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Earnings Quality, Leverage, Profitability and Corporate Cash Holdings: The Moderating Role of Institutional Investors in Indonesian Food and Beverage Firms

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ABSTRACT

This study aims to examine the effect of earnings quality, leverage, and return on assets on corporate cash holdings, with institutional investors acting as a moderating variable in food and beverage companies listed on the Indonesia Stock Exchange during the 2020-2024 period. This research uses a quantitative approach with secondary data obtained from companies' annual financial reports. The sample consists of 21 companies selected through purposive sampling, resulting in 105 firm-year observations. The data were analyzed using panel data regression with Moderated Regression Analysis (MRA). The results show that earnings quality and leverage have a negative and significant effect on corporate cash holdings, while return on assets has a positive but insignificant effect. Institutional investors moderate the relationship between earnings quality and leverage with corporate cash holdings by weakening their negative effects. However, institutional investors do not moderate the relationship between return on assets and corporate cash holdings. This study provides empirical evidence on the role of institutional investors in influencing corporate cash holding policies.

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1. Introduction

The food and beverage industry has experienced rapid growth alongside increasing population levels and evolving consumption patterns in modern society. Firms operating in this sector are required to continuously innovate to meet consumer demand for products that are fast, practical, and ready to consume (Pratama & Sarudin, 2023). In a competitive and uncertain economic environment, maintaining financial stability becomes crucial for ensuring corporate sustainability. One of the most important elements in financial management is cash, which represents the most liquid asset and functions as a primary driver of operational activities (Agung & Hadinugroho, 2019). Adequate cash reserves enable companies to sustain operations, fulfill short-term obligations, and seize investment opportunities when financial constraints arise (Yilmaz & Samour, 2024). Therefore, corporate cash holding policies play a critical role in supporting business sustainability and strategic decision-making.

The amount of cash on hand by a company shows how well it handles liquidity and how well it handles financial and operational risks. The extent to which a business can meet its obligations is negatively impacted by having inadequate cash, while inefficiencies and possible agency difficulties are caused by having too much cash. Therefore, it is crucial to maintain an ideal quantity of cash (Davidson & Rasyid, 2020). The amount of cash on hand is influenced by a number of internal financial factors, including as profitability, earnings quality, and leverage. Quality of earnings is a metric for evaluating how well a company's stated financial results match its real performance and how trustworthy its financial reports are (Thesing & Velte, 2021). The amount of cash reserves kept by the organization may be impacted by managerial decisions about high profits quality, which lowers information asymmetry and promotes transparency (Chada & Varadharajan, 2024).

Earnings quality is one of the elements that affect a company's cash on hand, profitability, leverage, and overall financial health. The Pecking Order Theory states that,

before going outside for capital, most companies look within (Guizani, 2017). As a result, businesses with more debt may put more of their cash flow into paying down their debt rather than putting it into savings (Davidson & Rasyid, 2020). Companies that do better financially, on the basis of their ROA, tend to have more cash on hand because they are able to save more money (Wibowo & Wahyudi, 2019). Empirical studies indicate that earnings quality generally exhibits a negative relationship with corporate cash holdings (Al-Haddad & Al-Ghoul, 2023; Chada & Varadharajan, 2024; Farinha et al., 2018), however, it is common for ROA to be positively correlated with cash on hand (Davidson & Rasyid, 2020; Shabbir et al., 2016; Wibowo & Wahyudi, 2019).

Previous empirical research also identifies leverage as a key factor influencing corporate cash holding policies. The extent to which a business relies on debt funding mechanism is reflected in its leverage. Leveraged companies often have less cash reserves because a larger percentage of their income goes toward paying down debt and interest (Davidson & Rasyid, 2020). More debt limits a company's ability to keep cash on hand, according to a number of research that determined that leverage is negatively correlated with corporation liquidity, and this correlation is statistically significant (Al-Haddad & Al-Ghoul, 2023; Ali et al., 2016; Guizani, 2017; Shabbir et al., 2016; Sohail et al., 2023; Trinh et al., 2022; Wibowo & Wahyudi, 2019). However, other studies present contrasting findings. Research by Davidson & Rasyid (2020) demonstrates that the use of leverage significantly and favorably affects how much money businesses have on hand. How much cash a company has on hand in relation to its leverage is still not clearly established, according to these contradictory research findings. This could be because firm characteristics, market conditions, and corporate governance procedures vary among nations or industries. There is a need for additional research into various areas that have not been well addressed with companies' liquid assets, despite the extensive written work on the subject. First, the effects of profitability, leverage, and earnings quality on companies' liquid assets have been the subject of contradictory conclusions in previous empirical research. While some research

find strong correlations, others find none or even contradicting findings. The lack of a comprehensive explanation for the causes of corporate cash holdings is underscored by these contradictions, which call for additional empirical research.

Second, most previous studies have been conducted in developed countries that possess more advanced financial market systems, corporate governance mechanisms, and access to external financing compared to developing economies. Consequently, findings derived from developed markets may not fully capture corporate financial behavior in developing countries such as Indonesia. Third, many studies employ cross-industry samples, which may overlook industry-specific financial characteristics. In reality, each industry has distinct operational structures, liquidity requirements, and investment patterns that may influence corporate cash management policies. For instance, the food and beverage industry is characterized by continuous production cycles, fluctuations in raw material prices, and dynamic consumer demand, all of which may shape firms' liquidity management strategies. Furthermore, there is a dearth of research on the topic of institutional investors' moderating role in the correlation that are associated with financial results and company's liquid assets policies, particularly in developing nations. This is despite the abundance of literature on corporate governance in the finance literature. To address these knowledge gaps, this study will examine the Indonesia Stock Exchange-listed food and beverage firms' cash holdings between 2020 and 2024 via the lenses of profitability, leverage, and earnings quality. The article also delves into how institutional investors moderate this relationship.

