# Celine_Delon_Juan

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In the economic growth of Indonesia, there are 901 publicly traded companies established in the country. These companies are founded with the aim of generating profits and ensuring strong financial performance to sustain themselves. If a company fails to generate profits and maintain good financial performance, it cannot survive in the long run. Factors influencing a company's profitability include size, working capital, and intangible assets (Alarussi and Gao, 2021). This leads companies to devise strategies to achieve profitability and good financial performance.

Mergers and Acquisitions (M&A) strategy is considered effective for companies facing financial performance challenges (BarNiv and Hathorn, 1997). Companies can integrate resources, culture, and even technology and systems from the target company (Fahlevi, 2022). Timely M&A decisions can provide a viable alternative to bankruptcy, preventing potential losses for stakeholders and the company (BarNiv and McDonald, 1992). Companies need to possess and understand mature strategies and motives for engaging in M&A (Trautwein, 1990).

Based on data from the IMAA Institute, the trend of mergers and acquisitions in Indonesia has experienced fluctuations from 2015 to 2022. Looking at previous years, M&A activity in Indonesia reached its lowest point in 2020 (128 cases) and its highest in 2010, reaching up to 590 cases. M&A trends occur to enhance market strength, overcome entry barriers in an industry, save costs, reduce the risk of developing new products, increase speed in marketing products, add diversification, and avoid excessive competition (Michael A. Hitt, 1996). This necessitates companies to assess the potential benefits and risks of engaging in mergers and acquisitions (Crane, 2011).

Tabel 1. Total of Merger and Acquisition in Indonesia 2015 - 2023

| **Year** | **Total** |
|---|---|
| 2015 | 146 |
| 2016 | 207 |
| 2017 | 178 |
| 2018 | 214 |
| 2019 | 182 |
| 2020 | 128 |
| 2021 | 149 |
| 2022 | 152 |
| 2023 (*estimated*) | 140 |
| **Total** | **1496** |

Source: IMAA Institute

(Özer, Okur and Çam, 2022) investigated the key factors influencing the role of insurance companies in the United States as either target or acquiring entities. The study observed 251 merger and acquisition (M&A) transactions involving 119 target companies and 132 acquiring companies during the period from 1990 to 2019. The research findings indicate that smaller insurance companies with lower cash reserves, a non-life orientation, and no environmental, social, and governance (ESG) score are more likely to be targets. Conversely, companies acting as acquirers tend to have higher profitability, larger cash flows, higher intangible assets, a non-life focus, and no ESG score. Additionally, the likelihood of being an acquirer decreases during the global financial crisis (GFC) compared to the non-GFC period.

(Darayseh and Alsharari, 2023) examined the factors influencing the merger and acquisition (M&A) process in the banking sector of the United Arab Emirates (UAE), distinguishing between internal and external motivators for such activities. The study developed a model distributed via email to 500 bankers. The study's findings, supported by strong empirical evidence from factor analysis (Revenue, Growth, Costs, Sustainability, Diversification, Safety and Risk, and Legal factors), underscore the importance of these factors in determining the success of consolidation processes leading to M&A success in the banking industry. Furthermore, the study contributes to the literature on business combinations and consolidation by elucidating crucial factors in measuring the performance of banks during the M&A process.

(Hviid and Prendergast, 1993) examined the profitability of takeovers, with rare focus on unsuccessful proposals or failed tender offers. Companies commonly face decisions regarding how often to make merger proposals or tender offers. Failure to consider this aspect can lead to miscalculations in estimating the profitability of takeover efforts. The focus of this research is the influence of merger proposals on the expected profitability of both the bidding and target companies. By illustrating a theoretical model, the study shows how unsuccessful offers can increase the profitability of the target company but simultaneously reduce the profitability of the bidding company, relative to the profitability conditions before the merger proposal was made. Moreover, this effect occurs independently of any potential future takeover impact on the company's value, concluding that the profitability of merger proposals tends to be lower if there is a rejection effect.

