

## **Impact of Hedge on the Firm Value of Consumer Cyclical Companies Listed in the Indonesian Stock Exchange**



**Basyir Ahmad<sup>1</sup>, Hermanto Siregar<sup>2</sup>, Roy Sembel<sup>3</sup>, Tony Irawan<sup>4</sup>**

<sup>1,2,4</sup> School of Business, IPB University, Bogor

<sup>3</sup>IPMI International Business School, Jakarta

**ABSTRACT:** One indicator that shows how effective and efficient a company is in achieving its goals is its financial performance. Maintaining and improving financial performance is mandatory for a company to continue to exist and attract investors. This financial information functions as a means of information, a tool for management accountability to business owners, a representation of company success indicators, and consideration for decision making. Tobin's Q is an indicator that can be used to measure a company's financial performance from an investment perspective. The aim of this research is to find out the conditions and determinant factors in analyzing financial performance in consumer cyclical companies for the 2015-2022 period. The research method uses dynamic panel data regression with the Arellano-Bond Generalized Method of Moment (GMM) approach on 24 consumer cyclical sector companies from 2015 to 2022 listed on the BEI. The research results show that partially the company value in the previous period (Tobin's Q(-1)) has a significant positive effect and can be backward looking towards achieving high and sustainable company value (Tobin's Q) in the next period. Profitability (ROA) has a significant positive effect on company value (Tobin's Q). This shows the company's prospects for sustainability in the future.

**KEYWORDS:** Cashflow Volatility, Firm Size, Growth, Hedge, Leverage, Liquidity, Profit (ROA), Tobin's Q

### **I. INTRODUCTION**

The consumer discretionary sector holds a prominent position within the Indonesian economy. Data for the period from January to June 2023 reveals that the market capitalization of the consumer discretionary sector is substantial, ranking as the second largest sector after the financial sector, with a valuation of IDR 1,196,638 trillion, equivalent to 12.65% of the overall capitalization in the Indonesia Stock Exchange [1]. The consumer cyclicals industry, encompassing sectors such as vehicles, housing, entertainment, and both durable and non-durable retail categories, exhibits a dependency on business and economic cycles [1]. This industry is notably sensitive to changes in economic growth and faces significant competition within the highly competitive sector [2].

Modern financial management has increasingly recognized the pivotal role of financial risk management in corporate strategies. This realization has led to the incorporation of risk management, including hedging practices, as a critical aspect of corporate decision-making. As outlined in [3], there is an analysis of the importance of transforming hedging into a government policy, aimed at maintaining public budgets and bolstering foreign currency reserves. It is well-established that the financial performance of a company directly influences the returns investors can expect to receive. Consequently, investors actively seek out companies with strong financial performance and invest their capital therein.

The attainment of a net profit signifies an improvement in a company's financial performance. The effectiveness and efficiency of a company in achieving its objectives are often assessed through its financial performance. Sustaining and enhancing financial performance are imperative for a company's continued viability and appeal to investors. The financial performance of a company is communicated through its published financial statements. These financial statements serve multiple functions, including conveying vital information, serving as an accountability tool for management, reflecting key success indicators, and informing decision-making processes [4]. Capital market participants commonly rely on this financial information as the basis for their investment decisions [5].

In the context of evaluating a company's financial performance from an investment perspective, Tobin's Q stands as a valuable indicator. Tobin's Q has undergone rigorous testing across various top management scenarios [6]. Moreover, it has been juxtaposed with the Altman Z value as an additional, pertinent indicator to gauge a company's economic health. Utilizing indicators as measurement tools for variables is of paramount importance, as it facilitates comprehension of their significance. The selection of an indicator as a variable measure is not a straightforward task, as it necessitates the precision to accurately represent the variable under scrutiny, thereby gaining scientific acceptance as the appropriate measure [6].

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In the realm of assessing firm value, Tobin's Q has been widely adopted in financial research, particularly in studies concentrating on firm valuation matters [7]. However, post-2002, some of James Tobin's colleagues observed that investors may not fully recognize its relevance. Tobin's Q serves as an instrument to gauge a firm's financial performance, especially its firm value, reflecting the management's proforma approach in managing the firm's assets. A higher Tobin's Q ratio is indicative of better growth prospects and a greater proportion of intangible assets. This phenomenon is driven by the fact that the higher the market value of a company's assets compared to their book value, the more willing investors are to pay a premium to possess the company.

Given these considerations, this research endeavors to address the question of understanding the conditions and determinant factors influencing the analysis of financial performance in consumer cyclical companies spanning the period from 2015 to 2022. In line with the context outlined above, this study adopts a dynamic panel data regression approach, utilizing the Generalized Method of Moments (GMM) Arellano-Bond technique, to investigate the financial performance of consumer cyclical companies listed on the Indonesia Stock Exchange. The variables considered include Firm Size, Growth, Hedge, Leverage, Profit (ROA), Cashflow Volatility, Liquidity, and the company value variable (Tobin's Q) as the independent variable in this analysis.

## II. LITERATURE REVIEW

### A. Foreign Exchange Exposure

Every company faces a level of risk associated with the underlying assets it holds. When fluctuations occur in the value of these underlying assets, it invariably impacts the overall value of the company's assets. This is particularly relevant in cases where a company holds underlying assets denominated in foreign currency, as fluctuations in the value of the local currency can significantly affect the value of the company's assets. This situation highlights the company's exposure to foreign currency risk. Several factors contribute to this exposure, including transaction exposure, operating/economic exposure, and translation exposure [8]. Transaction exposure is a measure of the impact of exchange rate fluctuations on obligations that arise before exchange rate changes take place but are settled after such changes have occurred. This type of exposure arises not due to expectations but rather as a consequence of contractual obligations. Changes in exchange rates can result in a misalignment between receipts and expenditures in foreign currency, with any resulting gains or losses directly affecting actual cash flows. Operating/economic exposure, on the other hand, assesses the changes in the present value of cash flows generated by a company's operations due to unexpected shifts in exchange rates. In essence, operating exposure reflects the impact of foreign exchange rate fluctuations on the present value of a company's future cash flows. Translation exposure, as described by [9], pertains to changes in the accounting base of financial statements resulting from alterations in exchange rates. This involves the conversion of the position of assets and liabilities denominated in foreign currency into the company's base currency. Unlike transaction exposure, profits or losses associated with translation exposure do not have a direct impact on actual cash flows; instead, they are confined to accounting adjustments on paper.

### B. Hedging

Upon gaining an understanding of the foreign exchange risk, companies must deliberate on whether and how to shield themselves against this risk. In the sphere of international finance, the selection of an appropriate strategy for managing currency risk remains a subject of ongoing debate. Corporate finance experts typically base their strategy choices on the distinctive characteristics and size of the company in question [10]. One frequently employed approach is hedging, which assumes various definitions, often involving safeguarding against currency risk. For instance, [9] define hedging as the act of taking a position to mitigate currency risk, while [11] view it as a means of avoiding fluctuations in asset prices. The Bank of Indonesia elaborates on hedging as a transaction undertaken by companies to safeguard the value of their assets, liabilities, income, and/or expenses from future currency value fluctuations.