This research stands out because it uses financial performance metrics and corporate governance processes to shed light on the cash holding strategies of food and beverage companies in a developing nation. Previous research often looked at earnings quality, leverage, profitability, and corporate cash holdings independently. however, this analysis incorporates institutional investors as a moderating aspect, which could enhance or lessen the association between these variables. There will likely be multiple ways in which we add to the existing body of literature with our study. To start with, This study adds to the existing

body of empirical research regarding the factors influencing developing nations' companies' liquidity particularly Indonesia. Second, it adds to the corpus of business governance literature by dissecting the role of institutional investors as a moderator of liquidity policies adopted by companies. Finally, this study elucidates the specifics of corporate cash management in the food and beverage business, which has its own unique set of forces at work. Indonesia National equities companies are subject to institutional monitoring systems and financial performance, which is expected to impact corporate cash management practices. This study aims to provide light on this relationship for investors, legislators, and corporate managers.

Table 1. Food & Beverage Companies with the Largest Liabilities Listed on the Indonesia Stock Exchange During 2020–2024

Kode	Nama Perusahaan	2020	2021	2022	2023	2024	Prameter
PSDN	Prasidha Aneka Niaga Tbk	4,87	1,69	7,04	1,30	2,15	3,41
MGRO	Mahkota Group Tbk	1,30	1,56	2,97	4,14	5,09	3,01
CPRO	Central Proteina Prima Tbk	7,94	1,25	1,15	1,00	0,88	2,45
TBLA	Tunas Baru Lampung Tbk	2,30	2,25	2,46	2,16	2,29	2,29
SIPD	Sreeya Sewu Indonesia Tbk	1,79	2,02	3,28	1,75	1,59	2,08

Source: *www.idx.co.id* (processed data, 2025)

Based on Table 1, food and beverage subsector companies listed on the Indonesia Stock Exchange during the 2020–2024 period exhibit relatively high levels of liabilities with fluctuating patterns. Prasidha Aneka Niaga Tbk (PSDN) records the highest parameter value of 3.41, indicating the largest liability level among the observed firms, with a notable spike in 2022 reaching 7.04. Meanwhile, Mahkota Group Tbk (MGRO) shows a parameter value of 3.01 and demonstrates a consistent upward trend in liabilities over the observed period. Central Proteina Prima Tbk (CPRO) reported a very high liability value in 2020 at 7.94; however, the figure gradually declined in subsequent years, resulting in a parameter value of 2.45. In contrast, Tunas Baru Lampung Tbk (TBLA) and Sreeya Sewu Indonesia Tbk

(SIPD) demonstrate relatively stable liability levels, with parameter values of 2.29 and 2.08, respectively. These findings suggest that there are variations in financing structures among firms in utilizing liabilities as part of their capital structure.

Pecking Order Theory

Pecking Order Theory states that initially put forth by Myers & Majluf (1984), businesses usually look to internal resources, including retained earnings, for funding before considering external sources, and stock issuance is seen as a last resort. The theory further explains that companies typically do not establish a predetermined level of cash reserves. instead, they adjust their cash positions according to investment opportunities and financing requirements (Alnori & Bugshan, 2023). An organization's reliance on debt financing decreases as its profitability rises. This is because a profitable organization typically has enough cash on hand to cover all of its operating and investment expenses (Kalantonis et al., 2021). The interdependence between capital structure, profitability, and company cash strategy is therefore clarified by Pecking Order Theory. When a company's retained earnings aren't enough to cover investment costs, it will tap into its cash on hand before considering debt or equity financing (Guizani, 2017). Therefore, Pecking Order Theory serves as a relevant theoretical foundation for explaining corporate decisions regarding amount of cash on hand by corporations.

The Effect of Earnings Quality on Corporate Cash Holdings

When making investment decisions, investors rely heavily on earnings, which are a key piece of information since earnings quality indicates operational success in the present and is a predictor of future performance and intrinsic value of a company (Intara et al., 2024). Declining earnings quality tends to exacerbate asymmetries and increase information, resulting in a higher cost of external capital, prompting companies to increase their cash reserves (Mansali et al., 2019). Under these conditions, business entities prefer internal

financing and cash accumulation as a precautionary measure to meet future investment needs (Al-Haddad & Al-Ghoul, 2023). A company's cash reserves are severely affected by earnings quality, according to previous research (Al-Haddad & Al-Ghoul, 2023; Chada & Varadharajan, 2024; Farinha et al., 2018; Mansali et al., 2019).

H1 : Earnings Quality has a significant negative effect on Corporate Cash Holdings.