## RESEARCH METHODS

The research conducted is descriptive and explanatory in nature, aiming to explore and explain fundamental aspects of publicly traded companies in Indonesia listed on the Indonesia Stock Exchange. This study is a crucial factor in determining whether a company becomes a target or acquirer in merger and acquisition (M&A) transactions. To ascertain this, the following variables were used: SIZE (defined as the natural logarithm of total assets), PROFITABILITY (defined as the ratio of net income after taxes to total equity), LEVERAGE (defined as the ratio of total debts to total assets), REVENUE (defined as the ratio of total revenue to total assets), CAPITAL (defined as the ratio of total equity to total assets), CASH HOLD (defined as the ratio of cash and equivalents to total assets), CASH FLOW (defined as the ratio of cash from operating activities to total assets), TANGIBLE (defined as the ratio of total tangible to total assets), and INTANGIBLE (defined as the ratio of total intangibles to total assets).

The study's sample starts in 2015 when M&A deal database data began to increase. Sample selection criteria for M&A transactions are as follows: (1) We considered transactions where the acquiring or target company is headquartered in Indonesia and is a public company. (2) The study excludes pending, terminated, or non-binding M&A transactions. (3) The research does not consider companies whose financial report data is missing in the year before each deal, as we match the M&A deal date with the previous year's financial report data. After combining various data sets and adhering to sample selection criteria, the research sample consists of 53 target companies and 109 acquiring companies during the period from 2015 to

2023. Our data collection technique uses existing data (secondary data). According to (Sugiyono, 2016), secondary data is indirect data provided to the data collector, for example, through others or through documents.

The data in this study are secondary data obtained from the Revinitif Data Center of Petra Christian University, one year before the occurrence of mergers and acquisitions involving the selected companies. The method used to analyze the data is descriptive using SPSS 29 software. The data is presented in tables in numerical form to provide clear, structured, and easily understandable information. Thus, our outcome variable is an ordered ternary variable indicating whether a company is a target or acquirer. Outcome variables in social science studies are often categorical, making it impossible to test them with linear regression models. In this case, one regression model that can be used is logistic regression (Gomila, 2021). This allows us to find the relationship between a categorical dependent variable and continuous independent variables. Moreover, the results of this study are useful in predicting which category a company is most likely to belong to. As the dependent variable in this study has two categories, binomial logistic regression analysis is used. The formula for the binomial logistic regression used is:

$$Ln\left(\frac{P}{1-P}\right) = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \beta 7X7 + \beta 8X8 + \beta 9X9$$

The logit function is the natural logarithm of the probability Y being equal to one of the categories. For mathematical simplicity, Y has two categories and is encoded as 0 and 1 (0 = target company; 1 = acquiring company). P is defined as the probability that Y = 1. X represents the risk factors, namely size, profitability, leverage, revenue, capital, cash_hold, cash_flow, tangible, and intangible. And P is the likelihood of a company becoming an acquiring entity in the merger and acquisition process.

**RESULT**

Table 1. Variable Definition

| Variable | Measurement/definition | Sources |
|---|---|---|
| SIZE | Natural logarithm of total assets in Rupiah | |
| PROFITABILITY | Ratio of net income after taxes to total equity | |
| LEVERAGE | Ratio of total debts to total assets | |
| REVENUE | Ratio of total revenue to total assets | |
| CAPITAL | Ratio of total equity to total assets | Revinitif from Petra Christian University |
| CASH_HOLD | Ratio of cash and equivalents to total assets | |
| CASH_FLOW | Ratio of cash from operating activities to total assets | |
| TANGIBLE | Ratio of total tangible to total assets | |
| INTANGIBLE | Ratio of total intangibles to total assets | |

This section discusses the empirical test results using the binomial logistic regression method, analyzing which fundamental variables significantly determine whether a company in Indonesia becomes a target or acquirer in M&A activities. Table 2 presents descriptive statistics data for each company variable. Each variable is calculated for mean, median, standard deviation, minimum, and maximum values. Panel A illustrates target companies with a total sample of 53 companies. Panel B illustrates acquiring companies with a total sample of 109 companies. The test results indicate the difference in values between target and acquiring companies. The leverage, cash hold, and cash flow values for target companies are significantly lower than those for acquiring companies.

