

Research Article

The Value of Cash: Evidence from Indonesia Listed Firms

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This study investigates the influence of Islamic law on the value of cash holdings. The empirical analysis was conducted using Indonesian-listed companies from 2012 to 2020 as the research sample. It is hypothesized that companies adhering to Islamic law will increase the value of cash holdings. Considering the ownership structure, it is hypothesized that higher ownership by institutions and corporate insiders in Islamic-compliant companies will lead to higher value of cash holdings. The empirical results of this study reveal that companies adhering to Islamic principles do indeed increase the value of cash holdings. Additionally, higher institutional and insider ownership in Islamic-compliant companies increase the value of cash holdings. The empirical implications of this study suggest that religious beliefs influence managerial decision-making, leading to more cautious control over cash. Both religion and ownership structure play important roles in the efficient use of cash by managers.

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1. Introduction

The company's cash holdings provide a valuable financing buffer, reducing the likelihood of incurring costly external financing costs [1]. However, holding excessive cash also increases managerial discretion over free cash flow, exacerbating agency problems [2]. When the costs of holding cash (resulting in moral hazard issues) outweigh the benefits (avoiding expensive external financing), the marginal value of cash will decline.

Furthermore, the pecking order theory suggests that adverse selection leads managers to forgo raising external funds because they are unwilling to issue undervalued securities, and cash buffers can prevent managers from being forced to abandon positive net present value investment projects. Additionally, for transactional motives, firms require liquidity to meet current expenses [3], and internal funds enable firms to avoid higher transaction costs associated with external financing, thereby enhancing firm value. However, excessive liquidity can give rise to agency problems between managers and shareholders, as free cash flow may increase managerial discretion [2],

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and firms may sacrifice additional profits in favor of maintaining a certain level of cash holdings, adversely impacting firm value.

Various factors influencing the value of a company's cash holdings have been extensively explored in prior literature. For example, a study conducted by Arfan et al. [4] discovered that the level of cash holdings is significantly influenced by factors such as firm growth opportunities, financial leverage, profitability, and capital expenditure. Companies hold cash to finance future profitable investment projects. Therefore, firms with greater liquidity are more likely to have access to profitable investment opportunities [5, 6].

Different ownership structures also have varying effects on corporate strategies and the value of cash holdings. Demsetz [7] argues that the ownership structure of a company is an endogenous outcome of corporate decision-making, reflecting the influence of shareholders and the trading conditions of stocks in the market, as well as different shareholders' perspectives. Morck et al. [8], Ozkan and Ozkan [9], and Kalcheva and Lins [10] all suggest that in many Asian firms, limited disciplinary pressures from external corporate governance mechanisms combined with high managerial ownership increase the expected agency costs of managerial entrenchment, thereby influencing cash allocation decisions.

Cash is one of the most liquid resources for companies, especially in the context of the Association of Southeast Asian Nations (ASEAN), where cash constitutes a significant portion of corporate assets. While larger cash holdings enhance internal financial flexibility by reducing costs associated with external financing, managers may pursue their private interests by holding excessive cash and overspending cash on value-destroying projects [2]. Shleifer and Vishny [11] argue that large shareholders have the motivation and resources to gather information, control personnel within the company, and enforce contracts, thereby increasing firm value and mitigating the risks associated with managerial decision-making. However, Demsetz and Lehn [12] contend that there is no direct relationship between ownership concentration and efficiency, and it can also incur numerous costs. Moreover, by extracting cash as dividends, large shareholders may impose costs on other corporate stakeholders, such as creditors who perceive increased risk, thereby reducing the value of cash holdings.

In the global financial and economic markets, Islamic finance has experienced rapid growth and evolution, with Muslims accounting for over a quarter of the world's population. The Islamic finance industry has witnessed significant growth in value, leading to the development of the Dow Jones Islamic Market Index (DJIM) to cater to the needs of Islamic finance.

Therefore, this study aims to examine the impact of Islamic principles and ownership structure on the value of cash holdings. The empirical analysis is conducted using a

sample of listed companies in Indonesia from 2012 to 2020. The study categorizes ownership structure into institutional ownership and insider ownership to investigate the relationship between Islamic principles, ownership structure, and the value of cash holdings.