The Effect of Leverage on Corporate Cash Holdings

Leverage refers to the use of borrowed funds to enhance investment returns; however, excessive debt increases financial risk and imposes a greater burden on firms in meeting their obligations (Kambourova et al., 2020). High leverage may threaten corporate stability, as a firm's debt repayment capacity significantly influences its cash-holding decisions (Sohail et al., 2023). Moreover, a high level of leverage reflects limited internal funds, leading firms to prioritize debt servicing rather than retaining cash reserves (Trinh et al., 2022). In most cases, prior research has shown that leverage significantly reduces the amount of cash on hand for corporations (Al-Haddad & Al-Ghoul, 2023; Ali et al., 2016; Guizani, 2017; Shabbir et al., 2016; Sohail et al., 2023; Trinh et al., 2022; Wibowo & Wahyudi, 2019), although Davidson & Rasyid (2020) document a significant positive relationship.

H2 : Leverage has a significant negative effect on Corporate Cash Holdings.

The Effect of Return on Assets on Corporate Cash Holdings

A high Return on Assets (ROA) reflects strong corporate performance and an increase in retained earnings, allowing businesses to have more cash on hand to fund their operational activities (Wibowo & Wahyudi, 2019). The Pecking Order Theory states because they can accumulate internal cash flows, businesses with higher profitability typically

maintain greater liquidity. (Guizani, 2017). In addition, ROA, as a liquidity-related indicator, may serve as a substitute for cash, thereby influencing the firm's optimal cash-holding level (Shabbir et al., 2016). A number of empirical studies have shown that return on assets (ROA) significantly improves companies' cash reserves (Davidson & Rasyid, 2020; Shabbir et al., 2016; Wibowo & Wahyudi, 2019). Guizani (Guizani, 2017) also finds that ROA significantly affects corporate cash-holding decisions.

H3 : Return on Assets has a significant positive effect on Corporate Cash Holdings.

The Moderating Effect of Institutional Investors on the Relationship between Earnings Quality and Corporate Cash Holdings

Important roles are played by financial institutions in corporate governance because they can keep an eye on management, use their voting rights, and stop bad investments (Nguyen & Rahman, 2020). To protect themselves from financial restrictions, companies hoard more cash when their earnings are of low quality. This is because information asymmetry grows and the cost of external financing rises (Mansali et al., 2019). Holding cash also becomes essential for firms to cope with uncertainty, such as declining cash flows or bankruptcy risk (Jiang et al., 2021). Because institutional investors urge companies to maintain greater earnings quality and manage cash more effectively, their monitoring function can amplify the negative connection among the cash on hand of corporations and earnings quality in this context (Intara et al., 2024). Institutional investors have a favorable and substantial impact on company cash holdings, according to previous studies Basiouny et al., (2023) and Jiang et al., (2021) earnings quality has been found to significantly reduce the amount of cash that corporations have on hand (Al-Haddad & Al-Ghoul, 2023; Chada & Varadharajan, 2024; Farinha et al., 2018). These findings suggest that institutional ownership may function as an effective governance mechanism that moderates how much weight companies give to earnings quality when deciding how much cash to retain.

H4 : Institutional Investors significantly moderate the negative effect of Earnings Quality on Corporate Cash Holdings.

The Moderating Effect of Institutional Investors on the Relationship between Leverage and Corporate Cash Holdings

Institutional ownership reflects strong corporate governance, as institutional investors tend to enhance monitoring mechanisms that encourage firms to adopt more optimal cash policies (Basiouny et al., 2023). Since Pecking Order Theory states that companies should raise capital internally before taking on debt, and since leverage is directly proportional to their capacity to keep cash on hand to pay their bills, it stands to reason that when a company's leverage increases, its cash reserves decrease (Sohail et al., 2023). When companies have a lot of debt, they have to pay it back faster. This means that they have less cash on hand since they have to put more of their earnings toward paying off their debt (Kambourova et al., 2020). In this context, institutional investors play a disciplinary role by strengthening managerial oversight, preventing excessive cash hoarding, and promoting more efficient debt management (Ali et al., 2016). Numerous research indicate that corporate cash holdings are positively influenced by institutional investors (Basiouny et al., 2023; Jiang et al., 2021). Meanwhile, leverage has been widely discovered to possess a notable negative effect to the assets held by corporations (Al-Haddad & Al-Ghoul, 2023; Ali et al., 2016; Guizani, 2017; Shabbir et al., 2016; Sohail et al., 2023; Trinh et al., 2022; Wibowo & Wahyudi, 2019) *although* Davidson & Rasyid (2020) report a strong, gratifying relationship. Based on these results, it is anticipated that institutional investors would influence businesses' financing and cash management choices, therefore moderating the connection between debt and the amount of money a company has on hand.

H5: Institutional Investors significantly moderate the effect of Leverage on Corporate Cash Holdings.

The Moderating Effect of Institutional Investors on the Relationship between Return on Assets and Corporate Cash Holdings

Return on Assets (ROA) reflects a firm's operational performance, and strong performance is often supported by effective corporate governance mechanisms, including institutional ownership. Financial institutions have the power and the will to keep tabs on management, reject ineffective policies, and limit investments that don't add value (Nguyen & Rahman, 2020). Such monitoring can reduce over-investment behavior and encourage firms to maintain cash holdings at an optimal level (Basiouny et al., 2023). The favorable correlation between ROA and corporate cash holdings may therefore be strengthened by the presence of institutional investors. Holding cash is essential for firms to cope with uncertainty, such as bankruptcy risk or cash flow shortages (Jiang et al., 2021). Businesses with greater ROA typically rely more on internal funding sources, such cash and retained earnings, before turning to outside funding, which is consistent with the Pecking Order Theory. Favorable market conditions also motivate firms to utilize cash flexibility to meet obligations and seize growth opportunities, despite the opportunity costs associated with excess cash holdings (Ahmed & Tahir, 2024). A large body of research indicates that company cash holdings are substantially impacted favorably by institutional investors (Basiouny et al., 2023; Jiang et al., 2021). More than that, a plethora of research shows that ROA significantly improves companies' cash on hand (Davidson & Rasyid, 2020; Shabbir et al., 2016; Wibowo & Wahyudi, 2019) while Guizani (2017) also verifies that ROA has an effect on cash on hand. For this reason, institutional investors are thought to amplify the beneficial impact of ROA on companies' cash reserves.

