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THE ROLE OF FIRM SIZE IN CASH HOLDING ANALYSIS: WHOLESALE AND RETAIL TRADE IN INDONESIA

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ABSTRACT

Wholesale and retail trade companies have a high risk of financial instability, especially when the utilization of cash holding is not optimal. Excessive cash can reduce investment opportunities, while too little cash can interfere with operations and ability to repay liabilities. This can reduce the company's performance due to ineffective cash management. The purpose of the study was to test the moderating role of firm size in cash holding analysis. The research method used panel data regression and Moderated Regression Analysis (MRA) involving 18 wholesale and retail trade companies listed on the IDX for the 2014-2020 period. The sampling technique uses purposive sampling. This study found that firm size strengthens the impact of profitability on cash holding. Yet on the other hand, firm size is not able to moderate the impact of cash flow, net working capital on cash holding. Cash flow, net working capital and firm size have no impact on cash holding. Meanwhile, profitability has a positive and significant impact on cash holding. Companies need to pay attention to other aspects related to cash holding. This research provides implications for investors as a consideration in determining future policies and decisions. The new element in the study is the addition of firm size as a moderation variable, conducting regression testing of panel data and MRA that has not been examined previously.

Keywords: Cash Holding, Firm Size, Cash Flow, Net Working Capital, Profitability

INTRODUCTION

To keep the business going concern running smoothly requires good business financial management (Ristiyana, 2019; Ristiyana et al., 2024). The important thing that must be maintained is the availability of cash, especially cash holding. Cash holding is physical cash available to meet investment needs as well as for operational purposes (Rahman, 2021). Cash holding must be optimally utilized, because if there is too much, it will eliminate opportunities to invest, while if there is too little, it can cause operational needs to be disrupted, especially in paying off the company's debts (Astuti et al., 2020; Irwanto et al., 2019).

Company wholesale and retail trade currently is in great demand because of its promising business cycle and is popular among the community. Wholesale and retail trade is a business cycle of selling goods to retailers that are later resold to consumers. Wholesale and retail trade uses a business strategy that has many types of distributors and wholesalers (Invesnesia.com, 2022). In 2020 during the outbreak of the COVID-19 pandemic, wholesale and retail trade suffere an impact and even filed for bankruptcy because they are unable to survive due to the unstable economy caused by the pandemic. This is reflected in PT. AKR Corporindo, Tbk and PT. Ace Hardware Indonesia, Tbk. which experienced a decrease in sales of 1,256 billion and 494 billion respectively. The loss that befell the two companies still persist on to this day. In 2022, the two companies, which were also part of the previous LQ-45, are now in the delisting category due to financial conditions that tend to be unstable, including the utilization of cash holding which is not optimal, declining growth prospects and the decreasing stock prices compared to prior years (https://market.bisnis.com/, 2022).

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Cash holding in this case is unique in itself hence the need to understand how cash holding exists in wholesale and retail trade companies. The variables determined in this study are cash flow, net working capital and profitability as independent variables and company size as moderating variables. The size of the company is used as a moderation variable because it is considered that the larger the size of the company, the better the potential for optimizing cash holding. This will increase the value of the company, and vice versa, hence, becoming a growing concern for researchers to study. Company size contributes an important role in understanding the phenomenon of non-optimal cash holding in wholesale and retail trade companies. Larger companies should have better ability to manage cash due to wider access to funding, more stable operations, and higher financial flexibility. Therefore, company size is an important variable to see how differences in company scale affect the company's ability to utilize cash flow, net working capital, and profitability in maintaining cash holding.