2. Hypotheses

Based on the principles of Islamic teachings and the belief of Muslims in adhering to the Quran, this study infers that companies following Islamic principles will enhance the value of cash holdings. Furthermore, it is expected that companies adhering to Islamic principles will have higher levels of cash holdings when institutional ownership is higher. Similarly, companies following Islamic principles are expected to have higher levels of cash holdings when insider ownership is higher.

In companies with religious considerations, managers not only need to comply with past practices regarding cash usage but also adhere to religious doctrines. Islamic teachings prohibit interest, speculation, and trading of currencies. It requires that all transactions involve tangible goods or services, and a significant portion of the company's equity must come from ownership. Therefore, for companies adhering to Islamic principles, both the procurement and utilization of funds must be invested in accordance with Islamic principles [13].

Furthermore, Islamic law prohibits raising capital through interest-bearing debt instruments (such as bonds) or obtaining loans with interest charges. Companies are subject to strict limitations on the sources of debt and equity, including: (a) For companies in accordance with Islamic principles, the level of debt in the past 12 months should not exceed 33% of the company's market value [14], (b) Cash and interest-bearing investments in the past 12 months should not exceed 30% of the company's market value [15], (c) Earnings derived from investments or from non-compliant companies are prohibited. However, if interest income does not exceed 5% of total income, the company may still be considered as adhering to Islamic principles according to Financial Times Stock Exchange Shariah Index (FTSE) [16].

It is evident that companies adhering to Islamic principles face greater financial constraints compared to companies following other religions. When companies have financial constraints, their views on cash holdings may differ from those of unconstrained companies. Ozkan and Ozkan [9] and Venkiteshwaran [17] have pointed out that financially constrained companies adjust their cash holdings more rapidly than unconstrained companies. Therefore, in the past, the development of the Western world was rooted in the agency problem between managers and shareholders. By incorporating the divine

will in the Islamic world, the complexity of the agency problem has been heightened, along with its resulting impacts.

According to the core values of Islamic law, it opposes the concept of making money from money and prohibits raising capital through interest-based debt instruments (such as bonds) or obtaining loans that charge interest. There are also significant restrictions on transactions related to “non-halal” industries. Therefore, during the 2008-2010 financial crisis, Islamic countries that adhered to Islamic finance principles were able to emerge relatively unscathed [18, 19].

Furthermore, the financing restrictions imposed by Islamic law compel corporate managers to have a different perspective on cash holdings and their efficiency (excluding financial-related industries) compared to other religions. When faced with high-growth projects, Islamic-compliant companies are unable to access adequate investment cash through financing channels, and the underdeveloped capital markets in emerging economies further limit their access to equity financing. In such circumstances, holding cash becomes a buffer for these companies to invest in growth. This distinct view on cash among Islamic-compliant companies, shaped by their adherence to Islamic principles, affects their cash management policies. These findings demonstrate that different religions hold different perspectives on the use and efficiency of funds.

Due to the prohibition of interest, speculation, and trading of currencies in accordance with Islamic teachings, all transactions must involve tangible goods or services. Additionally, a significant proportion of a company’s equity must be held as assets. Therefore, for companies that comply with Islamic principles, the raising and utilization of funds should adhere to Islamic guidelines. As a result, the use of funds is expected to be more cautious and prudent. Based on this premise, the research hypothesis of this study is as follows:

Hypothesis 1: the value of cash holdings is higher in Shariah-compliant firm

According to Jiang et al. [20], their research shows that active institutional investors increase the level of cash holdings in companies. Previous studies have also demonstrated that institutional investors are better at utilizing current information and making more accurate predictions of future earnings compared to non-institutional investors [21]. El-Gazzar [22] pointed out that institutional investors, having more wealth and resources, are able to gather information and tend to use more expensive and valuable information to shape their earnings expectations. Jiambalvo et al. [21] also found that institutional investors use non-earnings information to predict future earnings. Additionally, Balsam et al. [23] revealed that market reactions caused by the actions of experienced investors (institutional investors) occur earlier than those caused by less experienced investors.