H6: Institutional Investors significantly moderate the positive effect of Return on Assets on Corporate Cash Holdings.

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Conceptual Framework

The study's conceptual framework was created to show how the independent and dependent variables relate to one another. It describes how corporate cash holdings are impacted by return on assets, leverage, and earnings quality. Business cash on hand and independent factors may be more or less correlated depending on the moderating effect of corporate investors, which is included in the framework. The study's goal is in order to illuminate the dynamic between the aspects being studied by taking this approach. An overview of the study's conceptual framework is depicted in the following figure:

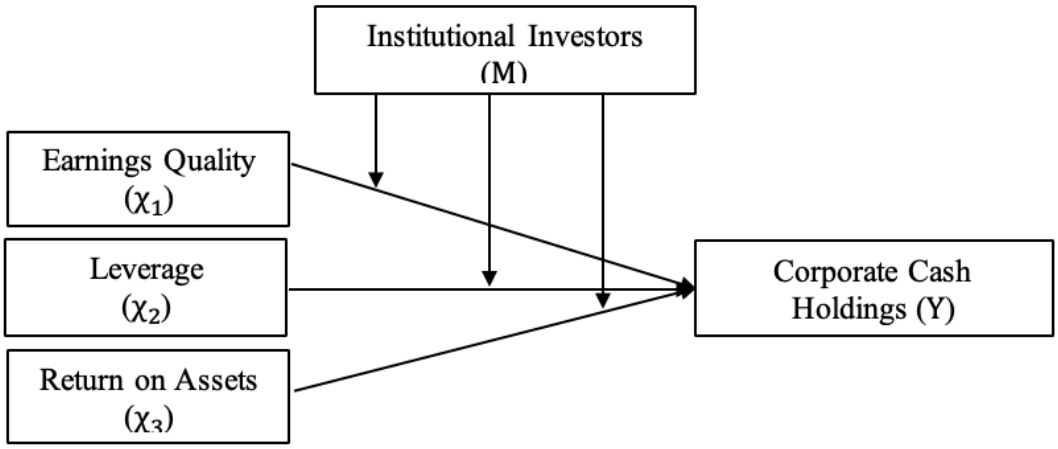

Figure 1. Conceptual Framework

2. Methods

The observation period of this study covers 2020-2024, reflecting recent economic conditions and financial reporting practices in Indonesia that may influence corporate financial policies, particularly corporate cash holding decisions. Companies listing on Indonesia's stock market that are part of the food and beverage subsector make up a study

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sample. Information derived from secondary sources corporations' annual reports and financial statements, which offer detailed information on earnings quality, leverage, return on assets, institutional investors, and corporate cash holdings, served as the empirical data used in this study. Purposive sampling, which is based on predefined criteria, was used as the sampling approach, and the final sample consisted of 21 companies. The study produces 105 firm-year observations for empirical analysis throughout a five-year observation period. The EViews 12 program is used in this study's data analysis to estimate panel data regression models. The Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) are the three panel data regression techniques that are taken into consideration. This approach ensures that the selected regression model appropriately reflects the characteristics of the dataset used in the analysis.

Table 2. Purposive Sampling

No.	Criteria	Sample
1	Food and beverage subsector companies listed on the Indonesia Stock Exchange during the 2020-2024 period.	95
2	Food and beverage subsector companies that did not provide complete financial reports or financial data consecutively for five years during the 2020-2024 period.	(13)
3	Food and beverage subsector companies that did not have institutional investors during the 2020-2024 period.	(51)
4	Food and beverage subsector companies that exhibited extreme values or outliers in their financial reports or financial data during the 2020-2024 period.	(10)
Total Sample		21
Observation period × number of samples (5 years × 21 companies)		105