Previous studies (I. Ali et al., 2021; Sethi & Swain, 2019; Tayem, 2016) found that cash flow affects cash holding, while Chireka & Fakoya (2017), Haji (2016), and Sheikh et al. (2018) show cash flow with no impact on cash holding. Research results (Ashhari & Faizal, 2018; Guizani, 2017; Sethi & Swain, 2019) provide evidence showing net working capital has an impact on cash holding, unlike S. Khalil & Ali (2015) and Mirawati (2013) contradicting on reporting net working capital bearing no impact on cash holding. Research (I. Ali et al., 2021; Sethi & Swain, 2019; Thu & Khuong, 2018) suggest profitability has an impact on cash holding, while others (Anwuli Gladys, 2022; Jamil et al., 2016; Nnubia & Ofoegbu, 2019) found no impact from profitability whatsoever on cash holding. According to previous literature (I. Ali et al., 2021; Ashhari & Faizal, 2018; Guizani, 2017; Singh & Misra, 2019), the size of the company has an impact on cash holding, but some studies contradict this finding (Chireka & Fakoya, 2017; L. O. Ogundipe et al., 2012a; Thu & Khuong, 2018) showing no impact of the firm size on cash holding. From the results of the research gap previously mentioned, the researcher aims to develop the size of the company by positioning it as a moderating variable and conducting regression testing of panel data and MRA that has not been studied before.

Research contributions provided by the results of this research aims to help wholesales and trading companies to optimize cash holding properly. Whilst for the regulators, in this case the Financial Services Authority, the results of this research can be used as a basis for improving supervision and policy creation related to the capital market and business.

LITERATURE REVIEW

According to Ariawan & Solikahan (2022) and Keown et al. (2016), pecking order theory is a condition where companies prefer internal funding over external funding. This theory implies that companies that make large profits will usually keep their debt ratio small with outside funding, in contrast to companies with low profits that will actually generate a larger debt ratio due to the funds that come from within are inadequate and prefer funding from outside (Simatupang et al., 2019). Cash holding increases as profitability avoids external funding. In the context of pecking order theory, firm size affects how much a company holds cash, as size determines the level of information asymmetry and ease of obtaining external funding.

Signaling theory is an effort made by management in providing financial information to users that is expected to be able to signal prosperity. This information is important in decision-making for investors and business people (Jensen & Beck, 2023; Ristiyana & Erwindiawan, 2021). High cash holding can signal either positively (strong liquidity) or negatively (inefficiency).

Trade-off theory is a theory that describes how a company must be careful in managing its cash holdings to be optimal (Ariawan & Solikahan, 2022; Ariwibowo et al., 2022; Simatupang et al., 2019). By paying attention to the costs incurred compared to the benefits obtained. One of the benefits of holding cash is to anticipate financial distress, investment or other financial constraints (Bigelli & Vidal, 2009; Octavia, 2024). There is an optimal cash rate; large companies tend to hold cash lower because of easy access to funds. In trade-off theory, the size of a company affects the balance between the benefits and costs of holding cash, so size is an important factor in determining the optimal level of cash holding

Cash holding is physical cash (cash or liquid) managed by management to meet investment and operational needs (Gill & Shah, 2012; Seto, Yulianti, et al., 2023). This cash is the most important component in supporting the company's business (R. Arum et al., 2022; Firza, 2021). With cash we are able to pay bills on time because of its liquid nature (Astuti et al., 2020). Forms of cash holding include: banknotes, deposits, money orders and cash equivalents that have a short maturity date (Weygandt et al., 2019). Company size is an indicator of how big a company is looking based on the number of assets, the number of employees and the amount of turnover. Companies with large sizes tend to have large funding as well (Minang et al., 2021). Cash flow is the inflow and outflow of cash that is maintained for operating activities (Brigham & Houston, 2020). Net working capital is the difference between current assets and current liabilities, when capital is large, the cash owned is also large (Gitman & Zutter, 2015). Profitability is one of the indicators of a company's performance expressed in the form of profit (Minang et al., 2021; Ristiyana & Erwindiawan, 2021).

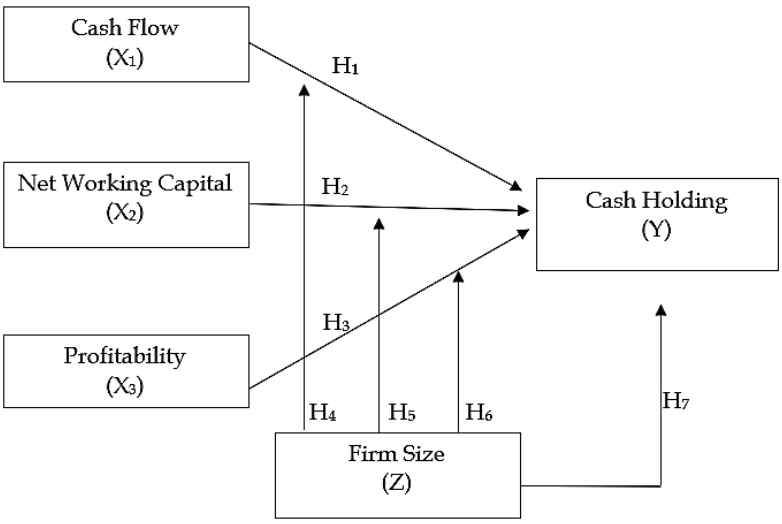

Figure 1. Research Framework
Source: Author (2023)

