“The nexus between female directors and corporate cash holdings: Evidence from Indonesia”

AUTHORS	Bambang Sutrisno Jaharuddin Jaharuddin Nur Asni Gani Medo Maulianza Nurul Sriminarti

ARTICLE INFO	Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani, Medo Maulianza and Nurul Sriminarti (2023). The nexus between female directors and corporate cash holdings: Evidence from Indonesia. *Investment Management and Financial Innovations*, *20*(4), 147-155. doi:10.21511/imfi.20(4).2023.13
DOI	http://dx.doi.org/10.21511/imfi.20(4).2023.13
RELEASED ON	Tuesday, 31 October 2023
RECEIVED ON	Friday, 11 August 2023
ACCEPTED ON	Monday, 25 September 2023
LICENSE	This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Investment Management and Financial Innovations"
ISSN PRINT	1810-4967
ISSN ONLINE	1812-9358
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
34	0	7

BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Bambang Sutrisno (Indonesia), **Jaharuddin** (Indonesia), **Nur Asni Gani** (Indonesia), **Medo Maulianza** (Indonesia), **Nurul Sriminarti** (Indonesia)

THE NEXUS BETWEEN FEMALE DIRECTORS AND CORPORATE CASH HOLDINGS: EVIDENCE FROM INDONESIA

Abstract

In the last decade, gender diversity on boards or women in the boardroom has gained the attention of academics and practitioners. This paper aims to explore how women directors affect corporate cash holdings in Indonesia. This study utilizes data on Kompas 100 index firms for 2014–2021. A fixed-effect estimator is used to analyze data. The study reveals that female directors positively influence cash holdings. This finding remains robust when employing an alternative proxy for female directors and excluding observations during the COVID-19 period. Additionally, the findings indicate notable variations in cash holdings between companies with and without female directors. Regarding control variables, a firm's cash holdings are negatively influenced by board size, leverage, company size, and net working capital. Firm profitability and growth opportunities positively influence cash holdings. This paper also documents that institutional ownership weakens the nexus between female directors and cash holding. The findings highlight that female directors hold higher amounts of cash because of their increased risk aversion. This study enriches the discussion on female directors and cash-holding levels in a developing country with a two-tiered board system.

Received on: 11th of August, 2023
Accepted on: 25th of September, 2023
Published on: 31st of October, 2023

Bambang Sutrisno, Master, Lecturer, Faculty of Economics and Business, Study Program of Management, Universitas Muhammadiyah Jakarta, [Muhammadiyah University of Jakarta], Indonesia. (Corresponding author)

Jaharuddin Jaharuddin, Master, Lecturer, Faculty of Economics and Business, Study Program of Islamic Economics, Universitas Muhammadiyah Jakarta, [Muhammadiyah University of Jakarta], Indonesia.

Nur Asni Gani, Master, Lecturer, Faculty of Economics and Business, Study Program of Management, Universitas Muhammadiyah Jakarta, [Muhammadiyah University of Jakarta], Indonesia.

Medo Maulianza, Master, Lecturer, Faculty of Digital Communication and Hotel and Tourism, Department of Communication, Binus University, Indonesia.

Nurul Sriminarti, Master, Lecturer, Faculty of Economics and Business, Study Program of Management, Universitas Muhammadiyah Jakarta, [Muhammadiyah University of Jakarta], Indonesia.

Conflict of interest statement:
Author(s) reported no conflict of interest

Keywords cash holdings, corporate governance, female directors, institutional ownership, agency theory

JEL Classification G30, J16

INTRODUCTION

Cash management is a vital aspect of financial decision-making for firms, as managers are faced with the choice between holding or using cash. Effective cash management contributes to firm value. Decisions made regarding cash management provide crucial insights to investors regarding how a company effectively manages its assets.