However, when incorporating religious beliefs, this implicit internal constraint mechanism will affect managerial decision-making. Dyreng et al. [24] found that companies

located in regions with high religious beliefs tend to be more rigorous in their financial reporting and are less likely to subsequently revise prior earnings. Moreover, managers in regions with high religious beliefs are less likely to engage in tax avoidance and are more willing to voluntarily disclose bad news. This demonstrates that managers who adhere to religious norms, and are more devout in their religious beliefs, are less likely to engage in actions that violate ethical norms.

According to the study by Imamah et al. [25], companies that adhere to Islamic principles have institutional owners who play an active monitoring role. Agrawal and Nagarajan [26] found that as equity becomes more concentrated in the hands of certain large shareholders, these large shareholders have greater incentives to monitor management and enhance company value. The aforementioned literature indicates that in companies following Islamic principles, a higher level of corporate ownership by institutional investors increases the embedded influence of religious values and the external incentives for corporate monitoring. As a result, this study hypothesizes the following:

Hypothesis 2: In Shariah-compliant firms, institutional ownership leads to higher value of cash holdings.

Jensen and Meckling [27] argue that when internal managers hold a higher proportion of shares, the potential wealth loss resulting from their consumption of company resources due to their power should be borne by the internal managers themselves. Therefore, they are less likely to have an incentive to harm the company's value. Sicherman and Pettway [28] found that acquiring companies with higher levels of management ownership tend to acquire assets that are more closely related to the company's product line, resulting in greater increases in company value. Zhang et al. [29] studied how the ownership of insiders within business groups affects the cash holdings of subsidiary companies. They found that the cash policy within business groups is influenced by insider ownership and affects the efficiency loss in cash allocation to subsidiary companies. Based on the above literature, it can be concluded that the use of cash efficiency by insiders' ownership can impact a company's cash holding value.

Morck et al. [8] also found in their study that the higher the proportion of shares held by insiders, the higher their status. Insider ownership has two conflicting effects: (a) the convergence of interest hypothesis, which suggests that as insiders increase their shareholdings, their wealth and the value of the company increase. In other words, higher insider ownership has a greater impact on whether the company incurs losses. (b) the entrenchment effect, which suggests that with increasing management ownership, insiders have more discretion to pursue their own goals, potentially through proxy contests or alternative acquisitions. Therefore, if insider ownership is relatively low, their impact on whether the company incurs losses is smaller. This indicates that previous

literature has discussed and found different effects on company value depending on the level of insider shareholdings.

However, when incorporating religious beliefs, the underlying development of the Western world has been rooted in the agency problem between managers and shareholders. The inclusion of divine guidance in the Islamic world increases the complexity of the agency problem and its resulting impact. Managers who adhere to Islamic principles, guided by the divine will, are expected to exhibit more efficient cash management within their companies. Regardless of the level of insider shareholdings, they are expected to abide by the regulations outlined in the Quran and safeguard the interests of the company, refraining from intentionally harming its value. Therefore, this study postulates that in Islamic-oriented companies, the influence of religious embedding on management thinking will result in the protection of company assets and the enhancement of cash utilization efficiency. Thus, the hypothesis is as follows:

Hypothesis 3: In Shariah-compliant firms, insider ownership leads to the higher value of cash holdings.

3. Material and Methods

This study conducts empirical analysis using a sample of Indonesian listed companies from 2012 to 2021. The data for the sample is sourced from the Indonesia Stock Exchange (IDX), annual reports of the listed companies, and Datastream. It is important to note that the categorization of companies based on Islamic principles by the IDX began in 2011, hence the starting year of this study is 2012. Additionally, the study excludes financial-related industries and eliminates incomplete sample data and outliers to ensure data integrity and reliability.

$$\begin{aligned}
 MV_{i,t} = & \alpha_0 + \alpha_1 Shariah_{i,t} + \alpha_2 Own_{i,t} + \alpha_3 Excash_{i,t} + \alpha_4 (Shariah_{i,t} \times Own_{i,t}) \\
 & + \alpha_5 (Shariah_{i,t} \times Excash_{i,t}) + \alpha_6 (Own_{i,t} \times Excash_{i,t}) + \alpha_7 (Shariah_{i,t} \times Own_{i,t} \times Excash_{i,t}) \\
 & + \alpha_8 E_{i,t} + \alpha_9 dE_{i,t} + \alpha_{10} dE_{i,t+1} + \alpha_{11} dNA_{i,t} + \alpha_{12} dNA_{i,t+1} + \alpha_{13} I_{i,t} + \alpha_{14} dI_{i,t} + \alpha_{15} dI_{i,t+1} \\
 & + \alpha_{16} Divd_{i,t} + \alpha_{17} dDivd_{i,t} + \alpha_{18} dDivd_{i,t+1} + \alpha_{19} dMV_{i,t+1} + \pi + \epsilon_{i,t}
 \end{aligned}$$