The Impact of Cash Flow on Cash Holding

It is an operating cycle used by management in regulating the entry and exit of cash (Cahyadi et al., 2025). The faster the cash flow, the larger the cash balance obtained. Positive cash flow occurs if the cash flow issued is less than the cash flow and vice versa, the faster the cash flow, the more cash holding you have. The rapid level of cash flow illustrates that operating conditions are uncertain, this makes corporations hold cash to anticipate cash shortages. It also implies financial conditions become unstable and trigger misestimates. It is different if the cash flow is slow/low, the financial condition becomes stable. In accordance with the trade-off theory which explains that there is a positive relationship between cash flow and cash holding. The faster the cash flow, the more volatile the cash flow, and if it fluctuates, the corporation must be able to anticipate a cash shortage. This is like the trade off theory. This statement is in

line with previous literature (Aftab et al., 2018; Mesfin, 2016; Sethi & Swain, 2019; Tayem, 2016) stating that cash flow has a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H1: Cash Flow has a positive and significant impact on Cash Holding.

The Impact of Capital Net Working on Cash Holding

Net Working Capital is a company's ability to pay or pay off debts in the short term. This working capital indicator is seen from the difference in the value of current assets and current liabilities. The higher the working capital, the larger the cash holding. Companies tend to hold their cash. This is done in anticipation of special events or other events that can affect cash that can cause cash holding to be disrupted. This research is supported by previous literature (Jamil et al., 2016; Sara Anjum, 2013; Sethi & Swain, 2019) which found that net working capital had a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H2: Net Working Capital has a positive and significant impact on Cash Holding.

The Impact of Profitability on Cash Holding

Profitability is an indicator of management performance as evidenced by the acquisition of profits from resources (R. A. Arum et al., 2022). In accordance with pecking order theory, decisions related to funding will prioritize internal funding over external funding. This means that management is required to generate high profitability. The higher the profitability, the more cash the company will have. With the large amount of cash, the company will manage it for financing. This statement is in line with previous literature (I. Ali et al., 2021; S. Ali et al., 2016; L. O. Ogundipe et al., 2012a; Sethi & Swain, 2019). The hypothesis proposed is as provided below:

H3: Profitability has a positive and significant impact on Cash Holding.

The Impact of Cash Flow on Cash Holding with Firm Size as a Moderation Variable

The amount of cash received depends on the speed of cash flow the company has. Positive cash flow is able to increase cash holding. Cash holding is influenced by the size of the company. Companies that have a large size will tend to have large assets. The larger the company's assets, the better the management, the better able to manage cash easily and freely, so that the size of this company will increase cash flow and increase cash holding. So, company size can be an indicator in moderating the impact of cash flow on cash holding. This statement is supported by (Aftab et al., 2018; Sethi & Swain, 2019; Tayem, 2016) which states that cash flow has a positive and significant impact on cash holding. Likewise, prior studies (Aftab et al., 2018; Guizani, 2017; Jamil et al., 2016) state that firm size has a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H4: Company Size Able to Moderate the Impact of Cash Flow on Cash Holding.

The Impact of Net Working Capital on Cash Holding with Firm Size as a Moderation Variable

Net working capital is net working capital that will later be used to finance the company's operations, so caution is needed in managing it. The larger the working capital, the

company has a great opportunity to hold its cash to finance operational needs. Especially if the size of a large company will be more careful in optimizing its working capital to adjust to the needs of cash holding. So that the size of this company is able to contribute to determining the impact of net working capital on cash holding. This statement is in accordance with previous literature (Jamil et al., 2016; Sara Anjum, 2013; Sethi & Swain, 2019) which states that net working capital has a positive and significant impact on cash holding. Likewise with Aftab et al (2018), Guizani (2017) and Mesfin (2016) which states that firm size has a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H5: Company Size is able to moderate the impact of Net Working Capital on Cash Holding.