Source: Researcher's processed data, 2025

Variable Measurement

Table 3. Definition and Measurement of Variables

No	Variable	Definition of Variables	Measurement

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1	*Corporate Cash Holdings*	How much cash and equivalents make up a company's total assets is a good indicator of its liquidity and capacity to pay short-term bills and finance investment operations. (Hayati, 2020).	$$CCH = \frac{cash\ and\ cash\ equivalents}{Total\ Assets}$$ (Davidson & Rasyid, 2020)
2	*Earnings Quality*	Earnings quality reflects how accurately reported earnings represent the firm's real economic condition (Nguyen & Bui, 2019).	a) Total accrual (TAC) calculation formula $$\mathrm{TAC_{it}} = \mathrm{NI_{it}} - \mathrm{OCF_{it}}$$ The OLS regression equation is then used to estimate the total accrual (TA) value. b) Formula for calculating Ordinary Least Square (OLS) regression $$\frac{\mathrm{TAC_{it}}}{\mathrm{A_{it-1}}} = \beta_1\left(\frac{1}{\mathrm{A_{it-1}}}\right) + \beta_2\left(\frac{\Delta\mathrm{REV_{it}}}{\mathrm{A_{it-1}}}\right) + \beta_3\left(\frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}}\right) + \varepsilon$$ c) Formula for calculating Nondiscretionary Accruals (NDA) $$\mathrm{NDA_{it}} = \beta_1\left(\frac{1}{\mathrm{A_{it-1}}}\right) + \beta_2\left(\frac{\Delta\mathrm{REV_{it}} - \Delta\mathrm{REC_{it}}}{\mathrm{A_{it-1}}}\right) + \beta_3\left(\frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}}\right)$$ d) Formula for calculating Discretionary Accruals (DA) $$\mathrm{DAC_{it}} = \frac{\mathrm{TA_{it}}}{\mathrm{A_{it-1}}} - \mathrm{NDA_{it}}$$ Information TAC_{it} = Total accrual value for company i during year t NI_{it} = Net profit earned by company i in period t CFO_{it} = Cash flow generated from operating activities of company i in year t DAC_{it} = Discretionary portion of accruals for company i in year t NDA_{it} = Non-discretionary component of accruals for company i in year t A_{it-1} = Total assets owned by company ***i*** in the prior year

ΔREV_{it} = Year-to-year change in revenue for company i at time t
ΔREC_{it} = Change in accounts receivable of company I in year t
PPE_{it} = Fixed tangible assets (property, plant, and equipment) of company i in period t
$\beta_1\beta_1\beta_1$ = Regression coefficients
ε = *Error*

(Hutauruk et al., 2022)

3	*Leverage*	Leverage describes how much a company relies on borrowed money to run its day-to-day activities. This ratio shows how much of a company's capital structure is dependent on debt (Santos & Veronesi, 2022).	$DER = \frac{\text{Total Liabilities}}{Equity}$ (Kasmir, 2019)
4	*Retur on Assets*	Among the many measures of an organization's efficiency in turning its assets into profit is return on assets (ROA) (Choiriyah et al., 2021).	$\text{ROA} = \frac{\text{Net profit}}{Total\ Assets}$ (Asyik et al., 2022)
5	*Institutional Investors*	What we call " Institutional Investors " is the percentage of a company's shares held by financial institutions, creative Assurance, and retirement accounts (Moradi et al., 2022).	$\text{II} = \frac{\text{Number of Institutional shares}}{\text{Number of shares outstanding}}$ (Isynuwardhana & Rahmawati, 2023)

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Source:Data processed (2025)

Analytical Method

Using a panel data regression model, this study examines the effects of ROA, leverage, and earnings quality on cash holdings of corporations. Furthermore, institutional investors are incorporated as a moderating variable to investigate their potential impact on the correlation strength or lack thereof between a company's cash and the independent variables. Each independent variable in the model has an interaction term with the moderating variable to represent the moderating effect. The empirical regression model that was utilized in this inquiry is formulated as follows:

$$Y = \alpha + \beta_1 EQ + \beta_2 LEV + \beta_3 ROA + \beta_4 INST + \beta_5 EQ^{*} INST + \beta_6 LEV^{*} INST + \beta_7 ROA^{*} INST + e \quad \text{.....(1)}$$

Information:

CCH = *Corporate Cash Holdings*

EQ = *Earnings Quality*

LEV = *Leverage*

ROA = *Return on Assets*

INST = *Institutional Investors* (Moderating Variabel)

α = Konstanta

$CCH, LEV, ROA^{*}M$ = Variabel interaction *Earnings Quality*, *Leverage*, and *Return On Assets* with *Institutional Investors* (variabel interaction)

$\beta_{1,2,3,4,5,6,7}$ = Koefisien Variabel EQ, LEV, ROA, INST and EQ_INST, LEV_INST, ROA_INST

e = Eror

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3. Results

The first step in providing a summary of the features of the research data is descriptive statistical analysis. Each variable utilized in the study has its mean, median, maximum, minimum, and standard deviation values shown in this analysis. Corporate cash holding (CCH) is the dependent variable in this study; return on assets (ROA), leverage (LEV), and earnings quality (EQ) are the independent factors. The moderating variable is institutional ownership (M). Furthermore, EQ_INST, LEV_INST, and ROA_INST are interaction factors between the independent variables and the moderating variable.

Table 4. Descriptive Statistic

Variables	N	Minimum	Maximum	Mean	Std.Deviation
Corporate Cash Holdings	105	0.000577	1.694562	0.129917	0.212482
Earnings Quality	105	-1.287700	10.95150	0.444876	2.010763
Leverage	105	0.100232	3.275027	0.934905	0.611476
Return on Assets	105	-0.255308	0.599025	0.052391	0.092267
Institutional Investors	105	0.000500	0.997900	0.778650	0.240112
EQ_INST	105	-1.263700	6.959000	0.294922	1.360751
LEV_INST	105	0.000100	3.133900	0.729957	0.518621
ROA_INST	105	-0.229100	0.518700	0.041456	0.080939

Source:Data processed (2025)

The corporate cash holding (CCH) variable has an average value of 0.129917, a minimum value of 0.000577, and a maximum value of 1.694562, according to the descriptive statistical statistics. The sample companies' corporate cash holdings vary, as indicated by the standard deviation of 0.212482. Earnings quality (EQ) ranges from a low of -1.287700 to a maximum of 10.95150, with an average of 0.444876. The examined companies' profits quality varies significantly, as indicated by the comparatively high standard deviation of 2.010763. The leverage (LEV) variable, on the other hand, has an average value of 0.934905, a minimum value of 0.100232, and a maximum value of 3.275027. The standard deviation of 0.611476 denotes a considerable degree of variation in leverage.