$MV_{i,t}$ represents the market value of the company i at time t . $Shariah_{i,t}$ is a binary variable representing adherence to Islamic principles. $Own_{i,t}$ is a binary variable representing the ownership structure. $Excash_{i,t}$ represents the excess cash. The subscripts i and t

represent the specific company and time period, respectively. The term Shariah×Excash captures the interaction effect between adherence to Islamic principles and excess cash, examining whether Islamic principles affect the value of excess cash. Similarly, the term Own×Excash captures the interaction effect between ownership structure and excess cash, investigating whether ownership structure affects the value of excess cash. If the coefficient of the interaction term is positive, it implies that higher ownership structure increases the value of excess cash. The term Shariah×Own×Excash represents the interaction effect among adherence to Islamic principles, ownership structure, and excess cash.

4. Results and Discussion

4.1. Univariate analysis

Table 1 displays the descriptive statistics of all variables. From the table, it can be observed that the average (median) market value (MV) is 0.528 (0.479), with a standard deviation of 0.401, indicating significant variation in market value among listed companies in Indonesia. The average (median) for Shariah, representing adherence to Islamic principles, is 0.730 (1.000), indicating that approximately 73% of the listed companies follow Islamic principles. The average (median) institutional shares (Institution) is 0.603 (0.660), indicating that institutional shareholders hold around 60.3% of the shares in Indonesian listed companies, suggesting a higher proportion of institutional ownership. The average (median) insider shares (Insider) is 0.035 (0.000), indicating that insider ownership is only 3.5%, indicating the uniqueness of the ownership structure in Indonesian listed companies. The average (median) excess cash (Excash) is 0.000 (0.045), with a standard deviation of 0.518, indicating significant variability in excess cash holdings among Indonesian listed companies. The average (median) return on net assets (E) is 0.022 (0.025), the average (median) net assets (NA) is 0.942 (0.965), the average (median) interest expenses (I) is 0.020 (0.017), and the average (median) cash dividends (Divd) is 0.017 (0.000).

Note: MV represents the market value of the company, which is calculated as the sum of market capitalization and total debt divided by net assets. Shariah is a binary variable indicating whether a company adheres to Islamic principles, with a value of 1 for Shariah-compliant companies and 0 for non-Shariah-compliant companies. Institution represents the proportion of institutional ownership. Insider represents the proportion of insider ownership. Excash represents excess cash. E denotes the return on net assets, NA represents net assets, and Div represents cash dividends. Source: Author's work

TABLE 1: Descriptive statistics.

Variables	Obs.	Mean	Median	SD	Minimum	Maximum
MV	3269	0.528	0.479	0.401	0.031	4.889
Shariah	3573	0.730	1.000	0.445	0.000	1.000
Institution	3567	0.603	0.660	0.274	0.000	1.000
Insider	3572	0.035	0.000	0.119	0.000	0.955
Excash	3155	0.000	0.045	0.518	-2.528	2.297
E	3439	0.022	0.025	0.101	-0.776	0.373
NA	3403	0.942	0.965	0.065	0.604	1.000
I	3257	0.020	0.017	0.018	0.000	0.132
Div	3506	0.017	0.000	0.054	0.000	1.023

Table 2 presents the correlation matrix of all variables. The results suggest that multicollinearity issues can be disregarded. However, these results are based on univariate analysis, and the impact of all variables has not been considered. Further analysis will be conducted using multivariate regression to account for the influence of all variables.

TABLE 2: Correlations.