The Impact of Profitability on Cash Holding with Firm Size as a Moderation Variable

Companies that have large profitability will have a large amount of cash as well. This relationship is directly proportional, especially if the size of the company is large. The amount of cash will be managed as best as possible because usually companies with large sizes are better able to overcome financial problems than those with small company size and the resulting performance is also better. So, the size of this company moderates the impact of profitability on cash holding. This question corresponds to prior studies (I. Ali et al., 2021; S. Ali et al., 2016; S. E. Ogundipe et al., 2012; Sethi & Swain, 2019) which found profitability has a positive and significant impact on cash holding. Likewise with Aftab et al. (2018), Guizani (2017), and Mesfin (2016) which states that firm size has a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H6: Company Size is able to moderate the impact of Profitability on Cash Holding.

The Impact of Firm Size on Cash Holding

The size of the company determines the size or size of the corporation which is assessed from total assets, profits, number of employees and revenue (Pranata et al., 2020). Large corporations are more diversified and tend to encounter fewer difficulties when it comes to finances, as their businesses are larger and capable of generating better performance than those that small businesses and the size of the corporation determine the valuation of the business. The bigger the corporation, the better the corporate image. A larger business will provide opportunities with a large amount of cash, but a large business also has a large obligation to invest. Following the pecking order theory, which states that the size of the company has a positive relationship with cash ownership, because the corporation usually holds cash to meet the investment needs (Seto, Fauzan, et al., 2023). This statement is in accordance with previous literature (Aftab et al., 2018; S. Ali et al., 2016; Guizani, 2017; Jamil et al., 2016) stating that the size of the company has a positive and significant impact on cash holding. The hypothesis proposed is as provided below:

H7: Firm Size has a positive and significant impact on Cash Holding.

RESEARCH METHODOLOGY

The study uses a quantitative with the type of research study being causality with the type of secondary data (Muslimin et al., 2023). The research population is wholesale and retail trade companies listed on the Indonesia Stock Exchange for the period 2014-2020. The sample was selected using purposive sampling and data collection techniques using literature research (Library Research). Data analysis techniques include (Scott, 2019): (1). Descriptive statistics;

(2). Selection of panel data regression model consisting of Chow Test, Hausman Test and Langrange Multiplier Test; (3). Stationariness Test; (4). The classical assumption test consisted of: normality test, multicollinearity test, autocorrelation test and heteroscedasticity test; (5). Model accuracy test consisting of determination coefficient test and F test; (6). Hypothesis test (t test); (7). Path Analysis. The researcher chose this test because considering the nature of the data involving many companies in several years, as well as the need to test the influence of moderation of firm size variables, the regression of panel data combined with MRA is the most suitable analysis model for cash holding research. This approach not only improves the accuracy of estimates but also provides deeper insight into the dynamics and interactions between financial variables in the context of the company.

The model of the equation is as follows:

$$CHit: -0.245227 + 0.004038\ CFit + 0.006358\ NWit + 0.902907\ PRit + \varepsilon \quad (1)$$

$$CHit: -0.354740 - 0.003519\ CFit + 0.004548\ NWit + 1.000761\ PRit + 0.012318\ FS + \varepsilon \quad (2)$$

$$CHit: -0.459423 + 0.000822\ CFit + 0.003465\ NWit + 0.722548\ PRit + 0.013462\ FS - 0.0000265\ CF_{it} * FS_{it} - 0.0000274\ NW_{it} * FS_{it} + 0.012671\ PR_{it} * FS_{it} + \varepsilon \quad (3)$$

Information:

CH	: *Cash Holding*
CF	: *Cash Flow*
NW	: *Net Working Capital*
PR	: Profitability
FS	: *Firm Size*
CF*FS, NW*FS, PR*FS	: Interaction
i	: Entity i-i
it	: Period t
ε	: *error term*

ANALYSIS

Table 1. Descriptive Statistics

	CH	FS	CF	NW	PR
Mean	0.112667	29.14916	27.26664	27.33159	0.060652
Maximum	0.509700	32.38700	31.58440	30.80240	0.309900
Minimum	0.010400	26.73450	22.04970	23.74290	0.002400
Std. Dev.	0.102499	1.293530	1.774626	1.587235	0.046438

Information:
CH – Cash Holding; FS – Firm Size; CF – Cash Flow; NW – Net Working Capital; PR - Profitability
Source: Author (2023)

Table 1 shows that the average cash flow value is 11.26%, firm size is 29.14%, cash flow is 27.26%, net working capital is 27.33%, profitability is 6.06%.