Hedging is closely intertwined with the Modigliani-Miller (M&M) theory, which posits that a company's value hinges on its earning capacity and the risk associated with its underlying assets. The fundamental principles of corporate finance assert that the value of a company results from the present value of its future cash flows. Consequently, hedging emerges as a crucial tool for influencing future cash flows and the cost of capital, thereby affecting the overall value of the company. Companies have various reasons for engaging in hedging activities, including the desire to create certainty surrounding future cash flows, reducing the risk of cash balances dropping below critical thresholds, and preparing for market imbalances and potential external shocks [9]. A range of hedging techniques is available for curtailing transaction exposure, encompassing the use of derivatives such as future or forward contract hedges, money market hedges, and currency option hedges [9]. In addition to derivative strategies, non-derivative approaches like leading and lagging, cross-hedging, and currency diversification are also valuable tools that help in mitigating transaction-related risks. These strategies offer companies a multifaceted toolkit to protect themselves against foreign exchange risk, tailored to their specific needs and circumstances..

### C. Hedging Policy

In the realm of hedging policies, various theoretical frameworks exist, as proposed by [12], encompassing three primary approaches: doing nothing, a passive approach, and an active approach. The "do nothing" approach entails companies converting cash outflows directly in the spot market when cash obligations arise. In the passive approach, companies anticipate future cash obligations by

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employing forward transactions or derivatives. The active approach involves initiating derivative positions before any obligations materialize, with the dual objective of both protecting asset values and generating a profit.

An alternative perspective offered by [13] distinguishes between tactical hedging to address short-term currency risk and strategic hedging to address long-term currency risk. However, [8] highlights that hedging policies can diverge significantly between companies, given varying levels of risk aversion among company management. Typically, companies have three primary alternatives: fully hedging almost all exposure, abstaining from hedging altogether, or selectively hedging based on specific conditions. While hedging proves effective in mitigating currency risk, several constraints must be considered. These include restrictions on the nominal amount that can be hedged, the efficacy of repeated short-term hedging, inaccuracies in income projections, and limitations on the range of currencies available in forward contracts. Prior to implementing an effective hedging policy, companies must follow a set of steps as suggested by [10] and [14]. These steps entail identifying the most impactful currency risks, developing a comprehensive currency management strategy, establishing a centralized company treasury, creating a robust control system, and forming a risk oversight committee.

Numerous factors influence a company's decision to employ hedging strategies. The size of the firm plays a pivotal role, with larger companies capitalizing on economies of scale to manage derivative transactions [15]; [16]. Additionally, the level of leverage, or higher debt, increases the need for hedging to mitigate risks [17][18][19]. Dividend policies also impact hedging, where lower dividend distributions enhance a company's investment capacity, while higher dividends may pose liquidity challenges [20][15][21]. Liquidity concerns factor into hedging choices, with less liquid companies more likely to utilize derivatives [22]. Managerial ownership encourages the use of hedging, as risk-averse managers aim to maximize resources [23]. Cash flow volatility stands as another key driver; companies with higher volatility often benefit more from derivatives, particularly when faced with fluctuating exchange rates [24]. Lastly, company growth prompts the utilization of hedging to address various fluctuations, such as interest rates, commodity prices, and exchange rates, as higher external financing costs encourage hedging practices [25]. Governance aspects, including legal considerations, also support hedging. Research by [26][27] underscores the role of the legal framework in economics and its influence on the use of hedging. The quality of legal systems plays a pivotal role, with stronger legal systems correlating with increased hedging practices.

### ***D. Company Value***

The valuation of a company can be approached from various angles, with two primary methods being the balance sheet approach and the market approach. The balance sheet approach assesses a company's value based on its assets, while the market approach takes into account metrics like market capitalization and the market value of debt minus cash on hand [28]. Furthermore, the capital structure of a company plays a significant role in determining its valuation, as outlined by [29], with valuation often relying on proxies such as stock values [30]. Additionally, the value of a company is closely intertwined with shareholder profits in relation to stock movements [31]. Various factors that influence the value of companies in Indonesia, including Profitability, Company Size, Capital Expenditure, Leverage, Dividends, and Liquidity, have been the subject of research [32].

In addition to these factors, two less-explored factors in the Indonesian context are Multinational Diversification and Industry Diversification. These factors pertain to a company's expansion abroad and diversification across different industries, both of which can impact the overall value of the company [33]. To enhance a company's value, making optimal investment decisions and prudent financing choices is of paramount importance. Hedging plays a pivotal role in addressing underinvestment problems and risk shifting, thereby reducing financial distress risk and the level of information asymmetry [34][35][36]. By mitigating these risks, hedging indirectly contributes to the maximization of a company's value.

### ***E. Research Variables***

#### **Dependent Variable**

In this study, the dependent variable is the company value, which is represented by Tobin's Q. This choice aligns with the research conducted by [25] and [37]. Tobin's Q value is calculated using the formula of the natural logarithm (ln) of the ratio of the market value of assets to the book value of assets. This logarithmic transformation helps capture the growth rate or geometric rate of growth of the ratio of the market value of assets to the book value of assets. Consequently, a higher ln (Tobin's Q) value signifies a greater company value.

#### **Independent Variables**

##### **Firm size**

As per [38], larger companies tend to have lower relative investment costs than smaller ones. This is because larger companies have better access to external funding, capital markets, and credit. Lower investment costs can save a company's cash flows and increase its overall value. In this study, firm size is measured using the natural logarithm (log) of the total assets, following the approach of [25][39].

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## Growth

To assess a company's growth, the level of investment or capital expenditure is considered. Investment in company assets can lead to the production of goods for sale. The amount of products sold influences the firm's value. Therefore, the capital expenditure variable is analyzed for its impact on firm value.

## Hedge

Hedge is represented by hedging foreign exchange derivatives which is the value of the company's decision to hedge foreign exchange. This variable is a proxy for the amount of hedged decisions by the company. The foreign exchange derivative variable is one of the research variables that wants to know the direct impact on firm value.

## Leverage

According to [38], an increase in a company's long-term debt raises the cost of external funding. Companies with substantial debts often seek to minimize their exposure to exchange rate risk through hedging. Leverage in this study is defined as the ratio of long-term debt in foreign currency to total assets, based on the research of [11].

## Profit (ROA)

Companies with high profits tend to be valued more highly than those with lower profits, as indicated by [25][11][40]. Profitability is assessed using the Return on Assets (ROA) indicator, which calculates the ratio of net income to total assets.

## Cashflow Volatility

Cash flow volatility is used as an indicator of the level of uncertainty in a company's income, which can contribute to increased financial risk. Companies with substantial cash flow volatility benefit from strategic use of derivative instruments, as discussed in [41]. This volatility is linked to fluctuations in the exchange rate affecting the company's operations, as detailed in [34]. This study calculates average volatility over a three-year period during the observation period, following the methodology outlined in [41].