	MV	Shariah	Institution	Insider	Excash	E	NA	I	Div
MV	1								
Shariah	-0.325**	1							
Institution	-0.008	0.059**	1						
Insider	-0.075**	0.031	-0.336**	1					
Excash	-0.075**	0.094**	-0.005	0.004	1				
E	-0.367**	0.142**	0.034*	-0.02	0.163**	1			
NA	0.079**	-0.075**	-0.012	-0.01	-0.788**	-0.173**	1		
I	0.492**	-0.361**	-0.065**	-0.014	-0.171**	0.356**	0.163**	1	
Div	-0.094**	0.042*	0.082**	-0.039*	0	0.375**	-0.088**	-0.160**	1

Note: MV represents the market value of the company, which is calculated as the sum of market capitalization and total debt divided by net assets. Shariah is a binary variable indicating whether a company adheres to Islamic principles, with a value of 1 for Shariah-compliant companies and 0 for non-Shariah-compliant companies. Institution represents the proportion of institutional ownership. Insider represents the proportion of insider ownership. Excash represents excess cash. E denotes the return on net assets, NA represents net assets, and Div represents cash dividends. ***: significant at the 1% level; **: significant at the 5% level; *: significant at the 10% level. Source: Author's work

4.2. Multivariate analyses

The impact of Islamic principles on the value of cash holdings is examined. The empirical results are presented in Table 3. Column III shows the effect of Shariah-compliant companies on cash holdings, with a coefficient of 0.054 and a significance level of 1%, indicating that Shariah-compliant companies have higher cash holding values. This result supports Hypothesis 1, which suggests that companies adhering to Islamic principles enhance the value of cash holdings. Shariah-compliant companies have strict regulations on liquid assets, which impose higher short-term liquidity constraints compared to non-Shariah-compliant companies. Additionally, Shariah-compliant companies must follow Islamic guidelines for fundraising and investment decisions, leading to more cautious cash management by managers. As a result, the efficiency of cash usage is improved.

Note: MV represents the market value of the company, which is calculated as the sum of market capitalization and total debt divided by net assets. Shariah is a binary variable indicating whether a company adheres to Islamic principles, with a value of 1 for Shariah-compliant companies and 0 for non-Shariah-compliant companies. Excash represents excess cash. E denotes the return on net assets, NA represents net assets, and Div represents cash dividends. ***: significant at the 1% level; **: significant at the 5% level; *: significant at the 10% level. Source: Author's work

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Table 4 presents the empirical results on the impact of Shariah compliance and institutional shareholding on the value of cash holdings. In column I, for Shariah-compliant companies, the coefficient of the interaction between institutional shareholding and

TABLE 3: Value of cash holdings in Shariah-compliant firms.

Variables	I	II	III
C	0.449*** (39.970)	0.483*** (35.224)	0.478*** (34.602)
Shariah	-0.041*** (-4.743)	-0.141*** (-12.426)	-0.136*** (-11.915)
Excash		0.039*** (3.851)	-0.002 (-0.112)
Shariah×Excash			0.054** (2.461)
$E_{i,t}$	-0.794*** (-12.393)	-0.971*** (-12.590)	-0.962*** (-12.483)
$dE_{i,t}$	0.464*** (11.729)	0.517*** (7.460)	0.510*** (7.366)
$dE_{i,t+1}$	0.142*** (3.988)	0.087 (1.400)	0.087 (1.409)
$dNA_{i,t}$	-0.019 (-0.349)	-0.083 (-0.844)	-0.084 (-0.856)
$dNA_{i,t+1}$	0.025 (0.481)	-0.094 (-0.957)	-0.104 (-1.057)
$I_{i,t}$	5.103*** (13.980)	7.567*** (22.560)	7.562*** (22.568)
$dI_{i,t}$	0.429 (1.444)	-0.714 (-1.403)	-0.696 (-1.369)
$dI_{i,t+1}$	1.439*** (5.393)	2.472*** (5.390)	2.500*** (5.454)
$Div_{i,t}$	0.472*** (4.053)	0.662*** (5.046)	0.648*** (4.941)
$dDiv_{i,t}$	-0.209*** (-2.879)	-0.231** (-2.037)	-0.226** (-1.994)
$dDiv_{i,t+1}$	-0.024 (-0.356)	0.025 (0.208)	0.021 (0.179)
$dMV_{i,t+1}$	0.015*** (3.872)	0.027*** (3.924)	0.027*** (3.909)
Firm effect	YES	NO	NO
Year effect	NO	YES	YES
Adjusted R-squared	0.829	0.404	0.405
F-statistics	34.370	80.421	77.340
Obs.	2674	2582	2582

excess cash (Institution×Excash) remains positive and significant (coefficient=0.103, $p \leq 0.01$), indicating that higher institutional shareholding reduces the value of cash

TABLE 4: Institutional shares and the value of cash holdings.