Table 2. Model selection for panel data regression

Chow Test		Hausman Test	Langrange Multiplier Test
Model 1: Cross-section 0.4867 Cross-section-Chi-square 0.3553	**F**	Model 1: Cross-section Random 0.0314	Model 1: Not tested
Model 2: Cross-section 0.4697 Cross-section-Chi-square 0.3291	**F**	Model 2: Cross-section Random 0.0350	Model 2: Not tested
Model 3 : Cross-section 0.3257 Cross-section-Chi-square 0.1784	**F**	Model 3: Cross-section random 0.0689	Model 3 : Not tested

Source: Author (2023)

Table 2 shows the chow test of models 1, 2, 3, obtaining cross-sec F and cross-s.chi-square > 0.05, respectively abiding the common effect model. The results of the thirst test on model 1 and 2 each obtained a random cross-section < 0.05 indicating following the fixed effect model. In model 3, a random cross-section > 0.05 indicates following a random effect model. It can be concluded that there is no need to test the range multiplier because the last model used is a random effect model.

Table 3. Stationarity Test

Method	Statistics	Prob.**
ADF - Fisher Chi-square	151.004	0.0000
ADF - Choi Z-stat	-10.2804	0.0000

Series	Prob.	Lag	Max Lag	Obs
CH	0.0370	12	12	113
FS	0.0003	12	12	113
CF	0.0000	12	12	113
NW	0.0000	12	12	113
PR	0.0000	0	12	125

Source: Author (2023)

In table 3, the probability value for all variables is < 0.05, hence showing that the research data has met stationarity (unit root test). This means that the mean values, variances, and covariance of the data are constant (not changing).

Table 4. Normality Test Results, Multicollinearity Test Results and Autocorrelation Test Results

Normality Test		Multicollinearity Test	Autocorrelation Test
Model 1:		Model 1:	Model 1:
Skewness	**0.4843**	CF 1.986052	Durbin-Watson stat
Kurtosis	**2.5825**	NW 2.111718	2.1261
Jarque-Bera	**5.2847**	PR 1.170608	
Probability	**0.0711**		
Model 2:		Model 2:	Model 2:
Skewness	**0.4999**	CF 7.561001	Durbin-Watson stat
Kurtosis	**2.6231**	NW 2.363806	2.1690
Jarque-Bera	**5.4230**	PR 1.697789	
Probability	**0.0664**	FS 7.720798	
Model 3 :		Model 3 :	Model 3 :
Skewness	**0.4608**	CF 9.264498	Durbin-Watson 2.1195
Kurtosis	**2.9309**	NW 3.755046	
Jarque-Bera	**3.9868**	PR 2.682961	
Probability	**0.1362**	FS 9.661994	
		DDINCF*FS 4.736512	
		DDINNW*FS 5.289999	
		DINPR*FS 2.099916	

Information:
CH – Cash Holding; FS – Firm Size; CF – Cash Flow; NW – Net Working Capital; PR – Profitability; CF*FS, NW*FS, PR*FS: Interaction
Source: Data Processing Results (2023)

Table 4 shows the normality test of models 1, 2, and 3, each obtaining a probability value > 0.05 indicating the data of the study has normal distribution. Therefore, it is worth moving on to the parametric testing of the data regression panel. The results of the multicollinearity test of model 1, 2, and 3 obtained a centered VIF < 10. Hence, the data from the study was categorized as not having multiple collinearity constraints in the regression. The results of the model 1 autocorrelation test obtained a DW Test of 2.1261 and in model 2 of DW Test 2.1690 and of model 3 of DW Test 2.1195, all three were in the position of DW < du < 4-du. This means that the 3 models were not constrained by autocorrelation interference either positive or negative because the DW Test presented a value that was between du and dl.

