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ANALYSIS OF INFLUENCE OF FINANCIAL FACTORS ON CASH HOLDINGS OF NON-FINANCIAL COMPANIES

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ABSTRACT

This study investigates the influence of several factors on company cash holdings, including market to book ratio, net working capital, liquidity, company size, and cash flow. It utilizes a balanced panel dataset consisting of 80 non-financial companies in the property and real estate sector listed on the Indonesia Stock Exchange during the period of 2010-2021. The research sample was selected based on specific criteria, resulting in a total of 33 companies. The findings indicate that the market to book ratio variable has a significant differential impact on cash holdings between companies with high and low levels of cash holdings. Additionally, net working capital and company size also exhibit significant effects on cash holdings, while liquidity does not have a significant influence on companies with high cash holdings. These findings provide valuable insights for corporate management and financial regulators in managing company cash and making financial decisions. The practical implication underscores the importance of effective cash management and transparency in financial practices for sustainable business growth.

Keywords: *Cash Holdings, Market to Book Value, Net Working Capital, Liquidity,* Size, *Cash Flow*

INTRODUCTION

Cash holdings are a crucial aspect of corporate financial management, playing a crucial role in maintaining liquidity and financial stability. Particularly for non-financial companies, cash holdings become increasingly important when other sources of funding are insufficient to meet operational and investment needs. The importance of cash holdings for companies has become the concern of several researchers and professionals such as Zhuang et al. (2022) who examined the effects peer group benchmarking on the value of cash. Cash holdings become important when other sources of funds are not sufficient to meet the company's demands (Denis and Sibilkov 2010). Usman (2022) examined the relationship between the ability of a firm to sell its real assets and its cash holding behavior. Almeida et al. (2004) examine the effect of financial constraints on company policy. Faulkender and Wang (2006) examined the marginal value of the company's cash holdings that arise from differences in the company's financial policies. Marwick et al. (2020) investigated the relationship between organizational capital and corporate cash holdings.

Research on the factors influencing cash holdings of non financial companies has important implications for understanding corporate financial decisions and risk management strategies. Some literature on company cash holdings such as Denis and Sibilkov (2010) found that financially constrained firms are more likely to keep cash from their cash flow to increase their values as it can allow the firm to take valuable investment opportunities. Zhuang et al. (2022) found that firms holding cash reserves below their peers' will mimic some cash increasing behavior as exhibited by their peers. Zhuang et al. (2022) show that the effect of peer group benchmarking is more pronounced in smaller firms, financially constrained firms, especially those in industries with higher cash flow volatility, and those facing a highly competitive market. Firms that have the greatest access to the capital markets, such as large firms and those with high credit ratings, trend to hold lower ratios of cash to total non-cash assets (Opler et al., 1999).

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Through careful analysis of financial factors, we can gain a better understanding of how companies maintain and utilize their cash holdings. Usman (2022) found that substitution effect exists between the size of cash balances and the liquidity of a firm's real assets when access to external capital market is limited. The results of his research found that among financially constrained firms, higher asset liquidity is related to lower cash holdings. Additionally, for financially constrained firms, the market value of cash is lower for firms with higher asset liquidity. Denis and Sibilkov (2010), argued that higher cash holdings of constrained firms are a value-enhancing response to costly external financing. The increased cash holdings in the company will usually be used for investment in the subsequent period. Usman (2022) cash holdings within the company are affected by an increase in market to book, net working capital, size, and cash flow. Eljelly (2004) found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that effects profitability, the industry level. Gopalan et al. (2012); Pham et al. (2018), used cash and cash equivalents data taken from balance sheets to measure the liquidity of each company that is the object of their research. The availability of cash in the company is important because it relates to the survival of a business. Therefore, the company must have numerous sources to obtain cash. Financial markets are one of the many channel's companies can use. However, due to the Asian Financial Crisis, the 2008 Global Financial Crisis investors' confidence in financial markets was shaken, causing the most damage to the non-financial sector (Chang and Yang, 2022).

