Firm value, growth, profitability and capital structure of listed real estate companies: an international perspective. *Journal of Property Research*, *27*(2), 119–146.

Nguyen, T. N. L., & Nguyen, V. C. (2020). The determinants of profitability in listed enterprises: A study from Vietnamese stock exchange. *Journal of Asian Finance, Economics and Business*, *7*(1), 47–58.

Olve, N.-G., Roy, J., & Wetter, M. (2001). *Performance drivers: A practical guide to using the balanced scorecard*. John Wiley & Sons.

Patin, J.-C., Rahman, M., & Mustafa, M. (2020). Impact of total asset turnover ratios on equity returns: Dynamic panel data analyses. *Journal of Accounting, Business and Management (JABM)*, *27*(1), 19–29.

Pew Tan, H., Plowman, D., & Hancock, P. (2007). Intellectual capital and financial returns of companies. *Journal of Intellectual Capital*, *8*(1), 76–95.

Pitelli Britto, D., Monetti, E., & da Rocha Lima Jr, J. (2014). Intellectual capital in tangible intensive firms: the case of Brazilian real estate companies. *Journal of Intellectual Capital*, *15*(2), 333–348.

Richard, O. C. (2000). Racial diversity, business strategy, and firm performance: A resource-based view. *Academy of Management Journal*, *43*(2), 164–177.

Schipper, K. (2007). Required disclosures in financial reports. *The Accounting Review*, *82*(2), 301–326.

Shahnia, C., & Endri, E. (2020). Dupont Analysis for the financial performance of trading, service & investment companies in Indonesia. *International Journal of Innovative Science and Research Technology*, *5*(4), 193–211.

Soliman, M. T. (2004). Using industry-adjusted DuPont analysis to predict future profitability. *Available at SSRN 456700*.

Soliman, M. T. (2008). The use of DuPont analysis by market participants. *The Accounting Review*, *83*(3), 823–853.

Staikouras, S. K. (2003). The interest rate risk exposure of financial intermediaries: A review of the theory and empirical evidence. *Financial Markets, Institutions & Instruments*, *12*(4), 257–289.

Tuvadaratragool, S. (2022). Could Profitability, Efficiency, and Financial Leverage Signal Return on Equity: An Application of DuPont Analysis in Thailand Setting? *Rajapark Journal*, *16*(44), 73–88.