Equality is a fundamental principle of effective corporate governance implementation, in which an issue that has developed in the last decade is gender diversity. Recently, the representation of female in the boardroom has increased over time (Dezsö & Ross, 2012). Indonesia ranks fourth in the Women in Business 2020 report, with the greatest proportion of women in senior management, at 37%. This report also shows an improvement in gender equality initiatives in Indonesia over the previous year, including efforts to provide coaching and guidance (52 percent), foster an inclusive culture (35 percent), and set targets or quotas for gender balance at the senior level (31 percent).

Board gender diversity has the potential to impact cash holding policy by influencing opportunistic managerial behavior. The percentage of female board members indicates how diverse the board is regarding gender (Atif et al., 2019). From an agency theory perspective, precautionary motives can incentivize female directors to hold cash (Zeng & Wang, 2015).

http://dx.doi.org/10.21511/imfi.20(4).2023.13

1. LITERATURE REVIEW

Cash is an essential component of company assets (Akhtar et al., 2018). It is used to fulfill a company's operational activities. A financial manager must know how much cash they have on hand. Agency problems may arise from cash-holding decisions (La Porta et al., 2000). Agency conflicts between management and shareholders occur when management maintains a certain cash levels for their benefit rather than the interest of shareholders (Chen & Chuang, 2009; Kalcheva & Lins, 2007).

For corporations that prioritize their shareholders, the board of directors is a crucial control. Agency issues in a corporation can be minimized by proper composition of the board of directors (Bathala & Rao, 1995). In performing their duties, female directors can help better monitor accountability and managerial performance (Chen et al., 2017; Rose, 2007). Female directors have different characteristics, such as monitoring abilities, unique work styles, and leadership styles for emerging agency problems (Cox, 1993; Daily & Dalton, 2003). To successfully carry out their monitoring responsibilities, boards benefit from having female directors.

Board gender diversity and cash holding nexus has been investigated by prior research. Zeng and Wang (2015) look on how CEO gender affects cash holdings. Zeng and Wang (2015) document that female CEOs intensify their cash holding levels, particularly in non-state-owned Chinese listed firms. Compared to male CEOs, female CEOs prioritize the precautionary aspect of cash while showing less concern for opportunity costs.

Adhikari (2018) explores how female executives influence cash holdings. Adhikari (2018) documents that female executives have a positive impact on firm cash holdings in the United States. The reason for this finding is the precautionary motive. Furthermore, female directors strongly influence cash policy in financially constrained firms.

Using data from 18 European countries, La Rocca et al. (2019) show that women in executive positions positively affect firm cash holdings. When women hold executive positions, this tendency significantly influences businesses' financial decisions. The main result is moderated by the institutional factor.

Utilizing a sample of listed firms in the United States, Atif et al. (2019) show that gender diversity reduces cash holdings. They also document a significant negative effect attributed to women's independent directors, highlighting their role in monitoring company activities. Furthermore, the presence and engagement of female directors reduce cash levels.

By highlighting the diverse responsibilities played by women in the boardroom, Cambrea et al. (2020) examine the effects of board gender diversity and cash holdings using Italian-listed companies. They demonstrate that the presence of women doing monitoring duties is causing a reduction in cash holdings. On the other hand, businesses run by female CEOs have more cash.

Ismail et al. (2022) explore how gender diversity influences cash holding levels. Additionally, they examine the moderating effect of investor protection. Ismail et al. (2022) demonstrate that businesses with greater board gender diversity have lower cash levels. In addition, they provide evidence that nations with better protection for investor have less cash on hand. The inverse relationship between cash holdings and gender diversity is less prominent in nations with enhanced protections.

The investigation of gender diversity, cash levels, and dividend policy is conducted by Nadia and Hanafi (2023) using listed firms in ASEAN-4 countries. They reveal that the percentage of females in the boardroom positively affects cash holdings and negatively affects dividend policy. Additional analysis shows a nonlinear relationship between female presence in the boardroom on cash holding and dividend policy.

To sum up, prior empirical research shows different results. Different institutional contexts and research period can cause these conflicting findings. Further investigation on gender diversity and cash holding nexus must be conducted to shed light on this research issue.