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Furthermore, return on assets (ROA) has an average value of 0.052391, with a minimum value of -0.255308 and a maximum value of 0.599025, and a standard deviation of 0.092267, indicating differences in profitability among the companies in the sample. The moderating variable, institutional ownership (M), shows an average value of 0.778650 with a minimum value of 0.000500 and a maximum value of 0.997900, and a standard deviation of 0.240112. In addition, the interaction variables have average values of 0.294922 for X1M, 0.729957 for X2M, and 0.041456 for X3M, with standard deviations of 1.360751, 0.518621, and 0.080939, respectively. Overall, these results indicate that the research variables exhibit varying levels of data distribution across the 105 observations used in this study.

Inferential statistics

Before hypothesis testing, this study determines the applicability of three panel data regression models: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). When selecting the optimal model, a battery of diagnostic tests is run to ensure the accuracy and reliability of the estimation results. To be more specific, the Chow and Hausman tests are employed to ascertain the optimal model from the set of possibilities. Results from the tests are displayed in Tables 5 and 6, and they reveal which model is the best fit for the dataset used in this investigation.

Table 5. Chow Test Results

Effect Test	Statistic	d.f	Prob.
Cross-section F	5.343118	(20,77)	0.0000
Cross-section Chi-square	91.390109	20	0.0000

Source:Data processed (2025)

The F-test and Chi-square test significance values are 0.0000 (< 0.05) on the basis of the EViews 12 Chow test responses. This finding disproves the null hypothesis and indicates

that the Fixed Effects Model (FEM) is superior to the Common Effects Model (CEM) for estimating the panel data regression in this study.

Table 6. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.737786	7	0.0788

Source:Data processed (2025)

After that, we used the Hausman test to determine which of the two models the Fixed Effect Model (FEM) and the Random Effect Model (REM) was the superior choice. The Hausman test result generated using EViews 12 indicates that the Cross-section Random has a probability value of 0.0788 (< 0.05). Because the null hypothesis is rejected, this data implies that the Fixed Effect Model (FEM) is more appropriate for this study than the Random Effect Model (REM). According to the results of the Chow and Hausman tests, the Fixed Effect Model (FEM) is the best panel data regression model for this investigation.

Classical Assumption Tests

The classical assumption tests conducted in this study consist of two main examinations, namely the Multicollinearity Test and the Heteroskedasticity Test.

Table 7. Multikolinearitas Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.005398	14.77722	NA
EQ	0.000103	1.185717	1.129878
LEV	0.001177	4.008345	1.192921
ROA	0.051607	1.578950	1.191189
INST	0.006550	11.89515	1.023922

Source:Data processed (2025)

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The multicollinearity test was employed to determine if the factors that are independent in the regression model exhibit a robust linear connection. All independent variables exhibit VIF values below 10, ranging from 1.023922 to 1.192921, according to the Variance Inflation Factor (VIF) data. Thus, it can be said that there are no multicollinearity issues with the regression model employed in this investigation. This indicates that there is not too much intercorrelation between the independent variables, making them appropriate for inclusion in the regression model.

Table 8. Heteroskedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey **Null hypothesis: Homoskedasticity**			
F-statistic	0.395670	Prob. F (4,100)	0.8113
Obs*R-squared	1.635923	Prob. Chi-Square (4)	0.8023
Scaled explained SS	28.81740	Prob. Chi-Square (4)	0.0000

Source:Data processed (2025)

The heteroskedasticity test, which employs the Breusch-Pagan-Godfrey method, was executed to determine if the residual variance is unequal across data. Both the Probability of Chi-Square(4) (0.8023) and the Probability of F(4,100) (0.8113) values are greater than the 0.05 significance level, according to the results of the test.These results imply that the residual variance is comparatively stable across data and that the regression model does not display heteroskedasticity.

Table 9. T-test Results

Dependent Variable	**Variable**	**Regression Coefficient**	**t-Statistic**	**Prob.**	**Direction**	**Notes**
CCH	Konstanta	0.500568	2.319359	0.0230		
	EQ	-0.280392	-2.319027	0.0230	(-)	Significant
	LEV	-0.439590	-3.776737	0.0003	(-)	Significant
	ROA	-0.617416	-0.294256	0.7694	(-)	Not Significant
	INST	-0.309854	-1.226153	0.2239	(-)	Not Significant
	EQ_INST	0.341837	2.311446	0.0235	(+)	Significant

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	LEV_INST	0.427638	3.301961	0.0015	(+)	Significant
	ROA_INST	0.620157	0.255183	0.7993	(+)	Not Significant
R-*squared*	0.674150					
Adj. R-*squared*	0.559891					
F-*statistic*	5.900182					
Prob(F-*statistic)*	0.000000					

Source:Data processed (2025)

According to the results of the Fixed Effect Model (FEM) regression estimation on the panel data, the following is the regression equation for this study:

CCH = 0.500568-0.280392 EQ - 0.439590 LEV - 0.617416 ROA 0.3098541 INST + 0.341837 EQ * INST + 0.427638 LEV * INST + 0.620157 ROA * INST + e……(2)

R-squared score for the Fixed Effect Model (FEM) according to a panel of data regression is 0.674150. This proves that the factors that are considered independent account for 67.41% of the variation in the variable that is being measured.

