Cash Holdings Determinants: The Case of Malaysian Local Authorities

Norilmiah Azis[1], Nor Khadijah Mohd Azhari[2], Radziah Mahmud[1], Rosmini Mohd Aripin[1] & Y. Nurli Abu Bakar[1]

[1] Faculty of Accountancy, Universiti Teknologi MARA, Selangor Branch, Malaysia

[2] Faculty of Accountancy, Universiti Teknologi MARA, Penang Branch, Malaysia

Correspondence: Norilmiah Azis, Faculty of Accountancy, Universiti Teknologi MARA, Shah Alam Campus, Selangor Branch, Selangor, Malaysia. E-mail: noril240@uitm.edu.my

Received: October 9, 2023 Accepted: January 20, 2024 Online Published: January 23, 2024

doi:10.5430/afr.v13n1p18 URL: https://doi.org/10.5430/afr.v13n1p18

Abstract

This paper investigates the determinants of cash holdings by Malaysian local authorities. The researchers seek understanding on the motivation/intention behind the pattern of cash holdings and the theory that may be able to explain why the local authorities hold such amount of cash. Extensive research affirms that organizations in the private sector possess reasons to maintain cash, encompassing transactional, precautionary, and speculative objectives. The pecking order theory, trade-off theory, and free cash flow theory are also significant frameworks that explain why individuals, businesses, and institutions hold cash. However, there has been limited investigation into the factors influencing cash holdings in the public sector, particularly among local authorities in Malaysia. Therefore, relationship between the local authorities' size, growth opportunities, financing deficits, liquidity, leverage, capital expenditure and access to credit market and cash holdings in Malaysian local authorities is examined. The sample in this study is 37 districts in Malaysia and data is collected from financial statements of the studied districts between 2015 and 2019. Thus, the total observations in this study are 185 districts-years.

Keywords: cash holdings, local authorities, pecking order theory, trade-off theory

1. Introduction

Cash holdings, often referred to as cash hoardings, denote the amount of readily convertible cash and liquid assets a company possesses, which can be quickly turned into cash when needed. This includes funds on hand, deposits in banks, short-term investments in highly liquid instruments like commercial paper, and easily marketable securities (Ferreira & Vilela, 2004). In global context, different aspects of cash holding had been studied extensively especially on the determinants of cash holdings in profit-making organisations.

Transactional, precautionary, and speculative motives inspire the profit-making organisations for holding cash. The transactional motive of cash holdings refers to the need for organisation to hold cash in order to facilitate day-to-day transactions. This is supported by Opler et al. (2001). The findings support the transactional motive of cash holding, highlighting a positive correlation between cash holdings and future investment decisions. The research demonstrates that firms with higher cash holdings are more likely to invest in growth-oriented activities, expand their operations, and capture strategic opportunities. The precautionary motive for holding cash involves keeping reserves to handle unexpected or unforeseen circumstances. These can include sudden market fluctuations, economic downturns, natural disasters, or unexpected expenses. By holding a precautionary cash reserve, an organization can mitigate potential risks and uncertainties that may affect its financial stability. Speculative motive is where firms keep speculative cash on their accounts to seize profit-making opportunities in the future, typically resulting from price volatility (Angelovska & Valentinčič, 2020). What is more, maintaining speculative cash reserves allows the organization the opportunity to acquire assets at appealing prices whenever needed (Michalski, 2009). In addition to the motives mentioned earlier, it may be necessary to consider the pecking order theory, trade-off theory, and free cash flow theory, as these are substantial frameworks that provide insight into why individuals, businesses, and institutions hold onto cash.

This research aims to explore the determinants of cash holdings as perceived by local authorities in Malaysia. The jurisdiction of local authorities in Malaysia can vary depending on the type of local authority. In general, local authorities in Malaysia operate at different levels, including:

(1) Municipal Councils: Municipal councils have jurisdiction over cities, towns, and urban areas. They are responsible for providing services and managing local affairs within their respective jurisdictions. Examples of municipal councils in Malaysia include Kuala Lumpur City Hall (DBKL) and Penang Island City Council (MBPP).