## Liquidity

As per [38], companies with limited cash often exhibit a higher Tobin's Q because they are more likely to invest in projects with positive Net Present Value (NPV). Conversely, companies with surplus free cash flows tend to invest in projects with negative NPV. The quick ratio variable is used to assess its potential impact on project NPV and overall firm value. To elucidate the logical progression of the research, it will be delineated as follows:

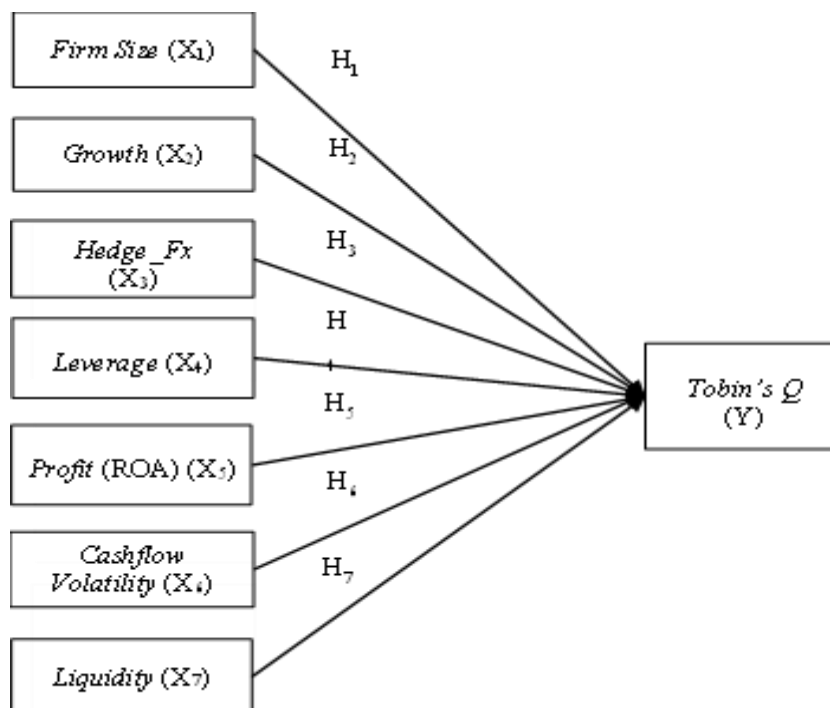


Figure 1. Conceptual framework

## Hypothesis

The hypothesis used in this study is generally used to test the extent of the influence between the independent and dependent variables in the model in the equation. Based on the above framework and supporting theories, the hypothesis formulation is:

- H1 : Firm size has a positive effect on firm value
- H2 : Growth has a positive effect on firm value
- H3 : Hedge has a positive effect on firm value

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- H4 : Leverage has a positive effect on firm value
- H5 : Profit has a positive effect on firm value
- H6 : Cashflow volatility has a positive effect on firm value
- H7 : Liquidity has a positive effect on firm value

### III. RESEARCH METHOD

This study uses secondary data in the form of annual financial reports from 24 companies in the consumer cyclical sector from 2015 to 2022 listed on the IDX. The research was conducted from July 2022 to July 2023. Data collection is done by purposive sampling by considering companies that go public at least from 2015 and are still public companies until 2022. The sampling companies are included in the apparel, automotive component and automotive retail sub-categories. The model used in this study is the model used by [39] with the consideration that there are quite a lot of variables studied related to firm value, namely Firm Size, Growth, Hedge, Leverage, Profit (ROA), Cashflow Volatility, and Liquidity, by considering the time period variable. Researchers assume that these variables are appropriate to assess various companies that have different characteristics on the Indonesia Stock Exchange. The first analysis used in this study is descriptive analysis which is part of statistics that discusses the preparation of data into a list or schedule, making graphs, and others that do not involve drawing conclusions. The things included in this analysis are analytical processing, and interpretation of data, as long as it does not involve drawing general conclusions or making generalisations.

To analyse the factors that affect the value of a company (Tobin's Q), the method used is dynamic panel regression. Panel data analysis that is more suitable for describing dynamism is dynamic panel data regression. In the dynamic data model there is a lag of the dependent variable, this variable is correlated with the error. Therefore, estimation using OLS will produce biased and inconsistent estimators. To overcome this, the dynamic panel data model can be estimated using the Generalised Method of Moment (GMM) approach.

The dynamic panel data regression method is an application of the method to the dynamism of the current data and has a relationship to the previous data, usually this method is used in economics with dynamic variables. In the dynamic sense is a value of a variable that is influenced by the value of other variables with the current time and which also has a relationship with the past time (Arellano and Bond, 1991). This equation is presented as follows:

$$y_{i,t} = \delta y_{i,t-1} + \mathbf{x}'_{i,t} \boldsymbol{\beta} + u_{i,t}; i = 1, 2, \dots, N; t = 1, 2, \dots, T$$

Description:

$y_{i,t}$  : dependent variable on the  $i$ -th cross-section unit for time period  $t$

$\mathbf{x}'_{i,t}$  : vector of independent variable observations of the  $i$ -th cross-section unit for time period  $t$  with size  $1 \times k$

$u_{i,t}$  : error member  $\delta$  is a scalar,

$\mathbf{x}'_{i,t}$ : is a vector of independent variables of size  $1 \times k$ .

While  $\boldsymbol{\beta}$  is defined as a constant vector which has a size of  $k \times 1$ . If it is assumed that  $u_{i,t}$  is a one way error component, the model obtained is written as follows:

$$u_{i,t} = \mu_i + v_{it}$$

where  $\mu_i$  is assumed to be  $\mu_i \sim \text{IIDN}(0, \sigma_{\mu}^2)$  as the individual-specified error component and  $v_{it}$  is the common error component assumed to be  $v_{it} \sim \text{IIDN}(0, \sigma_v^2)$  [42]. The most basic problem in dynamic models is the correlation between the endogenous explanatory variables and the error variables or in other words  $y_{i,t-1}$  is correlated with the error component  $u_{i,t}$  even though it is assumed that the errors are uncorrelated. This causes the OLS estimator to be biased and inconsistent.

Anderson and [43] suggested using the instrument variable estimation method. The result was that the estimator was unbiased, consistent, but not efficient. Then, Anderson and Hsiao's instrument variable method was developed by [44] who suggested a method called Arellano-Bond GMM. This method is able to produce estimators that are unbiased, consistent and efficient.

#### GMM Parameter Estimation

The estimation for dynamic panel estimates the GMM method, the principle used by [44] is to use the Arellano-Bond GMM. The correlation between the endogenous variables ( $y_{i,t-1}$ ) and the error is the definition of a dynamic panel data model. Some of the estimates that have been developed, show what assumptions underlie the estimates, how well the estimates perform relative to each other and how to test the validity of the assumptions behind the estimates to select the most appropriate estimate for the data used in the study.