There is still discussion on the connection between board gender diversity and cash holdings. This study assumes that female directors in Indonesia are less adventurous. More female directors maintain more cash because of precautionary reasons.

http://dx.doi.org/10.21511/imfi.20(4).2023.13

Female directors perform better company monitoring functions by increasing accountability and auditing (Adams & Ferreira, 2009). Zeng and Wang (2015) show that firms with more female directors tend to be more prudent in managing cash, so their cash holdings are greater than those of firms with fewer or no women directors. Barber and Odean (2001) and Bliss and Potter (2002) suggest that females tend to be more cautious when taking risks than males and exhibit more significant concern regarding allocating company funds.

Institutional investors often have specific investment objectives, such as maximizing shareholder value or achieving specific financial goals (Çelik & Isaksson, 2014; Schoenmaker & Schramade, 2019). If these objectives align with the preference for higher cash holdings, they may support or encourage decisions made by female directors to hold more cash. Institutional investors are good at monitoring, so ensuring that management conducts its activities in a manner that aligns with the optimal interests of shareholders (Macey, 1997; Wang & Wei, 2019). They may scrutinize the decisions made by female directors regarding cash holdings and hold them accountable. This oversight can moderate the relationship because institutional investors may influence female directors' decisions or exert pressure to maintain an optimal level of cash holdings. Mohd et al. (2015) and Loncan (2020) find that institutional ownership negatively influences cash holdings. On the contrary, Jiang et al. (2021) demonstrate that institutional ownership positively affects the value of cash holdings. This study argues that institutional ownership moderates the relationship between female directors and cash holdings.

Investigating the relationship between female directors and cash holdings in Indonesia is the purpose of this study.

This study puts forth the following hypotheses based on prior empirical research and the Indonesian context:

H1: Corporate cash holdings are positively impacted by female directors.

H2: Businesses with and without female directors have significantly different cash holdings.

H3: Institutional ownership attenuates female directors and cash holding nexus.

2. METHODS

The population in this study comprises Kompas 100 index firms for 2014–2021. According to Herdhayinta et al. (2023), the market capitalization of the Indonesia stock exchange as a whole comprises roughly 70-80 percent of shares of the Kompas 100 index. With the following criteria, a purposive sampling technique is used to select the sample for this study: 1) consistently included in the Kompas 100 index during 2014–2021; 2) non-financial firms; and 3) complete data. This paper utilizes data from annual reports and the Indonesian Capital Market Directory.

Fifty-five non-financial public firms are consistently included in the Kompas 100 index from 2014 to 2021. Of these, all public companies have complete data. There are 440 firm-year observations in the final sample.

Cash holdings serve as the outcome variable. There are two measurements for cash holdings. CASH1 is cash and cash equivalents scaled by net assets; meanwhile, CASH2 is cash and cash equivalents divided by total assets (Bick et al., 2018; Opler et al., 1999).

In this paper, female directors are the primary independent variable. Following Adams and Ferreira (2009) and Atif et al. (2019), female directors are computed by the ratio of female directors among all directors in a given fiscal year. For the robustness check, this study also considers the number of female directors in a corporation.

According to Liu et al. (2014) and Atif et al. (2019), board size (*BOARD*), net working capital (*NWC*), company size (*SIZE*), leverage (*LEV*), return on assets (*ROA*), and growth opportunity (*GROWTH*) are the control variables used in this research. *BOARD* is the total amount of directors. *NWC* is defined as current assets minus current liabilities divided by total assets. *SIZE* is the natural logarithm of total assets. *LEV* is derived by dividing total liabilities by total assets. ROA is calculated by dividing earnings after tax by total assets. *GROWTH* is equity's market value scaled by its book value. This study includes a *YEAR* dummy to control for time-invariant factors. All continuous variables are winsorized at the 1% level to lessen the impact of outliers.