Starting from the research phenomenon by Usman (2022); Zhuang et al. (2022), we will examine the cash holdings of the property and real estate companies, which will be grouped into two. The first group are for companies with average cash holdings of greater than or equal to 100% of the industry average. The first group is named 'high'. The second group are for companies with average cash holdings of 1% to 99% of the industry average. This second group is named 'low'. Based on the research of Denis and Sibilkov (2010), researchers suspect that there is a difference between the cash holdings of high and low companies due to their behavior. We will look at the relationship between cash holdings in the two groups with the market-to-book ratio, net working capital, liquidity, size, and cash flow. Through appropriate methodological approaches, this research is expected to make a valuable contribution to the literature on corporate financial management and provide useful insights for practitioners and policymakers in designing effective financial strategies.

This study demonstrates that the relationship between a company's cash holdings and factors such as market to book ratio, net working capital, liquidity, company size, and cash flow has significant implications. However, these factors affect cash holding policies differently depending on the level of cash holdings within the company. These findings highlight the importance of effective cash management and a careful understanding of these factors in corporate financial decision-making, as well as the need for transparent and responsible regulation in corporate financial practices.

Cash Holdings

Companies that face external financing constraints can use available cash holdings to fund the necessary expenses (Denis and Sibilkov, 2010). Several researchers report this view consistently, that companies with difficulties that experience in obtaining external capital, will hold more cash. Almeida et al. (2004), found that restricted companies should have positive cash flow sensitivity, while unrestricted companies' cash savings should not be systematically related to cash flows. Zhuang et al. (2022), said that cash holdings among industry competitors are often overlooked. Leary and Roberts (2014), show that the same group of companies plays an important role in determining the company's capital structure and financial policies. For cash positions associated with the same group of companies, different levels of cash holdings may have a certain impact on cash values. Leary and Roberts (2014) say that smaller and less successful companies are highly sensitive to their larger and more successful counterparts, but not vice versa. Holding cash holdings under their counterparts may not be able to provide the company with sufficient liquidity. To meet future developments or protect themselves against possible adverse cash flow shocks, companies must wisely reserve cash holdings in their accounts to protect themselves from unforeseen emergencies (Chang and Yang, 2022). Especially for companies that have incomplete information about optimal cash holdings (Zhuang et al. 2022). Finally, higher cash holdings are more valuable for financially constrained companies (Denis and Sibilkov, 2010).

Literature Review of Financial Factors on Cash Holding

The literature on financial factors influencing cash holding provides valuable insights into corporate finance decisions. Zhuang et al. (2022), examined whether changes in cash holdings lead to market-to-book changes, revealing the importance of cash holdings positioning within related company groups. Usman (2022) highlighted that companies with financial constraints tend to have lower cash market values if they possess higher asset liquidity. Additionally, Faulkender and Wang (2006) demonstrated that the sensitivity of equity proxies to common risk factors in stock returns suggests potential differences in expected returns for stocks in the market to book portfolio.

Net working capital, defined as the difference between the company's current assets and liabilities, plays a crucial role in financial management. Sibilkov et al. (2009) found that managerial fees increase with rising asset liquidity, underscoring the impact of financial difficulties and liquidity costs on capital structure. Moreover, Usman (2022) indicated in increased cash holdings could raise the cost of external funding. Harford et al. (2014) noted that shorter maturity debt positively influences companies' tendencies to maintain large cash balances and save more from cash flow.

The liquidity ratio serves as a short-term measure of a company's financial health. Nejadmalayeri and Usman (2022) suggested that insufficient internal funding sources may lead companies to sell productive assets to cover debts. Eljelly (2004) emphasized that borrowing to finance working capital needs can directly impact a company's cash position and profits. Additionally, Usman (2022) observed that companies with financial constraints a higher asset liquidity tend to have lower cash holdings. Unsecured debt and greater liquidity increase the credit spread on corporate debt and reduce optimal leverage (Morellec, 2001). Their research also shows that asset liquidity can help explain leverage ratios.