#### Generalised Method of Moment

The Generalised Method of Moment estimation method will eventually become a model whose estimation is unbiased, consistent and efficient. Here is the estimation equations:



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$$\begin{pmatrix} \hat{\delta} \\ \hat{\beta} \end{pmatrix} = \left[ \left( N^{-1} \sum_{i=1}^N (\Delta y_{i,t-1}, \Delta x_i)' Z_i \right) \widehat{W} \left( N^{-1} \sum_{i=1}^N Z_i' (\Delta y_{i,t-1}, \Delta x_i) \right) \right]^{-1} \left[ \left( N^{-1} \sum_{i=1}^N (\Delta y_{i,t-1}, \Delta x_i)' Z_i \right) \widehat{W} \left( N^{-1} \sum_{i=1}^N Z_i' \Delta y_i \right) \right]$$

Description:

$Z$  : Valid instrument matrix

$W$  : Unbiased and consistent estimate for  $W(LxL)$  where  $L$  is the number of instrument variables.

To find out the results of the two step estimator by substituting the weights  $W$  with  $\Lambda^{-1}$  with:

$$\widehat{\Lambda}^{-1} = N^{-1} \sum_{i=1}^N Z_i \Delta v_i \Delta v_i' Z_i$$

the estimation results become as follows:

$$\begin{pmatrix} \hat{\delta} \\ \hat{\beta} \end{pmatrix} = \left[ \left( N^{-1} \sum_{i=1}^N (\Delta y_{i,t-1}, \Delta x_i)' Z_i \right) \widehat{\Lambda}^{-1} \left( N^{-1} \sum_{i=1}^N Z_i' (\Delta y_{i,t-1}, \Delta x_i) \right) \right]^{-1} \left[ \left( N^{-1} \sum_{i=1}^N (\Delta y_{i,t-1}, \Delta x_i)' Z_i \right) \widehat{\Lambda}^{-1} \left( N^{-1} \sum_{i=1}^N Z_i' \Delta y_i \right) \right]$$

The above equation is an Arellano-Bond GMM estimate that is unbiased, consistent and efficient. In summary, some criteria used to find the best dynamic model or GMM are:

1. Unbiased.

When Ordinary Least Squares (OLS) estimation is used for dynamic panel regression, it will produce biased and inconsistent estimates due to the correlation of the dependent lag with the error, so GMM estimation is used as a solution that produces unbiased, consistent, and efficient estimates. The estimator of pooled least squares is biased upwards and the estimator of fixed-effects is biased downwards. An unbiased estimator will be somewhere in between.

2. Valid Instruments.

The Sargan test is used to determine the validity of using instrument variables that are greater than the number of estimated parameters. The instrument will be valid if the Sargan test results cannot reject the null hypothesis.

3. Consistent.

The consistency of the estimator obtained can be checked from the Arellano-Bond statistics  $m1$  and  $m2$ , which are calculated automatically in Eviews. Consistent estimation means that in the 2nd order first difference there is no autocorrelation between the residuals and the endogenous variables, indicating that the null hypothesis is not rejected.

### Parameter Estimation of GMM Arellano Bond Dynamic Panel Data Simultaneous Equation

The first step that must be taken to determine the estimation method in the simultaneous equation model is equation identification. If each structural equation is identified correctly or redundantly, the estimation method used in the simultaneous equation system is 2SLS. In the dynamic panel data simultaneous equation system, each structural equation is a dynamic panel data regression equation with exogenous variables. One of the exogenous variables contained in each structural equation is an explanatory endogenous variable. The following are the parameter estimation steps of the dynamic panel data simultaneous equation with 2 SLS, namely:

1. Estimating the value of endogenous variables through reduced form using Arellano-Bond GMM.
2. Estimate the structural equation by substituting the endogenous variables on the right side with the endogenous variable estimates obtained in step 1 using GMM Arellano-Bond.

Thus, this series of estimation methods is then called Two Stage Least Square Generalised Method of Moment Arellano-Bond (2SLS GMM AB).

## IV. RESULT AND DISCUSSION

### A. Descriptive Analysis

The results of descriptive statistical analysis show that there are 192 data in the research period 2015-2022. It is known that the Tobin's Q variable has a minimum value of -2.293382 and a maximum value of 1.83875 with a standard deviation of 0.620673 and an average value of 0.091362, which means that the entire sample used has an average of 0.091362. The firm size variable has a minimum value of 10.95098 and a maximum value of 13.75925 with a standard deviation of 0.595324 and an average value of 12.36635, which means that all samples used have an average of 12.36635. The growth variable has a minimum value of 0.0000 and a maximum value of 1,139197 with a standard deviation of 0.173583 and an average value of 0.139989, which means that all samples used have an average of 0.139989. The hedge variable has a minimum value of 0.0000 and a maximum value of 1.0000 with a standard deviation of 0.368915 and an average value of 0.161458, which means that of all the samples used, the average is 0.16145. Provides an overview or description of the research data presented in Table 1 below.

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**Table 1. Descriptive Statistical Analysis**

	LnTobinQ	Firm_Size	Growth	Hedge	Leverage	Profit	Std_Dev	Liq
Mean	0.091362	12.36635	0.139989	0.161458	0.2697	0.021316	236524.6	1.888484
Maximum	1.83875	13.75925	1.139197	1	3.348048	1.618764	7752380	19.40986
Minimum	-2.293382	10.95098	0	0	0	-0.605702	1245.637	0.001053
Std. Dev.	0.620673	0.595324	0.173583	0.368915	0.597803	0.164771	640693.4	3.243312
Observations	192	192	192	192	192	192	192	192

The leverage variable has a minimum value of 0.0000 and a maximum value of 3.348048 with a standard deviation of 0.597803 and an average value of 0.2697, which means that the entire sample used has an average of 0.2697. The profit variable has a minimum value of -0.605702 and a maximum value of 1.618764 with a standard deviation of 0.164771 and an average value of 0.021316. The cashflow volatility variable (std dev) has a minimum value of 1245.637 and a maximum value of 7752380 with a standard deviation of 640693.4 and an average value of 236524.6, which means that the entire sample used has an average of 236524.6. The liquidity variable has a minimum value of 0.001053 and a maximum value of 19.40986 with a standard deviation of 3.243312 and an average value of 1.888484, which means that all samples used have an average of 1.888484.

### Regression Model Specification Test

The next test is to determine the unbiasedness criteria by comparing the GMM first difference dependent lag estimator with the FEM (Fixed Effect Model) model which is biased downward and the PLS (Pooled Least Squares) model which is biased upward. Unbiased lag estimators are between the FEM and PLS models.