The research model used to test the first hypothesis is as follows:

$$CASH_{it} = \alpha + \beta_1 FEMALE_{it} + \\ +\beta_2 BOARD_{it} + \beta_3 NWC_{it} + \beta_4 SIZE_{it} + \\ +\beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 GROWTH_{it} + \\ +\beta_8 YEAR_t + \varepsilon_{i,t}, \quad (1)$$

where *CASH* is cash holdings, *FEMALE* is female directors, *BOARD* is board size, *NWC* is net working capital, *SIZE* is firm size, *LEV* is leverage, *ROA* is return on assets, *GROWTH* is growth opportunity, *YEAR* is a year dummy, and ε is the error term.

A fixed-effects estimator is used to estimate the research model mentioned above. There are two robustness checks in this article. First, this paper uses the total amount of women directors for the alternative measure of female directors. Second, we remove data on the 2020 and 2021 periods to ensure whether the main findings are sensitive to the COVID-19 period.

To test the second hypothesis, this study employs an independent sample t-test. The study uses a dummy variable, 1 for companies with female directors and 0 for companies without female directors. To determine whether there is a significant difference in cash holdings, we assess the value of significance of the independent samples t-test.

To test the third hypothesis, this study employs the following regression model:

$$CASH_{it} = \alpha + \beta_1 FEMALE_{it} + \beta_2 INST_{it} + \\ +\beta_3 FEMALE_{it} \cdot INST_{it} + \beta_4 BOARD_{it} + \\ +\beta_5 NWC_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \\ +\beta_8 ROA_{it} + \beta_9 GROWTH_{it} + \beta_{10} YEAR_t + \varepsilon_{i,t}, \quad (2)$$

where *INST* is the institutional ownership, defined as the proportion of shares owned by the institutional investors. The coefficient of $FEMALE \cdot INST$ is expected to be negative, demonstrating that the institutional investors play a vital role in attenuating female directors and cash holding nexus.

All data analyses will be performed using Stata.

3. RESULT

Table 1 displays a statistical summary of the research variables. The average cash holding during the research period is 10% and 11% for CASH1 and CASH2, respectively. This demonstrates that companies in the Kompas 100 index are likely to have higher cash levels. Around 12% of the directors from the sample are women. The average size of the board of directors is 6.322. The average net working capital is 0.057. The average value of company size is 13.304 (in the natural log of total assets). The average leverage is 0.488. The average return on assets is 0.102. Growth opportunity has an average value of 1.827.

Table 2 summarizes the correlation among research variables. The correlation between CASH1 and CASH2 is high because they capture a similar phenomenon. Multicollinearity is present if the correlation between explanatory variables is more than 0.80 (Gujarati & Porter, 2009). As shown in Table 2, the correlation is under 0.80, demonstrating that multicollinearity does not exist in the model.

Table 1. Descriptive statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
CASH1	440	0.101	0.072	0.001	0.303
CASH2	440	0.112	0.073	0.001	0.327
FEMALE	440	0.118	5.148	0.000	0.600
BOARD	440	6.322	1.973	3.000	13.000
NWC	440	0.057	1.067	0.025	0.387
SIZE	440	13.304	0.473	12.038	14.554
LEV	440	0.488	0.206	0.125	0.976
ROA	440	0.102	0.021	0.063	0.324
GROWTH	440	1.827	1.103	0.051	5.927

http://dx.doi.org/10.21511/imfi.20(4).2023.13

Table 2. Correlation matrix

Variables	CASH1	CASH2	FEMALE	BOARD	NWC	SIZE	LEV	ROA	GROWTH
CASH1	1								
CASH2	0.783	1							
FEMALE	0.056	0.036	1						
BOARD	–0.124	–0.118	0.315	1					
NWC	–0.052	–0.033	–0.164	–0.224	1				
SIZE	–0.112	–0.094	0.247	0.348	–0.216	1			
LEV	–0.216	–0.172	0.128	0.162	–0.214	0.173	1		
ROA	0.257	0.219	–0.105	–0.038	0.069	–0.273	–0.135	1	
GROWTH	0.126	0.101	0.051	0.021	0.036	0.189	–0.122	0.214	1

The regression results for the first hypothesis are shown in Table 3. This study documents a positive and significant coefficient of FEMALE at the 1% level for CASH1 and CASH2. Female directors are related to more cash-holding levels. A 1% rise in women directors intensifies cash levels by 11.2% for CASH1 and 7.3% for CASH2. The first hypothesis is therefore supported.