(2) District Councils: District councils have jurisdiction over districts and rural areas. They are responsible for providing services and managing local affairs in the rural and semi-urban areas within their respective districts. Examples of district councils in Malaysia include Petaling District Council (MDP) and Klang District Council (MPKlang).

(3) City Halls: City halls have jurisdiction over specific cities or major urban areas. They are responsible for managing the affairs of the city and providing services to its residents. Examples of city halls in Malaysia include Johor Bahru City Council (MBJB) and Shah Alam City Council (MBSA).

Local authorities play an essential role in Malaysia's governance structure, responsible for providing key services and infrastructure at the grassroots level. As financial stewards of their respective regions, local authorities must manage their resources efficiently and effectively. Understanding the factors influencing cash holdings of local authorities in Malaysia is key for promoting transparency, accountability, and sustainable development.

The objective of this study is to investigate the elements that impact the cash reserves of local authorities in Malaysia. By identifying these factors, including the size of these authorities, growth opportunities, financing deficits, liquidity, leverage, capital expenditure and access to credit market, we can gain a deeper understanding of what drives cash reserves in these entities. This comprehension will enhance financial strategies and decision-making, helping local authorities in allocating their resources with greater effectiveness and efficiency.

By undertaking this research, we aim to contribute to the broader understanding of local government finance in Malaysia. The findings will not only benefit local authorities in their financial management efforts but will also inform policymakers, practitioners, and researchers in developing strategies and policies that promote efficient resource allocation, fiscal responsibility, and sustainable development at the local level.

2. Literature Review

2.1 Reasons and Motives for Holding Cash

Cash holdings are commonly defined as cash in hand and bank, short-term investment in money market, marketable securities, or cash equivalents (Opler et al. 1999). Cash equivalents are current assets that are the most liquid which are easily converted into cash in a short period (Ogundipe et al, 2012). Cash accounts form a large portion of a firm's assets and companies keep cash on hand to cover operating expenses and capital investments. Cash has both benefits and drawbacks. Underlying benefits of holding cash include a) reduction in the chances of financial distress, b) lessening the impact of financial constraints on investment policy of firms and c) reduction in cost of external financing (Ferreira and Vilela 2004). Firms can benefit from cash holdings because their need for external finance is reduced and they can invest in profitable projects in the future (Dittmar et al., 2003). Holding cash, on the other hand, may deter firms from investing in valuable projects or even force them to trade off current profitable projects (Al-Najjar, 2013). As a result, excessive cash holdings may result in agency issues if the interests of management and shareholders are too dissimilar (Jensen, 1986). Despite the higher opportunity cost, firms keep a larger balance of cash and cash equivalents on their balance sheet to pursue specific goals. The existing theoretical literature on cash holdings classified these motives as transactional, precautionary, and speculative. Amess et al. (2015) explain that the transactional motive refers to the situation whereby organizations hold cash for day-to-today operating activities, particularly the purchase of goods and services. Dittmar and Mahrt-Smith (2007) suggest that holding an optimal level of cash for transactions may support organizations undertaking these activities by avoiding the liquidation of assets and the cost of raising funds externally.

According to Akhtar et al. (2018), the precautionary motive reflects the holding of cash by organizations as self-insurance against unexpected future expenses or adverse events. The precautionary motive emphasizes the importance of firms holding some reserve cash to avoid the risk of failing to pay for contingency expenses. Firms that face greater uncertainty in the timing and amount of future cash payments should keep some extra cash and cash equivalent on hand as a liquidity cushion.

Denis and Sibilkov (2009) explain that the third motive, the speculative motive, allows organizations to take advantage of future investment opportunities that might otherwise be missed because of a cash shortage. The speculative motive implies that firms keep some cash on hand in order to profit from speculative transactions. Firms dealing in commodities with volatile prices are likely to hold extra cash to benefit from favourable prices (Besley and Brigham 2005).