Morellec (2001) highlighted that unsecured debt and greater liquidity increase the credit spread on corporate debt and reduce optimal leverage, with asset liquidity can help explain leverage ratios. Khurana et al. (2006) examined the sensitivity of cash flow and cash holdings to firm size, with Usman (2022) confirming company size as significant determinant of cash balance levels. Furthermore, Faulkender and Wang (2006) concluded that firm size influences the sensitivity of equity proxies to common risk factors in stock return, indicating potential differences in expected returns for stocks of varying sizes. Khurana et al. (2006) found that the sensitivity of cash holdings to the company cash flow decreased with financial developments. Almeida et al. (2004) observed that companies facing financing problems tend to accumulate cash reserves for future investment opportunities. Additionally, financial constraints are associated with company's tendency to retain cash from cash inflows, as demonstrated by Denis and Sibilkov (2010), who found a particularly strong positive impact to cash on investment for limited companies with high hedging needs.

Hypothesis

Previous literature underscores the significance of cash holdings when inflows of cash or alternative funding sources fail to meet their needs. For instance, Leary and Roberts (2014) suggest that smaller and less successful companies exhibit high sensitivity to their larger and more successful counterparts, whereas Usman (2022) associates companies with financial constraints and higher asset liquidity with lower cash holdings. By aligning with these perspectives, that first hypothesis of this study is formulated as follows:

H1a: Market to book has a positive effect on companies that have high cash holdings.

H1b: Market to book has a positive effect on companies that have low cash holdings.

Following the formulation of hypothesis 1, this research extends to hypothesis 2, examining the relationship between net working capital on cash holdings. Previous literature has explored the impact of net working capital on cash holdings, with Usman (2022) particularly focusing on companies with low cash holdings and financial constraints. Net working capital, defined as the difference between current assets and liabilities, plays a pivotal role in financial management. Additionally, Harford et al. (2014) indicate that shorter debt maturities positively influence companies' propensity to maintain larger cash balance. Based on these insights, hypothesis 2 is articulated as follows:

H2a: Net working capital has a positive effect on companies that have high cash holdings.

H2b: Net working capital has a positive effect on companies that have low cash holdings.

Subsequently, Hypothesis 3 is established to investigate the association between liquidity and cash holdings. Liquidity, measured by the current ratio, reflects a company's ability to cover short-term obligations. Arsyad et al. (2021) emphasize the importance of enhancing liquidity for improving financial performance, while Denis and Sibilkov (2010) highlight the significance of cash holdings when other funding sources are insufficient. Referring to this literature, Hypothesis 3 is formulated as follows:

H3a: Liquidity has a positive effect on companies that have high cash holdings.

H3b: Liquidity has a positive effect on companies that have low cash holdings.

Moving forward, Hypothesis 4 examines the relationship between company size and cash holdings. Usman (2022) found a correlation between company size and cash holdings, supported by Hadlock and Pierce (2010), who suggest that company size and age can indicate financial constraints. Therefore, Hypothesis 4 is posited as follows:

H4a: Size affects companies that have high cash holdings.

H4b: Size affects companies that have low cash holdings.

Furthermore, Hypothesis 5 explores the connection between cash flow variables and cash holdings. Previous research has investigated this relationship, with Almeida et al. (2004) suggesting positive cash flow sensitivity for restricted firms and Khurana et al. (2006) observing a decrease in the sensitivity of cash holdings to cash flow as companies grow. Usman (2022) emphasizes the significance of cash flow as a determinant of cash balance levels. Thus, Hypothesis 5 is stated as follows:

H5a: Cash flow affects companies that have high cash holdings.

H5b: Cash flow affects companies that have low cash holdings.

Lastly, Hypothesis 6 examines company characteristic variables associated with high and low cash holdings. Denis and Sibilkov (2010) investigate the value of cash holdings for financially constrained firms and identify differences in cash holdings between restricted and non-restricted firms. Their findings suggest that restricted firms with high hedging needs exhibit larger cash holdings, while some restricted firms maintain low cash holdings due to persistently low cash flows. Usman (2022) also highlights the relationship between financial constraints and low cash holdings. Based on these insights, Hypothesis 6 is proposed as follows:

H6: There are differences in the significance of market to book, net working capital, asset liquidity, size, and cash flow with companies that have high and low cash holdings.