In general, the results regarding the control variables are similar to prior literature. Cash holding has a positive impact on return on assets and growth opportunities. In contrast, it shows a negative connection with board size, net working capital, firm size, and leverage.

Table 3. Baseline regression results

Variables	CASH1	CASH2
FEMALE	0.112***	0.073***
	(0.036)	(0.025)
BOARD	–0.002***	–0.002***
	(0.001)	(0.001)
NWC	–0.100**	–0.121*
	(0.049)	(0.060)
SIZE	–0.104***	–0.116***
	(0.027)	(0.032)
LEV	–0.014***	–0.013***
	(0.004)	(0.004)
ROA	0.140**	0.121**
	(0.065)	(0.059)
GROWTH	0.015***	0.014***
	(0.004)	(0.004)
Constant	0.213*	0.198*
	(0.124)	(0.108)
Year effect	Yes	Yes
Adj R^2	0.241	0.216

Note: Parentheses are used to report robust standard errors. Significant values are shown by ***, **, and *, respectively, at 0.01, 0.05, and 0.10.

This study performs the first robustness check by using the total amount of women directors as the alternative proxy for female directors. Table 4 shows that the primary results are unchanged. A company's cash holding is positively impacted by female directors. Next, this study removes observations in the 2020 and 2021 periods. Again, the results have similar findings as in baseline regression results. Table 5 confirms the main regression findings.

Table 4. Alternative measure of female directors

Variables	CASH1	CASH2
FEMALE	0.107***	0.064***
	(0.034)	(0.023)
BOARD	–0.002***	–0.002***
	(0.001)	(0.001)
NWC	–0.112**	–0.123**
	(0.052)	(0.058)
SIZE	–0.105***	–0.113***
	(0.028)	(0.031)
LEV	–0.016***	–0.015***
	(0.005)	(0.005)
ROA	0.125**	0.132*
	(0.057)	(0.069)
GROWTH	0.019***	0.015***
	(0.005)	(0.004)
Constant	0.192*	0.196*
	(0.114)	(0.103)
Year Effect	Yes	Yes
Adj R^2	0.232	0.221

Note: Parentheses are used to report robust standard errors. Significant values are shown by ***, **, and *, respectively, at 0.01, 0.05, and 0.10.

Table 5. Excluding observations during the COVID-19 period

Variables	CASH1	CASH2
FEMALE	0.094**	0.053***
	(0.031)	(0.016)
BOARD	–0.003***	–0.002***
	(0.001)	(0.001)
NWC	–0.122**	–0.131**
	(0.058)	(0.062)

Table 5 (cont.). Excluding observations during the COVID-19 period

Variables	CASH1	CASH2
SIZE	−0.112***	−0.120***
	(0.032)	(0.034)
LEV	−0.017***	−0.017***
	(0.005)	(0.006)
ROA	0.131**	0.140**
	(0.059)	(0.065)
GROWTH	0.020***	0.014***
	(0.005)	(0.004)
Constant	0.204*	0.210*
	(0.116)	(0.118)
Year effect	Yes	Yes
Adj R^2	0.254	0.232

Note: Parentheses are used to report robust standard errors. Significant values are shown by ***, **, and *, respectively, at 0.01, 0.05, and 0.10.

Table 6 summarizes the results of the independent sample t-test. The value of Sig is lower than 0.01, 0.05, and 0.10, indicating significant cash-holding differences between businesses with and without female directors. Table 6 also shows that companies with female directors have higher cash levels than businesses without women directors, both for CASH1 and CASH2. Hence, this finding supports the second hypothesis.

The primary findings show that female directors positively affect firm cash holdings. This paper further tests the moderating role of institutional ownership. As displayed in Table 7, the coefficient of the interaction variable is negative and significant, implying that institutional investors moderates the link between cash holdings and female directors. Therefore, the third hypothesis is also supported.