Table 2. Descriptive statistics

| | Observation | Mean | Median | Std. dev. | Min | Max |
|---|---|---|---|---|---|---|
| *Panel A: Target Firms* | | | | | | |
| SIZE | 53 | 12,7341 | 12,8921 | 1,1818 | 7,8538 | 15,0800 |
| PROFITABILITY | 53 | 0,0697 | 0,0506 | 0,2259 | -0,3483 | 1,3989 |
| LEVERAGE | 53 | 0,2247 | 0,1872 | 0,2216 | 0,0000 | 0,7123 |
| REVENUE | 53 | 0,4044 | 0,2211 | 0,5102 | 0,0256 | 2,2829 |
| CAPITAL | 53 | 0,3506 | 0,3475 | 0,1976 | 0,0888 | 0,8939 |
| CASH_HOLD | 53 | 0,0491 | 0,0269 | 0,0686 | 0,0000 | 0,3108 |
| CASH_FLOW | 53 | 0,0531 | 0,0352 | 0,0954 | -0,1294 | 0,3556 |
| TANGIBLE | 53 | 0,9807 | 0,9982 | 0,0522 | 0,6945 | 1,0000 |
| INTANGIBLE | 53 | 0,0196 | 0,0018 | 0,0509 | 0,0000 | 0,3055 |
| *Panel B: Acquirer Firms* | | | | | | |
| SIZE | 109 | 13,0267 | 13,3472 | 1,3034 | 7,9944 | 15,0521 |
| PROFITABILITY | 109 | 0,5156 | 0,1414 | 3,8590 | -1,3538 | 39,8739 |
| LEVERAGE | 109 | 0,2658 | 0,2443 | 0,2011 | 0,0000 | 0,7962 |
| REVENUE | 109 | 0,6128 | 0,5146 | 0,5364 | -0,3001 | 3,2685 |
| CAPITAL | 109 | 0,4258 | 0,4206 | 0,2844 | -0,7979 | 2,1365 |
| CASH_HOLD | 109 | 0,0711 | 0,0529 | 0,0662 | 0,0036 | 0,5271 |
| CASH_FLOW | 108 | 0,0766 | 0,0677 | 0,0976 | -0,2731 | 0,4806 |
| TANGIBLE | 109 | 0,9658 | 0,9928 | 0,0635 | 0,6403 | 1,0000 |
| INTANGIBLE | 109 | 0,0342 | 0,0072 | 0,0635 | 0,0000 | 0,3597 |

| | Target vs Acquirer | |
|---|---|---|
| SIZE | -0,2927 | |
| PROFITABILITY | -0,4459 | |
| LEVERAGE | -0,0410 | ** |
| REVENUE | -0,2084 | |
| CAPITAL | -0,0751 | *** |
| CASH_HOLD | -0,0220 | ** |
| CASH_FLOW | -0,0235 | ** |
| TANGIBLE | 0,0150 | ** |
| INTANGIBLE | -0,0146 | ** |

* *significant 5% (**), significant 10% (***)*

Table 3 displays the results of correlation tests between variables. The test results indicate that there is no strong correlation among independent variables. This suggests the absence of multicollinearity issues in the conducted test. Multicollinearity is characterized by high correlations among independent variables (Sunjoyo *et al.*, 2013).

Table 3. Correlation Matrix

| Variables | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|---|
| Constant | (1) | 1,000 | | | | | | | | |
| SIZE | (2) | -0,967 | 1,000 | | | | | | | |
| PROFITABILITY | (3) | 0,040 | -0,045 | 1,000 | | | | | | |
| LEVERAGE | (4) | -0,360 | 0,218 | 0,045 | 1,000 | | | | | |
| REVENUE | (5) | -0,258 | 0,262 | -0,061 | -0,099 | 1,000 | | | | |
| CAPITAL | (6) | -0,454 | 0,315 | 0,010 | 0,260 | -0,138 | 1,000 | | | |
| CASH_HOLD | (7) | -0,130 | 0,016 | -0,005 | 0,173 | -0,185 | 0,075 | 1,000 | | |
| CASH_FLOW | (8) | 0,144 | -0,179 | -0,301 | 0,032 | -0,397 | -0,146 | 0,084 | 1,000 | |
| TANGIBLE | (9) | -0,020 | 0,003 | 0,001 | 0,000 | 0,001 | 0,001 | -0,001 | -0,003 | 1,0 |