According to Muncef Guizani (2017) in his study of Financial Determinants of Corporate Cash Holdings in Saudi Arabia suggested that corporate cash holdings are usually determined and influenced by three important theories in corporate finance, that are trade off theory (Myers, 1977), pecking order theory (Myers and Majluf, 1984) and free cash flow theory (Jensen, 1986).

According to the trade-off theory, companies set their optimal level of cash holdings by balancing the marginal costs and marginal benefits of holding cash (Opler et al., 1999; Dittmar et al., 2003; Ferreira and Vilela, 2004; Afza and Adnan, 2007; Kariuki et al., 2015). Marginal benefits related to cash holdings are the lower transaction costs (associated with using cash for payments without having to liquidate assets), reduction in the likelihood of financial distress and the possibility of implementing investment projects that could not be carried out without these funds owing to the existence of financial constraints. The main cost of holding cash is the opportunity cost of the capital invested in liquid assets.

The pecking order theory suggests that asymmetric information between managers and investors makes external financing costly. Therefore, firms should finance investments first with retained earnings, then with safe debt and risky debt, and finally with equity to minimize asymmetric information costs and other financing costs. According to this theory, firms do not have target cash levels, but cash is used as a buffer between retained earnings and investment needs.

Finally, the free cash flow theory postulates that managers have an incentive to build up cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. Cash reduces the pressure to perform well and allows managers to invest in projects that best suit their own interests but may not be in the shareholders best interest.

Another motive for holding cash is the agency motive (E. Magerakis et. al 2020). Historically, a company is managed by its founders and their descendants; this applies to most companies, especially smaller ones. However, when companies grow, managers (agents) are hired to govern them on behalf of the owners, thereby raising the agency problem. Therefore, while managers should aim to maximize the firm's value for the benefit of its shareholders, they often follow their agenda to achieve their personal goals and strengthen their influence within the organization. Accordingly, Jensen (1986) also suggests that unethical managers could misuse this discretion and divert cash to obtain private benefit from it. Managers have the option to decrease their continual reliance on obtaining funds from capital markets by maintaining surplus cash flow, granting them independence from the oversight of capital providers.

2.2 Empirical Studies on Determinants of Cash Holdings

Gore's (2009) research examines the determinants of local council cash holding, and the implications of holding high levels of cash in the US context. Gore (2009) finds evidence that municipalities with higher volatility in revenue, fewer sources of revenue, and higher growth hold more cash. Furthermore, larger governments and those receiving relatively more state revenue hold less cash. Hand et al. (2016) replicate Gore (2009) and report the same findings.

N. Bilal et al. (2017) in his studies of determinants of cash holdings for SMEs (Small and Medium Enterprises) in Pakistan had revealed that size of firm, cash flow and growth have negative relationship with the cash holdings, whilst bank debt, liquidity and tangibility have positive significant relationship with cash holdings.

This is supported by S. Maheswar et al. (2019) who investigated the determinants of cash holdings of Indian manufacturing firms using a sample of 500 manufacturing firms for a period from 2005-2017 and the study finds that growth opportunities, leverage, cash flow, dividend, net working capital, R&D expenditure and profitability positively affect cash holdings whereas firm size, assets tangibility and interest expenses negatively affect cash holdings. Furthermore, firm size and growth opportunities support the trade-off theory and cash flow and profitability support the pecking order theory.

This is in contrast to the study done by E. Magerakis et. al (2020) on comparative analysis of large, medium, and small size firms in terms of cash holdings in the United Kingdom from 2010 to 2018. His findings revealed small-sized firms tend to hold more cash than their larger counterparts due to precautionary motives.