4. Discussion

The Effect of Earnings Quality on Corporate Cash Holdings

The findings show that corporate cash holdings in Indonesian enterprises in the food and beverage subsector are significantly impacted negatively by earnings quality. This finding suggests that companies reporting companies with lower earnings quality often keep more cash on hand. From an economic perspective, this behavior reflects firms' efforts to anticipate information asymmetry and potential limitations in accessing external financing. Previous there is evidence that suggests an adverse correlation with the quality of a

company's profits and its cash on hand., which is supported by these results (Al-Haddad & Al-Ghoul, 2023; Chada & Varadharajan, 2024; Farinha et al., 2018; Mansali et al., 2019)

The Pecking Order Theory also comes into play here posits that companies often favor internal funding sources over external ones, is bolstered by this discovery (Widyantoro & Haymans Manurung, 2026). High earnings quality typically arises from sustainable operational activities and is supported by stable cash flows, thereby reflecting the firm's actual financial performance (Hutahaean & Sarumpaet, 2025). In contrast, declining earnings quality increases information uncertainty, encouraging firms to retain more cash as a precautionary internal funding source. These results theoretically emphasize how crucial profits quality is in determining corporate cash holding strategies. From a managerial standpoint, increasing the credibility and openness of financial reporting could boost investor confidence and lessen the need for businesses to build up excessive cash reserves.

The Effect of Leverage on Corporate Cash Holdings

The findings from the experiment show that leverage significantly reduces corporate cash holdings among Indonesian firms operating in the food and beverage subsector. This result advises businesses to work with greater levels of leverage typically have smaller cash reserves. This is a problem from an economic perspective since heavily indebted businesses have to put a lot of money aside to pay off their debt, which includes interest and principal. Because of this, the firm can no longer afford to hoard funds. These results corroborate those of earlier research that found a negative relationship between debt and liquid assets held by businesses (Al-Haddad & Al-Ghoul, 2023; Ali et al., 2016; Guizani, 2017; Shabbir et al., 2016; Sohail et al., 2023; Trinh et al., 2022; Wibowo & Wahyudi, 2019)

Furthermore, this conclusion is in line with the Pecking Order Theory, which argues that enterprises often prioritize their own financing before relying on other sources of financing (Widyantoro & Haymans Manurung, 2026). When the level of debt increases, the firm's financial flexibility tends to decline because internal funds are largely allocated to

fulfilling debt commitments. Consequently, the firm's ability to accumulate cash reserves becomes limited (Hutahaean & Sarumpaet, 2025). From a theoretical perspective, these results highlight how corporate cash holding practices are significantly influenced by capital structure. From a managerial standpoint, the findings suggest that businesses must carefully control leverage in order to preserve sufficient liquidity and guarantee financial stability with the economy in a state of flux.

The Effect of Return on Assets on Corporate Cash Holdings

Data demonstrates that companies' cash on hand in Indonesian enterprises in the food and beverage subsector are negatively impacted by Return on Assets (ROA), but this effect is statistically negligible. Although the correlation this discovery does not have a statistically significant imply that a decrease in cash reserves is often correlated with a gain in profitability. From an economic perspective, firms with higher profitability generally utilize the profits generated as an internal financing source to support investment activities before considering external funding alternatives (Hutahaean & Sarumpaet, 2025). Nevertheless, within the food and beverage industry, firms often face high operational liquidity requirements and relatively rapid business cycles. Companies are encouraged to keep a specific amount of cash on hand in these situations so that they may plan for changes in production and distribution costs and keep operations running smoothly (Hapsari & Norris, 2022). In addition, liquid assets serve as a safety net that enables businesses to keep running smoothly and respond to market uncertainties (Chandra & Ardiansyah, 2022). Theoretically, these results imply that profitability's impact on companies' cash holding practices isn't constant and can differ among industries. From a managerial standpoint, the results imply that firms should balance the allocation of profits for investment purposes with prudent liquidity management to ensure the sustainability and stability of operational activities.

The Moderating Role of Institutional Investors on the Relationship between Earnings Quality and Corporate Cash Holdings

The results demonstrate that institutional investors modulate the relationship among business cash reserves and the quality of earnings in Indonesian food and beverage industries. The interaction coefficient, which is positive at 0.341837 and statistically significant at the 5% level (p-value = 0.0235 < 0.05), indicates that the negative correlation between company cash reserves and profits quality is lessened by institutional ownership. Put differently, the fall in corporate cash holdings linked to lower earnings quality is generally lessened when institutional investors are present. The results of this research give economic evidence that organizations with more institutional ownership tend to have larger cash reserves, which they use to cushion themselves against possible difficulties in securing external funding in the event that profits quality worsens. This action is indicative of the watchdog role that institutional investors play in shaping the financial policies of corporations. The result is consistent with prior studies which suggest that institutional investors strengthen corporate governance mechanisms and affect firms' financial decision-making processes (Chang et al., 2016 and Nguyen & Rahman, 2020). From a theoretical standpoint, this evidence highlights the role of institutional investors as a crucial tool for effective management discipline and promotes greater transparency in financial reporting (Chada & Varadharajan, 2024). From a managerial standpoint, companies that have significant institutional ownership tend to handle their cash management more cautiously. This helps them keep their finances flexible and stable, especially when the quality of their reported earnings goes down.