4. DISCUSSION

Prior research has shown conflicting findings on the connection between gender diversity in top management and cash holdings. This study demonstrates that female directors in Kompas

Table 6. Independent sample t-test results

Variables	Female	Observations	Mean	Sig.
CASH1	No Female	256	0.097	0.005
	At least One Female	184	0.143	
CASH2	No Female	256	0.078	0.002
	At least One Female	184	0.125	

Table 7. The moderating effect of institutional ownership

Variables	CASH1	CASH2
FEMALE	0.101***	0.073***
	(0.037)	(0.024)
INST	0.091**	0.058**
	(0.041)	(0.025)
FEMALE*INST	−0.113***	−0.084***
	(0.028)	(0.027)
BOARD	−0.006***	−0.003**
	(0.002)	(0.001)
NWC	−0.126**	−0.132**
	(0.056)	(0.061)
SIZE	−0.107***	−0.118***
	(0.027)	(0.031)
LEV	−0.017***	−0.015***
	(0.005)	(0.005)
ROA	0.115**	0.126***
	(0.049)	(0.048)
GROWTH	0.020***	0.017***
	(0.005)	(0.004)
Constant	0.182*	0.186*
	(0.106)	(0.099)
Year effect	Yes	Yes
Adj R^2	0.265	0.243

Note: Parentheses are used to report robust standard errors. Significant values are shown by ***, **, and *, respectively, at 0.01, 0.05, and 0.10.

http://dx.doi.org/10.21511/imfi.20(4).2023.13

100 index firms tend to be conservative in cash holding policy. Compared to male directors, female directors may place greater emphasis on the precautionary cash incentive and less on the cash opportunity cost. This leads to greater cash holdings. Risk-averse women directors argue that internal financing is safer than external financing. The results of this study support Adhikari (2018), La Rocca et al. (2019), and Zeng and Wang (2015).

Regarding the control variables, return on assets is positively linked to firm cash holdings, demonstrating that companies with higher cash holdings are more profitable. The book-to-market ratio, which reflects growth opportunity, positively associates with cash holdings. Companies that have more chances to grow have more cash on hand. Conversely, businesses with more directors and net working capital possess less cash. Firm size negatively affects cash holdings. The amount of cash a company possesses decreases with its size. Leverage negatively influences cash holdings, indicating that companies with more cash holdings are less indebted.

Companies with female directors have more cash than businesses without them. This finding is in line with the agency theory, which contends that female directors can get incentives by leaving the profitable projects (Zeng & Wang, 2015). They are more conservative in holding cash than males, supporting the evidence from Huang and Kisgen (2013).

Institutional ownership weakens female directors and cash-holding nexus. In companies with large institutional investors, the impact of women directors on cash holdings is thus less pronounced. In line with Loncan (2020), the findings verify that institutional ownership reduces cash holdings.

Future studies should explore the moderating variables that probably affect the association between female directors and cash-holding decisions. Furthermore, future research should consider not only gender but also the qualifications and experience of women directors.

CONCLUSION

This study uses Indonesian Kompas 100 index companies to investigate the relationship between female directors and cash holdings. The results demonstrate that female directors increase cash holdings. This finding is robust by using an alternative measure of female directors and removing observations in the COVID-19 period. This study also finds significant cash-holding differences in companies with and without female directors. The effect of women directors on cash holdings is less prominent in companies with high institutional investors.

These results support previous studies conducted in other countries, indicating that the association between female directors and cash management relates to the institutional context of the study. The results provide essential insights for corporations and investors in Indonesia, highlighting the importance of determining gender composition in the boardroom to maintain cash holdings.

This study implies for Indonesian firms and investors. Companies should carefully consider women's selection in the top management. Investors should be conscious that women directors hold more cash. This tendency intensifies the likelihood of missing profitable projects.