M. A. Zariyawati et al. (2018) investigated the determinants of cash holding from one hundred small medium enterprises businesses in Malaysia from 2011 to 2016 and the results showed that leverage, growth opportunity, firm size, cash flow volatility, capital expenditure and net working capital are factors of cash holding in small businesses. This is supported by Guizani, M (2017) who investigated the determinants of the cash holdings for a sample of Saudi firms over the period 2006- 2014 and the results showed leverage, firm size, capital expenditure, net working capital and cash flow volatility are important in determining cash holdings.

Nurul Hoque et al. (2022) in his studies that examine the determinants of cash holding by New Zealand local councils (data sample of 77 New Zealand local councils over the period 2000 to 2017) found that managers hold cash for operational and precautionary reasons. The results suggested that local councils with better growth opportunities have greater cash holdings. Local councils with larger financing deficits, more significant capital expenditure, and higher management compensation have less cash.

Alnori et al. (2022) research findings reveal that, for shariah-complaint firms, the relevant determinants of cash holdings are leverage, profitability, capital expenditure, and net working capital. For non-shariah-compliant firms, the only relevant determinants of cash holdings are leverage and net working capital. The results indicate that shariah-compliant firms predominantly adhere to the pecking order theory when making decisions about cash reserves. This signifies that these firms prioritize using liquid assets as their primary financing choice, aligning with shariah regulations.

Fahlevi, H. et al. (2018) investigated the connection between the dimensions of local government, budget adjustments, initial cash reserves, current budget utilization, regional fiscal capability, and cash reserves within the local government entities of Aceh Province, Indonesia which involves 23 districts/cities and data is collected from financial reports of these districts/cities between 2011 and 2015. The study reveals that there is a positive correlation between the initial cash reserves, current budget utilization, budget adjustments, and the size of the local government with the level of cash reserves. Conversely, there exists a negative relationship between fiscal capability and cash reserves in the examined districts and cities in Aceh Province, Indonesia. In light of these findings, it is possible to propose a cash management and cash reserve policy that aims to optimize cash reserves within local government units while preventing excessive idle funds.

A study conducted by Rahmatika, Syifa. et al. (2021) exploring the impact of various factors on cash reserves within the Indonesian banking industry both in the conventional and Islamic banks which involve 17 conventional banks and 11 Islamic banks. The study includes the variables encompassing dividend payments, cash conversion cycles, corporate social responsibility (CSR) disclosure, and corporate governance, particularly considering the independence and size of the board of commissioners. The findings of this research highlight distinctions between Islamic and conventional banks concerning the influence of CSR disclosure and the board of commissioners' size on cash reserves. Conversely, the study observed that the remaining variables under investigation did not have a statistically significant effect on cash holdings in both conventional and Islamic banks.

Alternative study on the different roles of cash holdings decisions on shariah-compliant and non-shariah compliant firms' performance was conducted by Alnori F. et al. (2023). The study sample includes non-financial firms listed in six Gulf Cooperation Council (GCC) markets from 2005-2019. The results revealed that a positive and significant relationship between cash reserves and the performance of Shariah-compliant firms. However, for conventional firms, cash reserves did not show a significant correlation with performance. These findings suggest that Shariah-compliant firms rely more on their cash holdings to secure cost-effective and readily available external financing, meet day-to-day operational requirements, and invest in profitable projects. In contrast, cash holding is of lesser importance to non-Shariah compliant firms, as they have fewer restrictions on external financing compared to Shariah-compliant counterparts.

Vergara Garavito et al. (2021) investigated the correlation between cash holdings and expected equity returns within a sample of firms from Pacific Alliance countries. Their findings indicated a positive relationship between cash holdings and expected equity returns. The study also examined the association between cash holdings and systematic risk, revealing a statistically significant positive relationship. Additionally, the research findings underscore the significance of corporate liquidity as an explanatory factor for expected equity returns, emphasizing the potential pitfalls of disregarding this aspect.