Variables	I	II
	Shariah	Non_Shariah
C	0.332*** (38.902)	0.451*** (10.479)
Excash	0.103*** (6.523)	-0.005 (-0.077)
Institution	0.017** (1.961)	0.038 (1.040)
Institution×Excash	-0.103*** (-3.264)	0.028 (0.748)
$E_{i,t}$	-0.615*** (-6.429)	-0.354 (-0.989)
$dE_{i,t}$	0.255** (2.304)	0.878*** (4.860)
$dE_{i,t+1}$	0.032 (0.290)	0.490*** (3.113)
$dNA_{i,t}$	0.010 (0.101)	-0.051 (-0.175)
$dNA_{i,t+1}$	-0.039 (-0.310)	-0.148 (-0.754)
$I_{i,t}$	7.017*** (17.155)	7.566*** (8.265)
$dI_{i,t}$	0.222 (0.686)	-2.503* (-1.878)
$dI_{i,t+1}$	2.160* (1.748)	1.518 (1.186)
$Div_{i,t}$	0.418** (2.525)	0.486 (0.760)
$dDiv_{i,t}$	-0.133 (-1.348)	-0.628* (-1.950)
$dDiv_{i,t+1}$	0.012 (0.091)	-0.480** (-2.365)
$dMV_{i,t+1}$	0.014 (1.522)	0.483*** (5.406)
Firm effect	NO	YES
Year effect	YES	YES
Adjusted R-squared	0.266	0.879
F-statistics	32.535	23.315
Obs.	2001	577

holdings in Shariah-compliant companies. On the other hand, in non-Shariah-compliant companies, column II shows that the coefficient of Institution×Excash is 0.028 but does

TABLE 5: Insider shares and the value of cash holdings.

Variables	I	II
	Shariah	Non_Shariah
C	0.363*** (26.804)	0.477*** (19.407)
Excash	0.007 (0.537)	0.007 (0.214)
Insider	-0.005 (-0.193)	0.039 (0.409)
InsiderxExcash	0.037* (1.723)	0.182 (0.942)
$E_{i,t}$	-0.575*** (-5.427)	-0.388 (-1.112)
$dE_{i,t}$	0.225*** (2.816)	0.893*** (5.037)
$dE_{i,t+1}$	0.049 (0.728)	0.484*** (3.020)
$dNA_{i,t}$	0.042 (1.009)	-0.068 (-0.225)
$dNA_{i,t+1}$	0.018 (0.445)	-0.153 (-0.810)
$I_{i,t}$	5.894*** (8.435)	7.417*** (8.898)
$dI_{i,t}$	-0.371 (-0.598)	-2.463* (-1.950)
$dI_{i,t+1}$	1.222 (1.176)	1.529 (1.186)
$Div_{i,t}$	0.322*** (2.707)	0.511 (0.797)
$dDiv_{i,t}$	-0.116*** (-3.108)	-0.631* (-1.896)
$dDiv_{i,t+1}$	0.010 (0.101)	-0.481** (-2.184)
$dMV_{i,t+1}$	0.005 (0.818)	0.482*** (5.426)
Firm effect	YES	YES
Year effect	YES	YES
Adjusted R-squared	0.817	0.879
F-statistics	25.966	23.428
Obs.	2001	581

not reach statistical significance, suggesting that higher institutional shareholding does not significantly impact the value of cash holdings in non-Shariah-compliant companies.

Therefore, these findings do not support Hypothesis 2 of the study, which suggests that higher institutional shareholding in Shariah-compliant companies leads to higher cash holding values.