AUTHOR CONTRIBUTIONS

Conceptualization: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani, Medo Maulianza, Nurul Sriminarti.
Data curation: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani.
Formal analysis: Bambang Sutrisno, Medo Maulianza, Nurul Sriminarti.
Funding acquisition: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani, Medo Maulianza, Nurul Sriminarti.

Investigation: Jaharuddin Jaharuddin, Nur Asni Gani.
Methodology: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani.
Project administration: Jaharuddin Jaharuddin, Nur Asni Gani.
Resources: Bambang Sutrisno, Medo Maulianza, Nurul Sriminarti.
Software: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani.
Supervision: Medo Maulianza, Nurul Sriminarti.
Validation: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani, Medo Maulianza, Nurul Sriminarti.
Visualization: Jaharuddin Jaharuddin, Nur Asni Gani.
Writing – original draft: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani, Medo Maulianza, Nurul Sriminarti.
Writing – review & editing: Bambang Sutrisno, Jaharuddin Jaharuddin, Nur Asni Gani.

ACKNOWLEDGMENTS

This study is not funded by any funding agency.

REFERENCES

1. Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics, 94*(2), 291-309. https://doi.org/10.1016/j.jfineco.2008.10.007
2. Adhikari, B. K. (2018). Female executives and corporate cash holdings. *Applied Economics Letters, 25*(13), 958-963. https://doi.org/10.1080/13504851.2017.1388904
3. Akhtar, T., Tareq, M. A., Sakti, M. R. P., & Khan, A. A. (2018). Corporate governance and cash holdings: The way forward. *Qualitative Research in Financial Markets, 10*(2), 152-170. https://doi.org/10.1108/QRFM-04-2017-0034
4. Atif, M., Liu, B., & Huang, A. (2019). Does board gender diversity affect corporate cash holdings? *Journal of Business Finance and Accounting, 46*(7-8), 1003-1029. https://doi.org/10.1111/jbfa.12397
5. Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *Quarterly Journal of Economics, 116*(1), 261-292. https://doi.org/10.1162/003355301556400
6. Bathala, C. T., & Rao, R. P. (1995). The determinants of board composition: An agency theory perspective. *Managerial and Decision Economics, 16*(1), 59-69. https://doi.org/10.1002/mde.4090160108
7. Bick, P., Orlova, S., & Sun, L. (2018). Fair value accounting and corporate cash holdings. *Advances in Accounting, 40,* 98-110. https://doi.org/10.1016/j.adiac.2017.12.002
8. Bliss, R. T., & Potter, M. E. (2002). Mutual fund managers: Does gender matter? *Journal of Business and Economic Studies, 8*(1), 1-15.
9. Cambrea, D. R., Tenuta, P., & Vastola, V. (2020). Female directors and corporate cash holdings: monitoring vs executive roles. *Management Decision, 58*(2), 295-312. https://doi.org/10.1108/MD-11-2018-1289
10. Çelik, S., & Isaksson, M. (2014). Institutional investors and ownership engagement. *OECD Journal: Financial Market Trends, 2013*(2), 93-114. https://doi.org/10.1787/5k3v1dvmfk42-en
11. Chen, J., Leung, W. S., & Goergen, M. (2017). The impact of board gender composition on dividend payouts. *Journal of Corporate Finance, 43,* 86-105. https://doi.org/10.1016/j.jcorpfin.2017.01.001
12. Chen, Y.-R., & Chuang, W.-T. (2009). Alignment or entrenchment? Corporate governance and cash holdings in growing firms. *Journal of Business Research, 62*(11), 1200-1206. https://doi.org/10.1016/j.jbusres.2008.06.004
13. Cox, T. H. (1993). *Cultural Diversity in Organizations: Theory, Research, and Practice*. San Francisco: Berrett-Koehler.
14. Daily, C. M., & Dalton, D. R. (2003). Women in the boardroom: A business imperative. *Journal of Business Strategy, 24*(5), 205-209. https://doi.org/10.1108/jbs.2003.28824eaf.002
15. Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal, 33*(9), 1072-1089. https://doi.org/10.1002/smj.1955
16. Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5th ed.). New York: McGraw-Hill.
17. Herdhayinta, H., Lau, J., & Shen, C. H. han. (2023). Cash holdings of minority family businesses in Indonesia. *Emerging Markets Review, 55,* 100968. https://doi.org/10.1016/j.ememar.2022.100968