**Table 2. Estimation Results of Company Value Equation (Tobin's Q) with PLS model**

Dependent Variable: LNTOBINQ  
 Method: Panel Least Squares  
 Date: 10/02/23 Time: 08:07  
 Sample: 2015 2022  
 Periods included: 8  
 Cross-sections included: 24  
 Total panel (balanced) observations: 192  
 White period (cross-section cluster) standard errors & covariance (d.f. corrected)  
 Standard error and t-statistic probabilities adjusted for clustering

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNTOBINQ(-1)	<b>0.717507</b>	0.084689	8.472282	0.0000
C	0.757484	0.623188	1.215497	0.2365
FIRM_SIZE	-0.066131	0.050440	-1.311080	0.2028
GROWTH	0.097912	0.097048	1.008899	0.3235
HEDGE_FX	0.107349	0.124075	0.865194	0.3959
LEVERAGE	0.119701	0.041032	2.917292	0.0078
PROFIT	-0.234020	0.282591	-0.828123	0.4161
STD_DEV	-8.69E-09	2.01E-08	-0.432470	0.6694
LIQ	0.019963	0.007967	2.505896	0.0197

**Source:** Processed secondary data (Eviews)

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**Table 3. Estimation Results of Company Value Equation (Tobin's Q) with FEM model**

Dependent Variable: LNTOBINQ  
 Method: Panel Least Squares  
 Date: 10/02/23 Time: 08:06  
 Sample: 2015 2022  
 Periods included: 8  
 Cross-sections included: 24  
 Total panel (balanced) observations: 192  
 White period (cross-section cluster) standard errors & covariance (d.f. corrected)  
 WARNING: estimated coefficient covariance matrix is of reduced rank  
 Standard error and t-statistic probabilities adjusted for clustering

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNTOBINQ(-1)	<b>0.401665</b>	0.116270	3.454589	0.0022
C	4.884019	3.766635	1.296653	0.2076
FIRM_SIZE	-0.397189	0.304104	-1.306097	0.2044
GROWTH	0.170987	0.071350	2.396472	0.0251
HEDGE_FX	0.097317	0.140500	0.692643	0.4955
LEVERAGE	0.091996	0.171750	0.535638	0.5974
PROFIT	-0.242480	0.304044	-0.797516	0.4333
STD_DEV	1.51E-08	2.53E-08	0.596073	0.5569
LIQ	0.012689	0.015599	0.813458	0.4243

Source: Processed secondary data (Eviews)

**Table 4. Estimation Results of Company Value Equation (Tobin's Q) with First Difference GMM model**

Dependent Variable: LNTOBINQ  
 Method: Panel Generalized Method of Moments  
 Transformation: First Differences  
 Date: 10/02/23 Time: 08:06  
 Sample: 2015 2022  
 Periods included: 8  
 Cross-sections included: 24  
 Total panel (balanced) observations: 192  
 White period (period correlation) instrument weighting matrix  
 White period (cross-section cluster) standard errors & covariance (d.f. corrected)  
 Standard error and t-statistic probabilities adjusted for clustering  
 Instrument specification: @DYN(LNTOBINQ,-2) FIRM\_SIZE GROWTH HEDGE\_FX LEVERAGE PROFIT STD\_DEV LIQ  
 Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNTOBINQ(-1)	<b>0.443024</b>	0.089082	4.973228	0.0000
FIRM_SIZE	-0.473880	0.368494	-1.285990	0.2112
GROWTH	0.188982	0.188184	1.004239	0.3257
HEDGE_FX	0.171634	0.133010	1.290382	0.2097
LEVERAGE	-0.111089	0.094980	-1.169613	0.2541
PROFIT	0.221226	0.101412	-2.181458	0.0396
STD_DEV	-3.63E-08	3.58E-08	-1.012551	0.3218
LIQ	-0.027086	0.033964	-0.797515	0.4333

Source: Processed secondary data (Eviews)

Comparison of FD-GMM, SYS-GMM estimators with FEM and PLS can be seen in Table 5 as follows:

**Table 5. Comparison of GMM Estimator with FEM and PLS**

Parameters	First Difference GMM Coefficient	FEM	PLS Coefficient
$\delta$	0.443024	0.401665	0.717507

Source: Processed secondary data (Eviews)



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From Table 5, it can be seen that the coefficient of the First Difference GMM model is between the FEM model and the PLS model. Thus the lag independent first difference GMM estimator model fulfils the criterion of unbiasedness. The model specification test is a test of the consistency of the estimates obtained on the results of the Arellano-Bond GMM analysis and also to determine the validity of the instrument variables that have instruments exceeding the number of estimated parameters (overidentifying restriction conditions). The method used is the Sargan test and the Arellano Bond test.

1. The Sargan test is used to determine the validity of the use of instrument variables. The hypothesis used is:

H0: The overidentifying restriction condition in the model estimation is valid

H1: The overidentifying restriction condition in the model estimation is invalid.

The significance level ( $\alpha$ ) used is 0.05. The decision-making criterion is to accept H0 if the probability value (J-statistic)  $> \alpha$  (0.05).

**Table 6. Sargan Test Results**

Effects Specification			
Cross-section fixed (first differences)			
Root MSE	0.413976	Mean dependent var	0.010944
S.D. dependent var	0.355958	S.E. of regression	0.422880
Sum squared resid	32.90424	J-statistic	16.57596
Instrument rank	24	Prob(J-statistic)	0.413536

**Source:** Processed secondary data (Eviews)

From the estimation results in Table 6, when viewed from the probability value (J-statistic) in the GMM model of 0.413536 is greater than the significant value  $\alpha$  (0.05). This indicates that H0 is accepted, which means that there is no correlation between errors and there is no problem with the validity of the instrument or it can be said that the model estimation is valid.

2. The Arellano Bond test is conducted to test the consistency of the estimates obtained from the GMM process. Consistent estimation means that in the 2nd order first difference there is no autocorrelation between the residuals and the endogenous variables. The hypothesis is as follows:

H0: There is no autocorrelation in the i-th order residuals.

H1: There is autocorrelation in the i-th order residuals

**Table 7. Arellano Bond Test Results**

### Arellano-Bond Serial Correlation Test

Equation: Untitled

Date: 10/02/23 Time: 08:07

Sample: 2015 2022

Included observations: 192

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-1.113744	-13.832013	12.419381	0.2654
AR(2)	-0.673505	-0.801560	1.190134	0.5006

**Source:** Processed secondary data (Eviews)

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Table 7 shows the probability value of the Arellano-Bond test on the GMM model is 0.2654 on AR(1) and 0.5006 on AR(2), respectively. With a significance level of  $\alpha$  (0.05), the probability value is greater than the significance level of  $\alpha$  (0.05), so H0 is not rejected, which means that there is no autocorrelation in the 1st and 2nd order first difference errors so that the resulting estimates are consistent.

### Parameter Significance Test

Parameter significance testing is carried out in two stages, namely simultaneous tests and partial tests.

#### 1. Simultaneous Test

The simultaneous test is used to determine the effect of all independent variables on the dependent variable. In dynamic panel data regression, the simultaneous test can use the Wald test (Arellano & Bond, 1991) with the following hypothesis:

$$H_0 : \delta = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0$$

$$H_1 : \text{there is at least one } \delta, \beta_k \neq 0, \text{ with } k = 1, 2, 3, \dots, 7$$

The H0 decision is rejected if the probability value (p-value)  $< \alpha$  (0.05), which means that there is at least one independent variable in the model that affects the dependent variable. In Table 1, there are variables with a value (p-value)  $< \alpha$  (0.05), namely the LnTobin's Q (-1) variable with a p-value of 0.0000 and the profit variable (ROA) with a p-value of 0.0396. This shows that the LnTobin's Q (-1) and profit (ROA) variables in the model affect the firm value variable (Tobin's Q).