Table 4. Binomial Logistic Regression Analysis Test Results

| Variable | beta (B) | df | Significance | Exp (B) | Lower | Upper | Hosmer and Lemeshow Test |
|---|---|---|---|---|---|---|---|
| SIZE | 0,266 | 1 | 0,044** | 1,304 | 1,007 | 1,689 | 0,142 |
| PROFITABILITY | 0,356 | 1 | 0,522 | 1,428 | 0,480 | 4,249 | 0,142 |
| LEVERAGE | 1,894 | 1 | 0,039** | 6,645 | 1,097 | 40,269 | 0,142 |
| REVENUE | 0,682 | 1 | 0,156 | 1,978 | 0,771 | 5,073 | 0,142 |
| CAPITAL | 1,824 | 1 | 0,038** | 6,198 | 1,107 | 34,702 | 0,142 |
| CASH_HOLD | 8,469 | 1 | 0,027** | 4767 | 2,603 | 8731680 | 0,142 |
| CASH_FLOW | -0,810 | 1 | 0,728 | 0,445 | 0,005 | 42,583 | 0,142 |
| TANGIBLE | 0,004 | 1 | 0,916 | 1,004 | 0,936 | 1,076 | 0,142 |
| Constant | -4,678 | 1 | 0,017 | 0,009 | | | 0,142 |

**significant 5% (**)*

Table 4 explains the results of the binomial logistic regression analysis. Looking at the significance column, there are four (4) variables that significantly influence a company's tendency to engage in acquisitions. These four variables are SIZE, LEVERAGE, CAPITAL, and CASH_HOLD. As a company's size (SIZE) increases, there is a greater tendency for the company to engage in acquisitions. The purpose of acquisitions may include expanding the scale and scope of its business. Companies with higher levels of debt (LEVERAGE) are more likely to become acquirers. Companies with substantial debt have the financial resources to fund acquisitions. Companies with larger CAPITAL are also more likely to become acquirers to expand the scale and scope of their business. Additionally, through acquisitions, companies can enhance efficiency, profitability, enter new markets, and gain a competitive advantage. Acquisitions also allow companies to broaden their product and service portfolios. Companies with larger CASH_HOLD are more likely to become acquirers. A larger cash reserve provides the financial resources needed to fund acquisitions. Meanwhile, PROFITABILITY, REVENUE, CASH_FLOW, and ownership of TANGIBLE assets are not factors that make a company an acquirer in merger and acquisition actions.

In Table 4, there are odd ratios (beta) for each variable denoted by EXP(B). SIZE has an acquirer odd ratio of 1.304, indicating that companies with a larger SIZE are 1.304 times more likely to be acquirers than companies with a smaller size. Larger acquirer companies have a higher probability of engaging in acquisitions due to their greater resources and credibility in the capital market, making it easier to obtain funding for acquisitions. They also have a higher risk-taking capacity, making acquisitions more likely.

The odd ratio for LEVERAGE is 6.645, meaning that companies with higher leverage have a 6.645 times higher probability of engaging in acquisitions than companies with lower leverage. Acquiring companies with higher leverage have more access to funding for acquisitions. Additionally, higher leverage gives these companies a greater risk-taking ability, making them more likely to engage in acquisitions.

The odd ratio for CAPITAL is 6.198, indicating that companies with higher capital have a 6.198 times higher probability of engaging in acquisitions than companies with lower capital. Higher capital means these companies have larger resources for acquisitions. Their credibility in the capital market is also higher, making funding easier to obtain and increasing their risk-taking capacity. This makes companies with higher capital more likely to engage in acquisitions.

The odd ratio for CASH_HOLD is 4,767.031, meaning that companies with higher cash reserves have a 4,767.031 times higher probability of engaging in acquisitions than companies with lower cash reserves. A larger cash hold indicates larger unallocated current assets. Therefore, it is highly likely that these assets will be allocated to investment activities to enhance the company's productivity and execute its business strategy. One such step could be through mergers or acquisitions.