Table 5. Heteroscedasticity Test Results,

Determination Coefficient Analysis and F Test Results

Heteroscedasticity Test	**Det Test**	
Model 1:	Model 1:	
Obs*R-squared 1.0667	Adj.R-square	0.390182
Prob. Chi-Square (1)	F-stat	25.10042
0.3017	Prob (F-stat)	0.000000
Model 2:	Model 2:	
Obs*R-squared 0.2721	Adj.R-square	0.390901
Prob. Chi-Square (1)	F-stat	19.12997
0.6019	Prob (F-stat)	0.000000
Model 3:	Model 3 :	
Obs*R-squared 0.1568	Adj.R-square	0.418541
Prob. Chi-Square (1)	F-stat	12.41414
0.6921	Prob (F-stat)	0.000000

Source: Author (2023)

Table 5 of the heteroscedasticity test models 1 and 2 each obtained a sig value of ≥ 0.05, meaning that it was not affected by heteroscedasticity. The results of the analysis of the determination coefficient of model 1 obtained an Adjusted R2 of 0.3901. This means cash flow, net working capital, profitability of has a strength of 39.01% in predicting cash holding. While the remaining 60.99% is explained by other aspects outside the researchers' observations. While model 2 gets an Adjusted R2 of 0.3909n showing that cash flow, net working capital, profitability and firm size are 39.09% in predicting cash holding, the remaining 60.91% is explained by other aspects outside the researchers' observations. Model 3 has an Adjusted R2 of 0.4185, hence expressing that cash flow, net working capital, profitability and firm size has a strength of 41.85% in predicting cash holding, the remaining 58.15% is explained by other aspects outside the researchers' observations. So, it can be concluded that the research model together has a significant influence or the model in this study is fit (feasible). Statistical testing of F models 1, 2 and 3 respectively obtained a prob. value of ≤ 0.05. So, it can be concluded that the research model together has a significant influence or the model in this study is fit (feasible).

Table 6. T-statistical testing (t-test)

	Model 1		Model 2		Model 3	
Variable	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
C	-2.44140	0.0162	-2.466049	0.0152	-3.13487	0.0022
CF	0.951056	0.3437	-0.424983	0.6717	0.090951	0.9277
NW	1.289084	0.2001	0.872018	0.3851	0.535921	0.5932
PR	6.57778	0.0000	6.057410	0.0000	3.379755	0.0010
FS			1.062912	0.2902	1.052608	0.2950
CF*FS					-0.44134	0.6599
NW*FS					-0.37708	0.7069
PR*FS					2.48727	0.0145

Information:
CH – Cash Holding; FS – Firm Size; CF – Cash Flow; NW – Net Working Capital; PR – Profitability; CF*FS, NW*FS, PR*FS: Interaction

Source: Author (2023)

In Table 6, Cash flow has no significant effect on cash holding as indicated by the probability value of 0.9277 ≥ 0,05, whilst the value of the regression coefficient is 0.0008 and the t-statistic 0.090. It can also be seen on models 1, 2 and 3. This means sooner or later cash flow does not have any impact on the size of cash holding. This is because wholesale and retail trade companies for the 2014-2020 period do not really prioritize cash flow as part of capital utilization, because they already have branches, so it is assumed that it is not difficult to find funds from inside and outside. The company can still use cash holding through subsidiaries/branches of the company at any time if it needs liquid funds. This means that cash flow has not been able to affect cash holding. Thus, the first hypothesis is rejected. The results of this study are in line with (Chireka & Fakoya, 2017; M. S. Khalil & Mukhtiar, 2017; Sheikh et al., 2018) which found cash flow had no impact on cash holding. However, this research is not in line with some research (I. Ali et al., 2021; Islam, 2012; Magerakis, 2015) presenting that cash flow had a negative and significant impact on cash holding. Another case (Aftab et al., 2018; Sethi & Swain, 2019; Tayem, 2016) showing that cash flow had a positive and significant impact on cash holding.