METHODS

Data

The data used in this study comprises annual financial reports as of December 31st for each year. Balance sheets and income statements of non-financial companies in the property and real estate sector were obtained from the Indonesia Stock Exchange or the respective websites of each company. From these financial reports, data on assets, equity, cash and cash equivalents, marketable securities, market capitalization, deferred taxes, current assets, current liabilities, and earnings before interest tax, depreciation, and taxes were extracted. The dataset utilized in this paper consists of panel data spanning from 2010 to 2021, with a total of 144 and 252 observations for companies with high and low cash holdings, respectively.

Table 1. Descriptive statistics

Panel A: Descriptive statistics for high cash holdings					
Variable	Obs	Mean	Std. Dev.	Min	Max
High cash holdings	144	.1596141	.1305082	.0047278	1.178445
Market to book	144	-.8147409	23.89613	-281.8839	22.85871
Net working capital	144	.2407504	.7054001	-5.212075	5.649804
Liquidity	144	3.861222	5.800634	.0216133	48.48150
Size	144	29.13958	2.028917	24.97072	31.74957
Cash flow	144	.2654059	.6942366	-1.926106	7.153701
Panel A: Descriptive statistics for low cash holdings					
Variable	Obs	Mean	Std. Dev.	Min	Max
Low cash holdings	252	.0437918	.0272625	.0124719	.0822903
Market to book	252	.9656669	.3385165	.5519744	1.454916
Net working capital	252	.1627654	.2014115	-.0407095	.4748634
Liquidity	252	1.502468	.5980857	.8790542	2.427223
Size	252	28.63924	1.314694	25.63856	30.71906
Cash flow	252	.0989297	.0558026	.0381057	.1872177

Notes: Panel A reports the descriptive statistics for high cash holdings. Panel B for low cash holding.

Source: Author

The dependent variable in this study is cash holdings. First, we calculate the company's cash holdings using the formula used (Usman, 2022). Second, calculate the average cash holdings for each property and real estate company divided by the number of years of observation, using the following formula:

$$Company\ average\ cash\ holdings = \frac{Total\ cash\ holdings_{i,t}}{Number\ of\ years\ observation}$$

The third step is to add up all the calculated average cash holdings divided by the number of companies in the industry, using the following formula:

$$Industry\ average\ cash\ holdings = \frac{Total\ company\ average\ cash\ holdings_{i,n}}{Number\ of\ companies}$$

Next, we will divide the company's average cash holding into two groups. The first group of companies' average cash holdings is greater than or equal to 100% of the industry average cash holdings and is labeled 'high'. The second group of cash holdings averages 1% to 99% of the industry average cash holdings and is labeled 'low'.

The independent variables in this paper include market to book, net working capital, liquidity, size, and cash flow. Market to book, net working capital, size and cash flow are calculated using the same formula as research (Usman, 2022). The current ratio uses the same formula used (Arsyad et al., 2021; Eljelly, 2004).

Methodology

We estimate the following equation:

$$Y_{1it} = \beta_0 + \beta_1 MTB_{i,t} + \beta_2 NWC_{i,t} + \beta_3 CR_{i,t} + \beta_4 SZ_{i,t} + \beta_5 CF_{i,t} + e_{i,t} \quad (1)$$

$$Y_{2it} = \beta_0 + \beta_1 MTB_{i,t} + \beta_2 NWC_{i,t} + \beta_3 CR_{i,t} + \beta_4 SZ_{i,t} + \beta_5 CF_{i,t} + e_{i,t} \quad (2)$$

Where *i* is the property and real estate companies, *t* is for year, Y_1 is for high cash holdings, Y_2 is for low cash holdings, while β_x are the variable coefficients. *MTB, NWC, CR, SZ, CF,* and *e* are the market to book, net working capital, current ratio, size, cash flow, and error.

Table 2. Summary of the variables used in the current study and their expected effects on cash holdings of non-financial companies.