In terms of the impact of Shariah compliance and insider shareholding on the value of cash holdings, the empirical results are presented in Table 5. In column I, for Shariah-compliant companies, the empirical analysis shows that the coefficient of the interaction term between insider shareholding and excess cash (Insider \times Excash) is positively significant (coefficient = 0.037, $p \leq 0.1$). This indicates that higher insider shareholding in Shariah-compliant companies enhances the value of cash holdings. On the other hand, in column II, for non-Shariah-compliant companies, the empirical analysis shows that the coefficient of Insider \times Excash is 0.182 but does not reach statistical significance. This suggests that higher insider shareholding in non-Shariah-compliant companies does not significantly affect the value of cash holdings. These findings support Hypothesis 3 of the study, which suggests that higher insider shareholding in Shariah-compliant companies increases the value of cash holdings. This implies that companies adhering to Islamic principles, in order to protect the company's interests, do not intentionally harm the value of the company and therefore enhance the efficiency of cash utilization.

5. Conclusion

The purpose of this study is to examine the influence of Islamic principles and ownership structure on the value of cash holdings. The empirical analysis is conducted using a sample of listed companies in Indonesia. Based on previous literature, three hypotheses are proposed. Hypothesis 1 suggests that companies adhering to Islamic principles have higher cash holding values. Hypothesis 2 states that within Islamic companies, higher institutional ownership leads to higher cash holding values. Hypothesis 3 suggests that within Islamic companies, higher insider ownership leads to higher cash holding values.

The empirical results of this study show a positive impact of Islamic principles on cash holding values, supporting Hypothesis 1. This indicates that managers following Islamic principles tend to prioritize higher cash holding values. However, regarding the influence of ownership structure, the results do not provide significant support for Hypothesis 2, suggesting that the impact of institutional ownership on cash holdings in Islamic companies is not evident. It is speculated that institutional shareholders may exhibit more proactive management styles that differ from the conservative Islamic management style, resulting in the lack of evidence in cash management efficiency. On the other hand, the results support Hypothesis 3, indicating that within Islamic companies, higher insider ownership leads to higher cash holding values. This suggests that

companies adhering to Islamic principles, driven by their commitment to safeguarding company interests, exhibit more efficient cash utilization.

In summary, the empirical findings of this study demonstrate a positive influence of Islamic principles on cash holding values. However, the impact of ownership structure varies, with institutional ownership not showing a significant effect. Nonetheless, higher insider ownership within Islamic companies is found to enhance cash holding values, highlighting the efficiency of cash management in firms with Islamic beliefs.

References

- [1] Myers SC, Majluf NS. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*. 1984;13(2):187-221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- [2] Jensen MC. Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*. 1986;76(2):323-329.
- [3] Keynes JM. *The general theory of employment, interest, and money: Interest and money*. Harcourt: Brace and Company; 1937. 209-223 p.
- [4] Arfan M, Basri H, Handayani R, Shabri M, Fahlevi H, Dianah A. Determinants of cash holding of listed manufacturing companies in the Indonesian stock exchange. *DLSU Business and Economics Review*. 2017;26(2):1–12.
- [5] Denis DJ, Sibilkov V. Financial constraints, investment, and the value of cash holdings. *The Review of Financial Studies*. 2010;23(1):247-269. <https://doi.org/10.1093/rfs/hhp031>
- [6] Bigelli M, Sánchez-Vidal J. Cash holdings in private firms. *Journal of Banking & Finance*. 2012;36(1):26-35. <https://doi.org/10.1016/j.jbankfin.2011.06.004>
- [7] Demsetz H. The structure of ownership and the theory of the firm. *The Journal of Law and Economics*. 1983;26(2):375-390. <https://doi.org/10.1086/467041>
- [8] Morck R, Shleifer A, Vishny RW. Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*. 1988;20:293-315. [https://doi.org/10.1016/0304-405X\(88\)90048-7](https://doi.org/10.1016/0304-405X(88)90048-7)
- [9] Ozkan A, Ozkan N. Corporate cash holdings: An empirical investigation of UK companies. *Journal of Banking & Finance*. 2004;28(9):2103-2134. <https://doi.org/10.1016/j.jbankfin.2003.08.003>
- [10] Kalcheva I, Lins KV. International evidence on cash holdings and expected managerial agency problems. *The Review of Financial Studies*. 2007;20(4):1087-1112. <https://doi.org/10.1093/rfs/hhm023>