Net working capital has no impact on cash holding because probability value shows 0.593 ≥ 0,05, while the value of the regression coefficient is 0.0034 and the t-statistic being 0.5359. This finding is consistent from all 3 models. This means that the amount of net working capital owned by the company does not have any impact on the size of the cash holding. This is because under no circumstances the company will still set aside cash to maintain liquidity. In addition, the company is not able to convert current assets other than cash as a substitute for cash easily, so it can be said that net working capital is not able to affect cash holding. Thus, the second hypothesis is rejected. The results of this study are in line with some cases(Islam, 2012; M. S. Khalil & Mukhtiar, 2017; S. Khalil & Ali, 2015). Finding net working capital has no impact on cash holding. Another case with Research also show that net working capital had a negative and significant impact on cash holding (Aftab et al., 2018; Ashhari & Faizal, 2018; Guizani, 2017). This is also contrary to Jamil et al. (2016) , Sara Anjum (2013) and Sethi & Swain (2019) which found that net working capital had a negative and significant impact on cash holding.

Profitability has a positive and significant impact on cash holding because of prob. 0.0010 ≤ 0,05; the value of the regression coefficient is 0.722 and t-statistic on 3,379. This is consistent with models 1, 2 and 3. Suggesting that the greater the profitability that the company has, the more cash holdings there will be and vice versa. In accordance with the pecking order theory that prioritizes internal funding rather than external funding, management strives to increase the company's profits through internal funding so that its profitability is high. The higher the profitability produced, the more cash will increase. This shows that large cash reflects the company is able to fund its needs well through intentional funding. Thus, the third hypothesis is accepted.These results are in line with prior research (I. Ali et al., 2021; S. Ali et al., 2016; L. O. Ogundipe et al., 2012b; Sethi & Swain, 2019) who found profitability to have a positive and significant impact on cash holding. The results contrasting with some research (Aftab et al., 2018; S. E. Ogundipe et al., 2012; Thu & Khuong, 2018) which found profitability to have a negative and significant impact on cash holding. Meanwhile, other research (Anwuli Gladys, 2022; Jamil et al., 2016; Nnubia & Ofoegbu, 2019) found profitability had no impact on cash holding.

The size of the company has no impact on cash holding because of the probability value being 0.2950 ≥ 0,05, the value of the regression coefficient is 0.013, and the t-statistic 1.052. It can also be seen on models 2 and 3. This means that the size of the company does not have any impact on the size of the cash holding. This is because companies that have a large size do not guarantee that their cash is liquid and do not guarantee that the company can optimize cash holding properly. In addition, each company has different policies and business directions for

managing cash. This means that the size of the company is not able to affect cash holding. Thus, the seventh hypothesis is rejected. These results are in line with some research (Chireka & Fakoya, 2017; S. E. Ogundipe et al., 2012; Thu & Khuong, 2018) which found that the size of the company had no impact on cash holding. Despite that, I. Ali et al. (2021), Sethi & Swain (2019), and Singh & Misra (2019) report the size of the company having a negative impact on cash holding. Other cases (Aftab et al., 2018; S. Ali et al., 2016; Guizani, 2017) found that the size of the company had a positive and significant impact on cash holding.

Table 7. Moderated Regression Analysis (MRA) Test Results

Variable	Model 1	Model 2	Model 3	Conclusion
CF*FS	Cow: 0.0040 Prob.: 0.3437 (Not sig.)	Koef : 0.0123 Prob.: 0.2902 (Not sig.)	Cow: -0.0000 Prob.: 0.6599 (Not sig.)	Not moderate
NW*FS	Cow: 0.0063 Prob.: 0.2001 (Not sig.)	Koef : 0.0123 Prob.: 0.2902 (Not sig.)	Cow: -0.0000 Prob.: 0.7069 (Not sig.)	Not moderate
PR*FS	Cow: 0.9029 Prob.: 0.0000 (Sig.)	Koef : 0.0123 Prob.: 0.2902 (Not sig.)	Cow: 0.0126 Prob.: 0.0145 (Sig.)	Pure Moderator

Information:
CH – Cash Holding; FS – Firm Size; CF – Cash Flow; NW – Net Working Capital; PR – Profitability; CF*FS, NW*FS, PR*FS: Interaction; Koef – Coefficient Value; Not Sig.: Insignificant; Sig.: Significant at 0.05