In conclusion, companies with greater resources are more likely to engage in acquisitions. These resources include total company assets, debt capacity, equity value, and cash reserves. The larger the resources a company possesses, the more capable it is of financing merger and acquisition activities and bearing associated risks. A company's ability to generate profits, revenue, maintain smooth cash flow, and possess tangible assets does not significantly influence its tendency to engage in mergers and acquisitions.

**DISCUSSION**

In this study, we analyze the determining factors in the decision-making process of selecting targets and acquirers in mergers and acquisitions in Indonesia. The research employs binomial logistic regression to analyze data from 162 merger and acquisition transactions (53 target companies and 109 acquiring companies) in Indonesia during the period 2015 to 2023.

Our findings are consistent with previous research. A study conducted by (Darayseh and Alsharari, 2023) found that acquiring companies have larger asset and revenue sizes and a longer operating history compared to target companies in the merger and acquisition process. This is because transaction costs are likely to increase with the size of the target company, making smaller companies easier to acquire than larger ones (Beccalli and Frantz, 2010). This research proves the existence of a significant relationship between size and the likelihood of a company becoming an acquirer in M&A.

Secondly, (Kim, Lee and Chang, 2015) concluded that Leverage influences the M&A process based on the debt monitoring hypothesis, stating that debt can solve agency problems with shareholders by monitoring managerial behavior. Leverage provides incentives for managers to improve company performance because if the company experiences financial difficulties, managers may lose their jobs (Ross, 1977). Therefore, we control for leverage in this model, measuring it as total debt divided by assets. Consistent with previous research, we found that publicly traded companies in Indonesia engaging in mergers and acquisitions with higher debt-to-assets ratios are significantly more likely to become acquiring companies.

Thirdly, during the execution of mergers and acquisitions, acquiring companies are obligated to pay the target company's equity market value and the nominal value of outstanding debt. Additionally, acquiring companies are required to pay a premium to equity shareholders of the target company, along with the total market value of the target company. Thus, the valuation of the acquiring company's equity depends not only on its own income and debt level but also on the option value of implementing the merger (Cheng, 2019). Therefore, it can be concluded that a company can only acquire a target company if its equity value and overall valuation are lower than that of the acquiring company. In line with these findings, our research indicates that publicly traded companies in Indonesia involved in the merger and acquisition process are more likely to act as acquiring companies if they have higher equity.

Fourth, according to (Harford, 1999), higher cash ownership increases the likelihood of a company becoming an acquirer. However, larger cash holdings decrease the sensitivity of acquisitions to macroeconomic factors, indicating that cash ownership reduces funding barriers when external financing costs are high. If the purpose of holding cash is to provide liquidity when external financing costs are high, then we can infer that companies with large cash holdings will be less affected by macroeconomic shocks than companies with less liquid balance sheets. Holding cash allows companies to make valuable investments during challenging times (Erel et *al.*, 2021). In line with our research, the results show that companies with high cash holdings are significantly more likely to become acquiring companies in the merger and acquisition process.

## CONCLUSION

As the Indonesian economy grows and competition increases, it has influenced companies in Indonesia, leading to significant structural changes. These risks have prompted companies to find new ways to reduce costs and enhance performance (Farida and Setiawan, 2022). Therefore, the growing trend of M&A has driven researchers to examine the causes and impacts of the M&A process. This paper presents a simple and efficient model for determining M&A targets or acquirers in Indonesia. By doing so, our findings can assist managers, academics, financial experts, regulators, and investors in decision-making regarding potential target and acquirer companies in the future. They may consider companies with larger size, higher leverage, higher capital, and higher cash flow as potential acquirers.

This research sampled companies engaged in M&A in Indonesia to derive the characteristics of target and acquirer companies. However, this study did not include companies that did not engage in mergers and acquisitions. Therefore, there is a possibility that the characteristics of companies not involved in M&A practices are similar to those of target or acquirer companies. If proven, the characteristics of target and acquirer companies concluded in this study may no longer be distinctive. The research population also only includes companies in Indonesia, making the obtained results relevant only to Indonesia. Future research could add other variables beyond target and acquirer companies and conduct studies in different regions.

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