18. Huang, J., & Kisgen, D. J. (2013). Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics, 108*(3), 822–839. https://doi.org/10.1016/j.jfineco.2012.12.005

19. Huu Nguyen, A., Thuy Doan, D., & Ha Nguyen, L. (2020). Corporate governance and agency cost: Empirical evidence from Vietnam. *Journal of Risk and Financial Management, 13*(5), 103. https://doi.org/10.3390/jrfm13050103

20. Ismail, W. A. W., Kamarudin, K. A., Gupta, N., & Harymawan, I. (2022). Gender diversity in the boardroom and corporate cash holdings: The moderating effect of investor protection. *Risks, 10*(3), 1-18. https://doi.org/10.3390/risks10030060

21. Jiang, Y., Li, H., & Li, Y. (2021). Does Institutional Investor Ownership Influence Corporate Cash Holding? In R. Thurasamy, I. A. Majid, N. A. B. A. Rahman, & A. H. Zulkafli (Eds), *Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021).*

22. Kalcheva, I., & Lins, K. V. (2007). International evidence on cash holdings and expected managerial agency problems. *Review of Financial Studies*, *20*(4), 1087-1112. https://doi.org/10.1093/rfs/hhm023

23. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics, 58*(1), 3-27. https://doi.org/10.1016/S0304-405X(00)00065-9

24. La Rocca, M., La Rocca, T., Staglianò, R., Vecellio, P., & Montalto, F. (2019). Gender diversity, cash holdings and the role of the institutional environment: empirical evidence in Europe. *Applied Economics, 51*(29), 3137-3152. https://doi.org/10.1080/00036846.2019.1566687

25. Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance, 28,* 169-184. https://doi.org/10.1016/j.jcorpfin.2013.11.016

26. Loncan, T. (2020). Foreign institutional ownership and corporate cash holdings: Evidence from emerging economies. *International Review of Financial Analysis, 71,* 101295. https://doi.org/10.1016/j.irfa.2018.12.003

27. Macey, J. R. (1997). Institutional investors and corporate monitoring: A demand-side perspective. *Managerial and Decision Economics, 18*(7/8), 601-610. Retrieved from http://www.jstor.org/stable/3108222

28. Mohd, K. N. T., Latif, R. A., & Saleh, I. (2015). Institutional ownership and cash holding. *Indian Journal of Science and Technology, 8*(32), 1-6. https://doi.org/10.17485/ijst/2015/v8i32/92124

29. Nadia, L. P., & Hanafi, M. M. (2023). Do women board members affect dividend policy and cash holdings? Evidence from ASEAN emerging economies. *Corporate Governance (Bingley), 23*(4), 705-722. https://doi.org/10.1108/CG-01-2022-0011

30. Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics, 52,* 3-46. https://doi.org/10.1016/S0304-405X(99)00003-3

31. Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review, 15*(2), 404-413. https://doi.org/10.1111/j.1467-8683.2007.00570.x

32. Schoenmaker, D., & Schramade, W. (2019). Investing for long-term value creation. *Journal of Sustainable Finance and Investment, 9*(4), 356-377. https://doi.org/10.1080/20430795.2019.1625012

33. Wang, X., & Wei, S. (2019). The monitoring role of institutional investors: Geographical proximity and investment horizon. *Studies in Economics and Finance, 36*(3), 517-546. https://doi.org/10.1108/SEF-11-2017-0309

34. Zeng, S., & Wang, L. (2015). CEO gender and corporate cash holdings. Are female CEOs more conservative? *Asia-Pacific Journal of Accounting and Economics, 22*(4), 449-474. https://doi.org/10.1080/16081625.2014.1003568