The Moderating Role of Institutional Investors on the Relationship between Leverage and Corporate Cash Holdings

The empirical findings reveal that big investors in Indonesia's food and beverage subsector businesses reduce the correlation between corporate cash on hand and leverage.

The interaction coefficient, which is positive at 0.427638 and statistically significant at the 5% level (p-value = 0.0015 < 0.05), indicates that the negative correlation between corporate cash reserves and leverage is lessened by institutional ownership. To put it another way, the presence of institutional investors tends to offset the decrease in cash holdings that comes with increased leverage. From an economic perspective, this finding implies that when leverage increases, companies with higher levels of institutional ownership usually have smaller cash reserves. This is because investors are pushing these companies to be more efficient with their money, particularly when it comes to paying down debt. Consistent with other research, this result shows that institutional investors have an impact on company financial policies, such as cash holding decisions, by imposing stricter monitoring procedures on managerial decisions (Chang et al., 2016 and Nguyen & Rahman, 2020). From a theoretical standpoint, institutional investors possess stronger monitoring capabilities due to their substantial share ownership and broader access to information. This condition enables them to enhance managerial discipline and promote greater transparency in corporate financial management (Chada & Varadharajan, 2024). In this context, firms obtain operational funding from investors, including institutional investors, through share ownership or stock transactions that may also influence the firm's leverage position (Kusumi & Eforis, 2020). Consequently, the role of corporate ownership as a moderator in the interaction with leverage and corporate cash holding strategies is amplified when the proportion of institutional ownership is higher. From a managerial perspective, the presence of institutional investors may encourage firms to manage their capital structure and cash reserves more efficiently, thereby maintaining a balanced relationship between debt levels and corporate liquidity.

The Moderating Role of Institutional Investors on the Relationship between Return on Assets and Corporate Cash Holdings

The empirical findings show that in Indonesian enterprises in the food and beverage subsector, institutional investors do not moderate the link between Return on Assets (ROA) and Corporate Cash Holdings (CCH). Despite being positive at 0.620157, the interaction coefficient is not statistically significant at the 5% level (p-value = 0.7993 > 0.05). This conclusion suggests that companies' cash holding strategies are unaffected by the presence or absence of institutional investors. From an economic perspective, this finding implies that corporate decisions regarding cash retention are more strongly driven by operational liquidity needs, rapid production cycles, and the strategic objective of maintaining operational stability rather than by profitability levels or pressure from institutional investors (Putri et al., 2019). Within the framework of corporate governance, institutional investors are generally expected to function as an external monitoring mechanism that promotes transparency and managerial discipline in financial decision-making (Basiouny et al., 2023). This research found, however, that such tracking did not significantly alter the correlation between profitability and company cash on hand.

From a theoretical perspective, Pecking Order Theory proposed by Myers & Majluf (1984) shows that greater profitability may reduce the need for firms to retain cash because internally generated earnings can be allocated to investment activities or the settlement of financial obligations. Nevertheless, the characteristics of the food and beverage industry, which typically involve high operational cash flows and fast business cycles, insist that businesses set aside a specific amount of money to cover their operating expenses. This result differs from the findings of Nguyen & Rahman (2020) , who reported that institutional investors can influence corporate cash policies through their monitoring role. The discrepancy indicates that the effectiveness of institutional investor oversight may depend heavily on industry-specific characteristics. Our results provide theoretical support for the idea that industry-specific variables may mitigate the moderating effect of external governance systems on the correlation between profitability and liquidity practices in corporations. From a management standpoint, the findings indicate that businesses need

prioritize effective operational liquidity management to maintain business stability and ensure the continuity of their operational activities (Shabbir et al., 2016).

5. Conclusion

Listed food and beverage companies in Indonesia from 2020 to 2024 are the focus of this study, which uses institutional investors as a moderating variable to examine the effects of ROA, leverage, and earnings quality on corporate cash holdings. Corporate cash holdings are adversely affected by earnings quality and leverage, according to the data. This suggests that because of budgetary constraints and debt payback responsibilities, companies with worse profits quality or larger debt levels typically maintain distinct cash holding practices. Return on assets, on the other hand, exhibits a positive but negligible correlation with corporate cash holdings, suggesting that profitability is not the only factor that determines a company's cash retention strategy.

The results also demonstrate that institutional investors attenuate the association between leverage and the quality of a company's profitability relative to its cash on hand. Institutional ownership can encourage more efficient financial strategies and have an impact on managerial choices regarding business cash management. Institutional investors' monitoring role does not necessarily impact the relationship between profitability and company cash policy, as seen by their inability to moderate the association between return on assets and corporate cash holdings. This study has some drawbacks. One limitation is that the study just those food and drink businesses that were exchanged in the Indonesian market, thus the findings might not apply to different sectors. Second, long-term trends in company finance policies might not be well captured by the observation period, which only spans 2020–2024. Expanding sampling to encompass further industries, extending the observation period, and adding additional variables like corporate governance mechanisms or

macroeconomic factors would help future research paint a fuller image of the factors impacting corporate cash holdings.

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