Variables	Notation	Measurement
Cash holdings	CH	$\frac{\text{Cash and marktable securities}}{\text{Assets}}$
Market to book	MTB	$\frac{\text{Assets} - \text{Book Equity} + \text{Market Capital} + \text{Deferred Taxes}}{\text{Assets}}$
Net working capital	NWC	$\frac{\text{Current Assets} - \text{Current Liabilities}}{\text{Assets}}$
Liquidity	LIQ	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Size	SIZ	Natural logarithm of total assets
Cash flow	CFL	$\frac{\text{EBIT} + \text{Depreciation} - \text{Taxes}}{\text{Assets}}$

Source: Author

ANALYSIS

Before discussion the results, we selected the best model to be used in our analysis. Based on the results of the chow test, the best model is the fixed effect. Because the choice of model used is a fixed effect, we proceed to the next step to determine whether the fixed effect model is better or the random effect using the Hausman test with Sigmamore. Observing table 4, we conclude that the best model for our analysis is the fixed effect model because results of the Chow and the Hausman test has selected the model with robust estimation, Thus, our model have passed the classical assumption test.

Table 3. Results of cash holdings of non-financial companies

Determinant variables	(1) High cash holdings		(2) Low cash holdings	
Market to book	0.001		0.012	**
	(0.001)		(0.005)	
Net working capital	0.148	***	0.027	**
	(0.141)		(0.012)	
Liquidity	0.001		0.018	***
	(0.001)		(0.004)	
Size	0.008	**	0.004	***
	(0.004)		(0.001)	
Cash Flow	0.109	***	0.133	***
	(0.109)		(0.029)	
Observations	144		252	
Adjusted R - squared	0.487		0.191	
Hausman test: x^2 (prob)	27.31 (0.0000)		18.32 (0.0000)	

Notes: This table report the analysis of influence of financial factors on cash holdings of non-financial companies. Columns (1) and (2) report the regression results for high and low cash holdings. Standard error are reported in parentheses an otherwise are the coefficient values. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Source: Author

Table 3 reports the regression results, indicating that the market-to-book ratio has no significant influence on the cash holdings of companies with high cash reserves. Conversely, companies with low cash holdings exhibit a positive relationship with the market-to-book ratio. This striking difference

suggests that companies with ample cash reserves are not affected by fluctuations in the market-to-book ratio, indicating that their cash management strategies may be based on factors beyond stock market valuations. Conversely, companies with limited cash reserves demonstrate higher sensitivity to changes in stock prices. This finding is consistent with previous research by Zhuang et al. (2022), which suggests that the additional value of cash is greater for companies with lower cash reserves compared to their counterparts. Usman (2022) asserts that, for financially constrained companies, the market value of cash is lower for those with higher asset liquidity. Moreover, Usman (2022) highlights that the market-to-book ratio significantly influences the level of cash balance in a company. Faulkender and Wang (2006) suggest that variations in the market-to-book ratio may lead to different expected returns, thereby influencing corporate cash management strategies.

Companies with high and low levels of cash holdings have been proven to be influenced by net working capital. This finding highlights the importance of net working capital in managing corporate liquidity, with a greater impact seen in companies with high cash levels. The implication for corporate management is the need to consider the role of net working capital in financial decision-making, including cash and investment management. By taking net working capital into account, corporate management can optimize liquidity and enhance financial stability in the face of changing market dynamics. Furthermore, this finding is consistent with previous research, such as that conducted by Sibilkov et al. (2009), who found a positive relationship between asset liquidity and collateralized debt. The implication for authorities is the necessity of developing policies that support responsible net working capital management practices. Authorities also need to enhance oversight of corporate financial practices, particularly to ensure that companies are not overly exposed to unnecessary liquidity risks. Thus, appropriate policies and oversight can help maintain overall financial system stability.

Liquidity, measured through the current ratio, does not significantly influence companies with high cash levels. It is suspected that the high liquidity levels in these companies are not solely based on conventional liquidity measures, such as the current ratio. Instead, these companies may acquire their cash reserves from various sources, such as short-term or long-term debts. On the other hand, companies with low cash levels are affected by liquidity. This finding is consistent with previous research by Sibilkov et al. (2009), which showed a positive relationship between cash reserves and asset liquidity. The implication of this finding underscores the importance for companies to consider diverse sources of funding apart from cash reserves, especially for companies with high cash levels. Diversifying funding sources can assist companies in optimizing their financial structures and managing liquidity more effectively. Additionally, regulators need to ensure that companies transparently disclose their liquidity positions and funding sources.