Source: Author (2023)

The moderated regression analysis test uses a comparison of 3 models by paying attention to the quadrants of the types of moderators (Ghozali, 2018). The test results based on table 7 show that firm size is not able to moderate the impact of cash flow on cash holding because in model 2 and model 3 the value of probability 0.2902 and 0.6599, respectively. Each of these models has probability values $\geq$ 0.05 (insignificant). This means that firm size is not suitable to be a moderation variable. Based on the results of the t-test and MRA, cash flow has no impact on cash holding because the company does not prioritize cash flow as the main financing and relies more on financing from branches/subsidiaries for cash (liquidity) needs. Firm size cannot guarantee a change in the decision because whether big or small, the company will still depend on the company's subsidiaries/branches, and the management considers that liquidity needs are not difficult to meet. This means that firm size is not able to moderate the impact of cash flow on cash holding. Thus, the fourth hypothesis is rejected.

The moderated regression analysis test uses a comparison of 3 models by paying attention to the quadrants of the types of moderators (Ghozali, 2018). The test results based on table 7 show that firm size is not able to moderate the impact of net working capital on cash holding because in model 2 and model 3 the value of prob. 0.2902 and 0.7069, respectively. Each of these models is prob. $\geq$ 0.05 (insignificant). This means that firm size cannot be a moderation variable. Based on the t-test and MRA, net working capital has no impact on this cash holding because the company in any condition will still set aside cash to maintain liquidity and the factor of the impossibility of converting current assets other than cash to liquidity. The existence of the size of this company does not give a meaningful meaning because whether big or small, the management company will still hold cash as a precaution in meeting operational and investment needs. Management will still do that regardless of how much net working

capital it has. So, this firm's size has not been able to moderate the impact of net working capital on cash flow. Thus, the fifth hypothesis is rejected.

The moderated regression analysis test uses a comparison of 3 models by paying attention to the quadrants of the types of moderators (Ghozali, 2018). The test results based on table 7 show that firm size is able to moderate the impact of profitability on cash holding because in model 2 and model 3 the value of prob. 0.2902 (insignificant) and 0.0145 (significant) respectively. This means that firm size is able to moderate by strengthening the impact of profitability on cash holding. Based on the results of the t-test and MRA, the greater the profitability, the greater the amount of cash held. This is in accordance with the pecking order theory that prioritizes internal funding over external funding. Through this internal funding, management will obtain profitability so that it is optimal. The more able to generate high profitability, the amount of cash will also be proportional to a lot. So that the amount of cash will reflect the company's ability to meet its needs. With the consideration of firm size, they will be more motivated to obtain high profitability through the increase in the amount of cash held. Usually the larger the firm's size, the better the ability to manage cash. The larger the firm size, the more profitability it will be and the need for cash holding will also increase. This means that firm size is able to moderate the impact of profitability on cash holding. Thus, the sixth hypothesis is accepted.

CONCLUSION

This study found the role of firm size in moderating cash holding analysis. The results of the study found that firm size can moderate by strengthening the impact of profitability on cash holding. This is because large firm sizes have good cash management so that with good performance this is able to increase profitability as optimally as possible. However, firm size is not able to moderate the impact of cash flow and net working capital towards cash holding because larger firms tend not to encourage management to set aside cash. No matter how big or small the firm size, management will still set aside cash for the sake of liquidity in meeting operational and investment needs. The strength of the article is that there is an addition of firm size as moderation utilizing a testing method that has never been published before (regression panel data and MRA). The implications of the research for investors are that this paper can be a consideration for investment decisions by paying attention to the company's performance in optimizing its cash holding. For the Financial Services Authority (OJK), this paper provides suggestions in determining policies and supervision so that companies are able to practice business with good and healthy financial management. The limitation of the study is that the data only covers the period 2014-2020, hence it does not fully represent the conditions of the latest economic policy changes, the sample is limited to only 18 companies in the wholesale and retail trade sectors on the IDX, suggesting that the results cannot be generalized to all industrial sectors in Indonesia. The recommendations for subsequent research is to extend the research period to be able to capture changes in cash holding behavior in the long term, including in new economic policies. In addition, adding other industrial sectors such as manufacturing, property or finance to strengthen the generalization of research results.

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