- [11] Shleifer A, Vishny RW. Large shareholders and corporate control. *Journal of Political Economy*. 1986;94(3, Part 1):461-488. <https://doi.org/10.1086/261385>
- [12] Demsetz H, Lehn K. The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*. 1985;93(6):1155-1177. <https://doi.org/10.1086/261354>
- [13] Ahmed H, Chapra MU. Corporate governance in Islamic financial institution (occasional paper). The Islamic Research and Teaching Institute (IRTI). 2002.
- [14] Capital A. Sharia guidelines for trading and investment in stocks. 2019.
- [15] AAOIFI. Shari'ah standards. Manama: Accounting and Auditing Organization for Islamic Financial Institutions; 2015.
- [16] Ayedh AMA, Shaharuddin A, Kamaruddin MIH. Shariah screening methodology: Does it 'really' Shariah compliance? *Journal of Islamic Economics and Business*. 2019;12(2):144-172.
- [17] Venkiteshwaran V. Partial adjustment toward optimal cash holding levels. *Review of Financial Economics*. 2011;20(3):113-121. <https://doi.org/10.1016/j.rfe.2011.06.002>
- [18] Bhatt V, Sultan J. Leverage risk, financial crisis, and stock returns: A comparison among Islamic, conventional, and socially responsible stocks. *Islamic Economic Studies*. 2012;20(1).
- [19] Adamsson H, Bouslah K, Hoepner A. An Islamic equity premium puzzle. *SSRN Electronic Journal*. 2014.
- [20] Jiang Y, Li H, Li Y. Does institutional investor ownership influence corporate cash holding? 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021) [Internet]; 2021 Dec 15; Guangzhou, China: Atlantis Press; 2021 [cited 2023 Jun 3]. 78-85 p. Available from: <https://doi.org/10.2991/assehr.k.211209.013>
- [21] Jiambalvo J, Rajgopal S, Venkatachalam M. Institutional ownership and the extent to which stock prices reflect future earnings. *Contemporary Accounting Research*. 2002;19(1):117-145. <https://doi.org/10.1506/EQUA-NVJ9-E712-UKBJ>
- [22] El-Gazzar SM. Predisclosure information and institutional ownership: A cross-sectional examination of market revaluations during earnings announcement periods. *The Accounting Review*. 1998;73(1):119-129.
- [23] Balsam S, Bartov E, Marquardt C. Accruals management, investor sophistication, and equity valuation: Evidence from 10-q filings. *Journal of Accounting Research*. 2002;40(4):987-1012. <https://doi.org/10.1111/1475-679X.00079>

- [24] Dyreng SD, Mayew WJ, Williams CD. Religious social norms and corporate financial reporting. *Journal of Business Finance & Accounting*. 2012;39(7-8):845-875. <https://doi.org/10.1111/j.1468-5957.2012.02295.x>
- [25] Imamah N, Lin T-J, Suhadak, Handayani SR, Hung J-H. Islamic law, corporate governance, growth opportunities and dividend policy in Indonesia stock market. *Pacific-Basin Finance Journal*. 2019;55:110-126. <https://doi.org/10.1016/j.pacfin.2019.03.008>
- [26] Agrawal A, Nagarajan NJ. Corporate capital structure, agency costs, and ownership control: The case of all-equity firms. *The Journal of Finance*. 1990;45(4):1325-1331. <https://doi.org/10.1111/j.1540-6261.1990.tb02441.x>
- [27] Jensen MC, Meckling WH. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*. 1976;3(4):305–360.
- [28] Sicherman NW, Pettway RH. Acquisition of divested assets and shareholders' wealth. *The Journal of Finance*. 1987;42(5):1261-1273. <https://doi.org/10.1111/j.1540-6261.1987.tb04365.x>
- [29] Zhang H, Lu Z, Zhang R, Jiang G. Insider ownership, subsidiary cash holdings, and economic consequences: Evidence from listed Chinese companies. *Emerging Markets Finance and Trade*. 2015;51(sup1):S174-S195. <https://doi.org/10.1080/1540496X.2014.998891>