This study found that cash holdings, whether high or low, are influenced by the size of the company. This suggests that an increase in total assets of the company will be followed by an increase in the company's cash holdings. This finding is consistent with Faulkender and Wang (2006), who found that company size has implications for the sensitivity of equity to common risk factors in stock returns. Usman (2022) also noted that company size is a significant determinant of the level of cash balance in a company, confirming that larger companies tend to have larger cash reserves. The practical implication of this finding is that companies can leverage their size to gain better access to capital markets and financial resources, enabling them to support business growth and expansion.

In this study, it was found that companies with both high and low cash holdings are positively influenced by cash flow, so that any increase in the company's cash flow will be followed by an increase in cash holdings. This result is consistent with the findings of Khurana et al. (2006), who found implications of the sensitivity of cash holdings to company cash flows. Another implication relates to the importance of effective cash flow management to optimize the use of company funds and ensure cash holdings are proportional to business needs.

Based on the F-test results presented in Table 3, we conclude that there are significant differences in the significance of the market-to-book ratio, net working capital, liquidity, size, and cash flow among companies with high and low cash holdings. These results indicate that the influence of these factors varies depending on the level of cash ownership within the company. For instance, the market-to-book ratio significantly affects companies with low cash holdings but not those with high cash holdings. On the other hand, net working capital, size, and cash flow show no significant differences between the two groups of companies. These findings provide important insights into understanding the factors influencing company cash holding policies.

CONCLUSION

The originality of this research lies in the regression analysis approach used to explore the relationship between specific factors and company cash holdings. This study also integrates findings from various previous studies to provide a more comprehensive understanding of the factors influencing corporate financial management decisions related to cash reserve determination. By employing careful methodology, this research aims to make a new contribution to understanding corporate cash management strategies.

The paper uncovers several findings that offer valuable insights for company management and regulators. Firstly, there are significant differences in the influence of the market-to-book ratio on cash holdings between companies with high and low levels of cash holdings. Companies with high cash holdings tend to be less affected by fluctuations in the market-to-book ratio, whereas those with low cash holdings show a positive relationship with the market-to-book ratio. This indicates that corporate cash management strategies may be more influenced by internal factors than stock market valuations. Secondly, net working capital has a significant influence on cash holdings, particularly in companies with high cash holdings. This underscores the importance of considering the role of net working capital in managing company liquidity, with implications suggesting that company management should factor in net working capital when making financial decisions. Thirdly, liquidity does not significantly affect companies with high levels of cash holdings. This finding suggests that the high liquidity levels in these companies may be supported by sources of funds other than cash holdings. However, liquidity has a significant impact on companies with low levels of cash holdings. Fourthly, company size significantly influences cash holdings, with an increase in total company assets followed by an increase in cash holdings. The practical implication of this finding is that companies can leverage their size to gain better access to capital markets and financial resources. Fifthly, cash flow has a positive influence on cash holdings, for both companies with high and low levels of cash holdings. This highlights the importance of effective cash flow management in optimizing corporate cash utilization and ensuring cash holdings are proportional to business needs. Lastly, there are significant differences among the market-to-book ratio, net working capital, liquidity, size, and cash flow among companies with high and low levels of cash ownership.

This research has several limitations that need to be considered. First, we used secondary data that may not fully reflect actual market conditions. Second, there is a limitation in the selected variables, so other factors such as dividend policies were not considered. Third, statistical analysis has limitations in dealing with data complexity. Fourth, our findings only apply to specific samples and cannot be widely generalized. Finally, there is still a possibility of other variables affecting the results. Understanding these limitations, our research can be used as a basis for further research in the field of corporate financial management.

Overall, the findings of this study make a significant contribution to understanding the factors influencing company cash holdings. The practical implication is that corporate management needs to carefully consider these factors in their cash management and investment decisions, while regulators need to ensure transparency and accountability in corporate financial practices. This research also encourages further investigation into the relationship between cash holdings and other factors in a broader context.