#### 2. Partial Test

Partial test is used to determine the effect of each independent variable on the dependent variable. The hypothesis in this test is as follows:

$$H_0 : \delta, \beta_k = 0$$

$$H_1 : \delta, \beta_k \neq 0 \text{ with } k = 1, 2, 3, \dots, 7$$

The H0 decision is rejected if the probability value (p-value)  $< \alpha$  (0.05). This means that it shows that there is a lag of the independent variable that affects the dependent variable. The partial test results of the dynamic panel data regression model with the first-difference GMM approach can be seen in Table 1. These results show that there is a lag in the independent variable that has a value (p-value)  $< \alpha$  (0.05), thus the decision taken is to reject H0. The lag of the dependent variable, namely the LnTobin's Q (-1) variable with a p-value of 0.0000 and the profit variable (ROA) with a p-value of 0.0396 has a significant effect on firm value (Tobin's Q).

### Interpretation of Dynamic Panel Data Regression Results

Based on the first-difference GMM approach presented in Table 4, the dynamic panel data regression equation is obtained as follows:

$$Y_{it} = 0.443024 Y_{i,t-1} - 0.473880 (X_1) + 0.188982 (X_2) + 0.171634 (X_3) - 0.111089 (X_4) + 0.221226 (X_5) - 3.63E-08 (X_6) - 0.027086 (X_7) + u_i$$

where  $i = 1, 2, 3, \dots, 192$   $t = 2015, \dots, 2022$ .

Based on above a equation, several things can be conveyed including:

1. The value of  $\delta = 0.443024$ , explains that if there is an increase in the value of the company in the previous period by one time, it will increase the value of the company in the next period by 0.443024 times.
2. The regression coefficient  $\beta_1$  is -0.473880, indicating that the company value decreases by 0.473880 times for every 1 time increase in firm size.
3. Regression coefficient  $\beta_2$  of 0.188982, indicates that the company value increases by 0.188982 times for every 1 increase in growth.
4. Regression coefficient  $\beta_3$  of 0.171634, indicates that the company value increases by 0.171634 times for every 1 time increase in hedge\_Fx.
5. Regression coefficient  $\beta_4$  of -0.111089, indicates that the company value decreases by 0.111089 times for every 1 time increase in leverage.
6. Regression coefficient  $\beta_5$  of 0.221226, indicates that the company value increases by 0.221226 times for every 1 time increase in profit.
7. Regression coefficient  $\beta_6$  equal to -3.63E-08, indicates that the company value decreases by 3.63E-08 times for every 1 time increase in cashflow volatility.
8. Regression coefficient  $\beta_7$  of -0.027086, indicates that the company value decreases by 0.027086 times for every 1 time increase in liquidity.

#### LnTobin's Q(-1)

The lag coefficient of the firm value indicator (Tobin's Q (-1)) has a positive and statistically significant effect with a p-value of  $0.0000 < \alpha$  (0.05). This shows that every consumer cyclical company in Indonesia can take the right policy with backward looking in achieving high and sustainable firm value (Tobin's Q).

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## Growth.

Studies suggest that companies experiencing significant growth face increased investment costs, including fluctuations in interest rates, commodity prices, and exchange rates [25]. Consequently, they tend to be more inclined to implement hedging policies, which, as indicated by Tobin's Q, can ultimately have a positive impact on the overall value of the firm. It is worth noting that several studies conducted in Indonesia have also explored the relationship between a company's growth and its firm value, as measured by Tobin's Q [45][32]. However, it is essential to consider that the findings of our present study do not reveal a significant effect, and thus, these results cannot be directly compared to those of the earlier research.

## Profitability

The profit coefficient demonstrates a positive and statistically significant effect, as evidenced by a p-value of 0.0396, which is less than the predetermined significance level ( $\alpha = 0.05$ ). It is worth noting that a company's profits serve as a key indicator of its potential for future sustainability. This observation is supported by previous research from [32], [46], and [47], all of which affirm the substantial positive impact of profitability on firm value, specifically as measured by Tobin's Q. These studies collectively underscore the notion that the higher a company's profitability growth, the more promising its future outlook becomes. This positive relationship between profit (ROA) and firm value is further corroborated by research conducted by [48]. In a similar vein, [49] also asserts that company performance significantly influences firm value, as indicated by Tobin's Q.

## Firm Size

The assertion that a company's size positively correlates with the quality of its technology and systems, facilitating more effective asset management and ultimately enhancing overall company performance, is put forward. However, these findings are in contradiction to prior research conducted in Indonesia, which suggests that there is no discernible relationship between firm size and firm value [32]. Researchers attribute this contradictory effect on firm value to the influence of the leverage factor or long-term debt. In this context, the larger size of a firm is primarily attributable to a higher reliance on leverage, resulting in increased utilization of long-term debt. As a significant portion of this long-term debt is denominated in foreign currency, it imposes a growing liability burden on the company, thereby leading to a reduction in the company's value, as measured by Tobin's Q.

## Hedge

As indicated in a study by [25], it is suggested that foreign hedging strategies can have a positive impact on firm value, measured by Tobin's Q. This positive influence is attributed to the hypothesis that hedging may lead to reduced leverage costs, primarily because companies can exercise better liquidity management. Consequently, the adoption of hedging practices is believed to enhance the firm's size, ultimately contributing to an increase in the company's value [50]. However, it is important to note that the findings of the analysis conducted in this specific study did not yield statistically significant results, making it challenging to draw general conclusions. Nonetheless, the use of hedging as an alternative method for mitigating currency risk, especially in the context of consumer cyclical companies, remains an area of interest and potential exploration.

## Leverage

Leverage is a fundamental component of the capital structure strategy aimed at enhancing firm value. However, the findings in this study run counter to earlier research, which has asserted that leverage exerts a significant and positive impact on companies [45][32]. Researchers in this study posit that, especially for capital-intensive consumer cyclical companies, a higher level of foreign exchange debt can translate into a greater cost burden for the company. This is especially pertinent when considering that the company's revenue is denominated in rupiah. The cost burden becomes even more pronounced in the event of a depreciation of the rupiah relative to foreign currencies. Consequently, this situation engenders a negative leverage effect on firm value, as measured by Tobin's Q.

## Cashflow Volatility

Cash flow volatility is a critical indicator of the significant uncertainty surrounding a company's anticipated business income. Companies with exceptionally high business income often face financial risks, such as bankruptcy costs. This high cash flow volatility is, in part, driven by fluctuations in exchange rates related to the company's operational activities, including exports and imports. Companies with substantial cash flow volatility are more inclined to employ hedging strategies to mitigate these inherent risks. It is noted that as cash flow volatility increases, so does the likelihood of a company implementing hedging policies, resulting in a positive correlation with firm value [51]. However, it's worth highlighting that the findings in this study diverge from the expectations. Contrary to the anticipated positive relationship, this study reveals a negative association between cash flow volatility and firm value, as assessed by Tobin's Q.