Considering the research mentioned earlier and taking into account the limited data availability, we have identified seven potential factors that may influence cash holdings of Malaysian local authorities. These factors include the entity's size, growth opportunities, financial deficit, liquidity, leverage, capital expenditure, and their ability to access the credit market.

3. Research Methodology

Secondary data were employed to acquire the relevant information for this study. This study used a quantitative approach. According to the Malaysia Local Government Department (LGD), there are 155 local authorities in Malaysia, including city hall councils, municipal councils, and district council.

We collected various financial statements and annual reports in softcopy and hardcopy with the assistance of Malaysia's Ministry of Local Government Development. The data for this study were acquired from the financial statement and websites of each Local Authorities in order to assess the cash holdings of the local authorities in Malaysia. There are only 37 local authorities that prepared the financial statements from 2015 to 2019, therefore the dataset has 185 year-observations. Local authorities that had missing data were excluded.

Table 1. Sampel Used

Local Authorities Category	Population	Sample (Available data for 5 years consecutively)
City hall	18	4
Municipal	38	19
District	99	14
Total	155	37

Table 1 exhibits the sample used in this study. The data was gathered using two (2) different approaches. The first method is called file extraction, and it involves extracting data from PDF documents and excel documents. The second method was web crawling, which gathered data from local authorities' websites to get the population's information. The PDF, excel and web extraction data were then combined before being analysed with the Python Pandas Programming Language.

3.1 Variable Measurement

Literature suggests that the most widely used cash holdings measurements are the net cash ratio (Bugshan, 2021) and the cash asset ratio (Harford et al., 2008; Alnori et al., 2022). Due to unavailable data on net cash ratio, this study used the cash asset ratio as the proxy of cash holdings in local authorities.

Table 2. Variable Measurements and Expected Signs

Variable Name	Variable Abbreviation	Measurement	Expected Sign	Source
Dependent Variables				
Cash holding	Cash	Cash and Cash Equivalent / Total Assets		Alnori et al. (2022) and Nurul Hoque et al. (2022)
Explanatory Variables				
Saiz of population	Size	Natural log of Total Assets	negative	Alnori et al. (2022), Siregar & Pratiwi (2017) and Chen et al. (2014)
Financial deficit	FD	(Capital Expenditure – cash) / Total Assets	negative	Nurul Hoque et al. (2022)
Liquidity	Liq	Liquid Assets / Current Liabilities	negative	Nurul Hoque et al. (2022)
Leverage	Lev	Total Liabilities / Total Assets	negative	Alnori et al. (2022)
Capital Expenditure	CE	Capital Expenditure / Total Assets	negative	Alnori et al. (2022) and Nurul Hoque et al. (2022)
Credit market access	CMA	Total Debt / Total Population	positive	Nurul Hoque et al. (2022)
Growth	Growth	Change in Total Assets / Total Assets	positive	Satrianto et al. (2019) and Panjaitan & Fitrawaty (2017).

Table 2 presents the variables used in this study, their measurement, and the expected sign of each of the explanatory variables.

3.2 Data Analysis and Model Specification

Descriptive analysis is conducted, in order to generate information about the data collected. Generally, the information produced from the analysis are mean, minimum, maximum, and standard deviation values of all the variables comprising dependent, independent and control variables. The outcomes of this analysis are important to understand the data allocation.

Correlation analysis will be performed to examine the existence of relationships between each dependent variable, independent variables and control variables. The correlation coefficient is used to determine if there exists a linear relationship between two variables. In addition, this analysis is used to explain the strength and direction of the linear relationship among the variables. Pearson Correlation will be tested to examine whether there are any multicollinearity problems occurring among the variables.