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Appendix

Tabel 1 Result chow test for high cash holdings

Fixed-effects (within) regression				Number of obs	= 144
Group variable: namapeerus-1				Number of groups	= 12
R-sq:				Obs per group:	
within	= 0.5649			min	= 12
between	= 0.2126			avg	= 12.0
overall	= 0.4211			max	= 12
				F (5, 127)	= 32.98
Corr (u_i, xb)	= -0.4375			Prob > F	= 0.0000

High cash holdings	Coef.	Std. Err.	t	P > | t |	[95% Conf.	Interval]
Company value	.0000375	.0003051	0.12	0.902	-.0005663	.0006413
Net working capital	.1511212	.0145867	10.36	0.000	.1222568	.1799855
Liquidity	.0000239	.0013739	0.02	0.986	-.0026948	.0027426
Size	.0323055	.0144524	2.24	0.027	-.0609042	-.0037068
Cash flow	.1035206	.0136047	7.61	0.000	.0765993	.1304419
_cons	1.037063	.424489	2.44	0.016	.1970763	1.877051
sigma_u	.07174631					
sigma_e	.08231401					
rho	.43172669	(fraction of variance due to u_i)				

F test that all u_i = 0: F (11, 127) = 4.64 Prob > F = 0.0000

Tabel 2 Result chow test for low cash holdings

Fixed-effects (within) regression				Number of obs	= 252
Group variable: namapeerus-1				Number of groups	= 21
R-sq:				Obs per group:	
within	= 0.1249			min	= 12
between	= 0.0191			avg	= 12.0
overall	= 0.0828			max	= 12
				F (5, 226)	= 6.45
Corr (u_i, xb)	= -0.0584			Prob > F	= 0.0000

Low cash holdings	Coef.	Std. Err.	t	P > | t |	[95% Conf.	Interval]
Company value	.0198154	.0054945	3.61	0.000	.0089884	.0306423
Net working capital	.0142985	.0143347	1.00	0.320	-.0139483	.0425452
Liquidity	.0017206	.0050478	0.34	0.734	-.0082261	.0116674
Size	.0001403	.0027997	0.05	0.960	-.0053766	.0056572
Cash flow	.0837193	.0276828	3.02	0.003	.0291699	.1382686
_cons	.0074447	.0824944	0.09	0.928	-.1551119	.1700013
sigma_u	.01668494					
sigma_e	.02150539					
rho	.3757576	(fraction of variance due to u_i)				

F test that all u_i = 0: F (20, 226) = 4.69 Prob > F = 0.0000

Tabel 3 Results Hausman Test with Sigmamore for high cash holdings

	(b) fe	(B) re	(b-B) Difference	Sqrt (diag (V_b – V_B)) S. E.
Company value	.0000375	-.0002631	.0003006	.0000935
Net working capital	.1511212	.1508917	.0002294	.0080617
Liquidity	.0000239	.0006624	-.0006385	.0005045
Size	-.0323055	-.0088939	-.0234116	.0151972
Cash flow	.1035206	.1090216	-.005501	.005715

b = consistent under H_0 and H_a; obtained from xtreg
B = inconsistent under H_a, efficient under H_0; obtained from xtreg

Test: H_0: Difference in coefficients not systematic

chi2 (5) = (b-B) '[(V_b – V_B) ^ (-1)] (b-B)
= 27.31
Prob>chi2 = 0.0000

Tabel 4 Results Hausman Test with Sigmamore for low cash holdings

	(b) fe	(B) re	(b-B) Difference	Sqrt (diag (V_b – V_B)) S. E.
Company value	.0198154	.0179634	.001852	.0023473
Net working capital	.0142985	-.0039311	.0182296	.0068458
Liquidity	.0017206	.0094585	-.0077379	.0026811
Size	.0001403	.0035575	-.0034172	.0023212
Cash flow	.0837193	.1064057	-.0226865	.0078925

b = consistent under H_0 and H_a; obtained from xtreg
B = inconsistent under H_a, efficient under H_0; obtained from xtreg

Test: H_0: Difference in coefficients not systematic

chi2 (5) = (b-B) '[(V_b – V_B) ^ (-1)] (b-B)
= 18.32
Prob>chi2 = 0.0000