## Liquidity

Companies endowed with sufficient liquidity have the capacity to expand their business more effectively compared to those facing liquidity constraints. Surprisingly, recent research indicates that an excessive surge in liquidity may not always be welcomed by investors, who may interpret it as a sign that the company is not investing its resources optimally. This notion aligns with the findings of [52], suggesting that while optimal cash reserves can enhance firm value, an excessive buildup of cash can have a

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detrimental impact. This perspective is supported by research conducted by [53] and [54], which assert that liquidity levels have no significant influence on hedging activities and the determinants of firm value, as measured by Tobin's Q. The results of this study, in line with other research in Indonesia [32], reveal a significant negative relationship between liquidity and firm value, as indicated by Tobin's Q. This is rooted in the assumption that investors generally do not favor companies hoarding excessive liquidity, as it may imply underutilization of resources that could be deployed more productively. Nevertheless, it is essential to acknowledge that the results of this study do not exhibit statistical significance, and therefore, comparisons with previous research should be made with caution.

### V. CONCLUSION

The results of the analyses that have been carried out in this study can be concluded as follows:

1. To examine the financial performance of companies in the consumer cyclical sector, a dynamic panel regression analysis is carried out with the Generalised Method of Moment (GMM) Arellano-Bond approach where the company value (Tobin's Q) is significantly influenced by the company value in the previous period (Tobin's Q (-1)) and profitability (ROA) for the period 2015 - 2022.
2. The value of the company in the previous period (Tobin's Q (-1)) has a significant positive effect and can be a backward looking towards achieving high and sustainable company value (Tobin's Q) in the next period.
3. Profitability (ROA) has a significant positive effect on firm value (Tobin's Q). This shows the prospect of the company's sustainability in the future.
4. For further researchers, they can add other variables that affect the company's financial performance such as Good Corporate Governance, ROE, DER and can examine various companies on the Indonesia Stock Exchange with a long enough research period.

### VI. RECOMMENDATION

Based on the conclusions drawn from this study, it is recommended that companies in the consumer cyclical sector pay close attention to their financial performance indicators, particularly the company value in the previous period (Tobin's Q (-1)) and profitability (ROA). These factors have been found to significantly influence the company's value in the subsequent period. The positive effect of Tobin's Q (-1) suggests that companies should adopt a backward-looking approach to sustain high company value. Similarly, the positive impact of ROA on firm value indicates that profitability is a key determinant of a company's future sustainability. For future research, it would be beneficial to consider additional variables that may affect a company's financial performance. These could include Good Corporate Governance, Return on Equity (ROE), and Debt-Equity Ratio (DER). Furthermore, expanding the scope of research to include various companies listed on the Indonesia Stock Exchange over a longer research period could provide more comprehensive insights into the dynamics of financial performance in this sector. This would ultimately contribute to a more robust understanding of the factors driving company value and profitability.

### REFERENCES

- 1) Hayes, A. 2020. Consumer Cyclical: Definition, Examples, Vs. Noncyclicals. Terdapat pada <https://www.investopedia.com/>, diakses pada 29 September 2023.
- 2) Imron, HR, Maksudi AM, Zabidi I, Hendra L, Suryono DW. 2022. Prediksi financial distress perusahaan sektor industri consumer cyclical. *Jurnal Akuntansi dan Manajemen*, 19 (02): 63-77. <https://doi.org/10.36406/jam.v19i02.640>
- 3) Martinez, M. 2015. Hedge-based neoliberalism: Derivatives as state policy in Mexico. *New Political Economy*. Page. 1-14. <http://dx.doi.org/10.1080/13563467.2016.1113947>
- 4) Harahap, S. S. 2004. *Aplikasi Kritis Atas Laporan Keuangan*. Jakarta: PT Raja Grafindo Persada.
- 5) Dj, A.M., Artini, L.G.S. and Suarjaya, A.G., 2012. Pengaruh kinerja keuangan terhadap nilai perusahaan pada perusahaan manufaktur di Bursa Efek Indonesia. *Jurnal Manajemen, strategi bisnis, dan kewirausahaan*, 6(2), pp.130-138.
- 6) Wolfe, J. and Savaia, A.C.A., 2003. The Tobin's as a Company Performance Indicator. *Journal of Development in Business Simulation and Experimental Learning*, 30, pp.155-160.
- 7) Klapper, L.F. and Love, I., 2004. Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, 10(5), pp.703-728.
- 8) Madura J. 2014. *International Financial Management*, 12nd ed. USA: Cengage Learning.
- 9) Eiteman, D.K., Stonehill, A.I. and Moffett, M.H. (2010) *Multinational Business Finance*. 12th Edition, Pearson Prentice Hall, Boston.
- 10) Allen SL. 2003, *Financial Risk Management: A Practitioner's Guide to Managing Market and Credit Risk*. New Jersey: John Wiley and Sons.
- 11) Jin Y, Jorion P. 2006. Firm value and lindung nilai: evidence from U.S. oil and gas producers. *The Journal of Finance*. 61(2): 893-920.

## Impact of Hedge on the Firm Value of Consumer Cyclical Companies Listed in the Indonesian Stock Exchange

- 12) Reid, R.N.D., Vickery, P.J., Hedges, D.A. and Williams, P.M., 1993. Measuring the response of pasture to superphosphate using aircraft and satellite remote sensing. *Australian Journal of Experimental Agriculture*, 33(5), pp.597-600.
- 13) Papaioannou, M.G., 2006. Exchange rate risk measurement and management: Issues and approaches for firms.
- 14) Jacque, L.L. and Jacque, L.L., 1996. Hedging Translation Exposure. *Management and Control of Foreign Exchange Risk*, pp.299-332.
- 15) Berkman, H. and Bradbury, M.E., 1996. Empirical evidence on the corporate use of derivatives. *Financial management*, pp.5-13.
- 16) Prevost, A.K., Rose, L.C. and Miller, G., 2000. Derivatives usage and financial risk management in large and small economies: A comparative analysis. *Journal of Business Finance & Accounting*, 27(5-6), pp.733-759.
- 17) Colquitt, L.L. and Hoyt, R.E., 1997. Determinants of corporate hedging behavior: Evidence from the life insurance industry. *Journal of risk and insurance*, pp.649-671.
- 18) Hardwick, P. and Adams, M., 1999. The determinants of financial derivatives use in the United Kingdom life insurance industry. *Abacus*, 35(2), pp.163-184.
- 19) De Ceuster, M., Flanagan, L., Hodgson, A. and Tahir, M.I., 2003. Determinants of derivative usage in the life and general insurance industry: The Australian evidence. *Review of Pacific Basin Financial Markets and Policies*, 6(04), pp.405-431.
- 20) Nance, D.R., Smith Jr, C.W. and Smithson, C.W., 1993. On the determinants of corporate hedging. *The journal of Finance*, 48(1), pp.267-284.
- 21) Nguyen, H. and Faff, R., 2003. Can the use of foreign currency derivatives explain variations in foreign exchange exposure?: Evidence from Australian companies. *Journal of Multinational Financial Management*, 13(3), pp.193-215.
- 22) Carter, D.A. and Sinkey, J.F., 1998. The use of interest rate derivatives by end-users: The case of large community banks. *Journal of Financial Services Research*, 14, pp.17-34.
- 23) Smith, C.W. and Stulz, R.M., 1985. The determinants of firms' hedging policies. *Journal of financial and quantitative analysis*, 20(4), pp.391-405.
- 24) Bartram, S.M., 2008. What lies beneath: Foreign exchange rate exposure, hedging and cash flows. *Journal of Banking & Finance*, 32(8), pp.1508-1521.
- 25) Allayannis, G. and Ofek, E., 2001. Exchange rate exposure, hedging, and the use of foreign currency derivatives. *Journal of international money and finance*, 20(2), pp.273-296.
- 26) Spamann, H., 2010. Collateral damage? Derivatives trading and empty voting. Working Paper, Harvard University.
- 27) Lei, T.L. and Tong, D., 2013. Hedging against service disruptions: an expected median location problem with site-dependent failure probabilities. *Journal of Geographical Systems*, 15, pp.491-512.
- 28) Gaines-Ross, L., 2010. Reputation warfare. *Harvard Business Review*, 88(12), pp.70-76.
- 29) Modigliani, F. and Miller, M.H., 1958. The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), pp.261-297.
- 30) Wright, P. and Ferris, S.P., 1997. Agency conflict and corporate strategy: The effect of divestment on corporate value. *Strategic management journal*, 18(1), pp.77-83.
- 31) Fama, E.F. and French, K.R., 2012. Size, value, and momentum in international stock returns. *Journal of financial economics*, 105(3), pp.457-472.
- 32) Winarto, J., 2015. The determinants of manufacturer firm value in Indonesia stock exchange. *International Journal of Information, Business and Management*, 7(4), p.323.
- 33) Ahmed, A.H., Tahat, Y.A., Burton, B.M. and Dunne, T.M., 2015. The value relevance of corporate internet reporting: The case of Egypt. *Advances in accounting*, 31(2), pp.188-196.
- 34) Froot, K.A., Scharfstein, D.S. and Stein, J.C., 1993. Risk management: Coordinating corporate investment and financing policies. *The Journal of Finance*, 48(5), pp.1629-1658.
- 35) Smith, C.W. and Stulz, R.M., 1985. The determinants of firms' hedging policies. *Journal of financial and quantitative analysis*, 20(4), pp.391-405.
- 36) Graham, J.R. and Rogers, D.A., 2002. Do firms hedge in response to tax incentives?. *The Journal of finance*, 57(2), pp.815-839.
- 37) Nova, M., Cerqueira, A. and Brandão, E., 2015. Hedging with Derivatives and Firm Value: Evidence for the nonfinancial firms listed on the London Stock Exchange. *Research Work in Progress*, 1(12), pp.1-47.
- 38) Belghitar, Y. and Dixon, R., 2012. Do venture capitalists reduce underpricing and underperformance of IPOs?. *Applied Financial Economics*, 22(1), pp.33-44.
- 39) Jin Y, Jorion P. 2006. Firm value and lindung nilai: evidence from U.S. oil and gas producers. *The Journal of Finance*. 61(2): 893-920.
- 40) Júnior, J.L.R. and Laham, J., 2008. The impact of hedging on firm value: evidence from Brazil. *Journal of International Finance and Economics*, 8(1), pp.76-93.



## Impact of Hedge on the Firm Value of Consumer Cyclical Companies Listed in the Indonesian Stock Exchange

- 41) Ameer, R., 2010. Determinants of corporate hedging practices in Malaysia. *International Business Research*, 3(2), pp.120-130.
- 42) Baltagi, B.H., Bratberg, E. and Holmås, T.H., 2005. A panel data study of physicians' labor supply: the case of Norway. *Health Economics*, 14(10), pp.1035-1045.
- 43) Hsiao, C., 1982. Autoregressive modeling and causal ordering of economic variables. *Journal of Economic Dynamics and Control*, 4, pp.243-259.
- 44) Arellano, M. and Bond, S., 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), pp.277-297.
- 45) Hermuningsih, S., 2013. Pengaruh profitabilitas, growth opportunity, struktur modal terhadap nilai perusahaan pada perusahaan publik di Indonesia. *Buletin ekonomi moneter dan perbankan*, 16(2), pp.127-148.
- 46) Carlson S J, Bathala C T. 1997. Ownership differences and firms income smoothing behavior. *Journal of Business Finance and Accounting*, 24(2): 179-196.
- 47) Uchida, K. and Matsumoto, M., 2006. Ownership structure and operating performance changes surrounding stock option adoptions: Evidence from Japan. *РЕДАКЦИОННЫЙ СОВЕТ*, p.10.
- 48) Wulandari, N., Tansar, I.A. and Suzanto, B., 2020. Pengaruh Profitabilitas Dan Leverage Terhadap Nilai Perusahaan Pada Pt. Chitose Internasional, Tbk Periode Tahun 2015-2019. *Majalah Bisnis & IPTEK*, 13(1), pp.12-22.
- 49) Sudiyatno, B., 2010. Peran kinerja perusahaan dalam menentukan pengaruh faktor fundamental makroekonomi, risiko sistematis, dan kebijakan perusahaan terhadap nilai perusahaan (studi empirik pada perusahaan manufaktur di bursa efek indonesia) (Doctoral dissertation, Universitas Diponegoro).
- 50) Huang, P., 2003. Two essays on corporate hedging: the choice of instruments and methods. Louisiana State University and Agricultural & Mechanical College.
- 51) Goklas, F. and Wahyudi, S., 2016. Kebijakan Hedging dan Faktor-faktor yang Mempengaruhinya (Studi Empiris pada Perusahaan Non Finansial yang Terdaftar di BEI Periode 2012-2014) (Doctoral dissertation, Fakultas Ekonomika dan Bisnis).
- 52) Azmat Q. 2014. Firm value and optimal cash level: evidence from Pakistan. *International Journal of Emerging Markets*. 9 (4): 488 – 504.
- 53) Nifah, D.A., 2017. Faktor-faktor yang mempengaruhi aktivitas hedging pada perusahaan property and real estate yang terdaftar di BEI periode 2013-2015 (Doctoral dissertation, STIE PERBANAS SURABAYA).
- 54) Aritonang, E.D., 2018. Prediksi Financial Distress Pada Perusahaan Manufaktur Sub Sektor Industri Barang Konsumsi Di Bursa Efek Indonesia Tahun 2015-2017 (Doctoral dissertation, Universitas Sumatera Utara).



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