Regression analysis is used to examine the determinants of cash holding in the local authorities. This study adopts multiple regression analysis using Python Pandas Programming tools, which were developed specifically for this purpose. The goal is to identify which independent variables significantly influence cash holding and to what extent. The regression model adopted is shown as follows:

$$Cash_{i,t} = \alpha + \beta_1 Size_{i,t} + \beta_2 FD_{i,t} + \beta_3 Liq_{i,t} + \beta_4 Lev_{i,t} + \beta_5 CE_{i,t} + \beta_6 CMA_{i,t} + \beta_7 Growth_{i,t} + €_{it} \quad (1)$$

Whereby:

Cash = Cash Holding

Size = Saiz of population

FD = Financial deficit

Liq = Liquidity

Lev = Leverage

CE = Capital Expenditure

CMA = Credit market access

Growth = Growth

€ = Error term

4. Findings and Discussion

4.1 Descriptive Statistics

Table 3. Descriptive Statistics Analysis

	Min	Max	Mean	Std Deviation
Cash	.00	.69	.1251	.14583
Size	6.65	9.39	8.0742	.55984
FD	-.69	.00	-.1226	.14644
Liq	.00	49.43	1.5864	4.20103
Lev	.03	1.00	.3668	.23748
CE	.00	.07	.0021	.00885
CMA	3.43	5694.93	416.8802	909.90215
Growth	-110.99	90.52	11.9592	28.85278

Results in Table 3 shows the minimum values and maximum values of cash holdings in Malaysian local authorities are 0.00 and 0.69 respectively with a mean of 0.1251. There is some variability in cash holdings among the local authorities, as indicated by the standard deviation of 0.14583, but it is not extremely large.

In terms of size of the local authorities as measured by local authorities' total assets, the average size is 8.0742. The standard deviation of 0.55984 suggests that there is some variability in the size measurements among the local authorities, but it is not extremely large. There is a range of financial deficit scores that fall within the negative range,

from -0.69 (the lowest, implying higher financial deficit) to 0.00 (the highest, indicating less financial deficit). The average financial deficit score is -0.1226, which suggests that, on average, local authorities have a relatively low level of financial deficit. There is some variability in financial deficit scores among the local authorities, as indicated by the standard deviation of 0.14644, but it is not highly dispersed.

Since the average liquidity level of local authorities is 1.5864, it indicates that, on average, local authorities have a relatively low level of liquidity. However, there is substantial variability in liquidity levels among the local authorities, as indicated by the relatively high standard deviation of 4.20103. However, on average, local authorities have a moderate level of leverage at 0.3668 with some variability in leverage levels as indicated by the standard deviation of 0.23748.

The average capital expenditure among local authorities is very low (0.0021), indicating that, on average, entities have limited capital investment during the studied period. The low standard deviation of 0.00885 indicated that there is limited variability in capital expenditure levels among the local authorities. In relation to credit market access, the average level of is 416.8802, indicating that, on average, local authorities have some degree of access to credit markets. However, there is substantial variability in credit market access levels among the local authorities, as indicated by the large standard deviation of 909.90215.

The growth rates among the local authorities, ranging from -110.99 (indicating negative growth) to 90.52 (indicating positive growth). Even though the average growth rate is 11.9592, suggesting that local authorities generally experienced positive growth during the studied period, there is substantial variability in growth rates as indicated by the high standard deviation of 28.85278.

4.2 Multicollinearity Test

Table 4. Multicollinearity Analysis for the Variables

Variables	Tolerance	VIF
Size	.494	2.023
FD	.594	1.684
Liq	.970	1.031
Lev	.629	1.590
CE	.970	1.031
CMA	.395	2.532
Growth	.736	1.359

Table 4 shows the multicollinearity analysis for all independent variables in this study. The results demonstrate that none of the tolerances value is less than 0.2 and none of the variance inflation factor (VIF) is 5 or greater than 5. Such results indicate that there is no problem of multicollinearity analysis for size ratio (size), liquidity ratio (Liq), leverage ratio (Lev), capital expenditure ratio (CE), credit market access ratio (CMA), and growth ratio (Growth).

As highlighted by Pallant (2010), the multicollinearity issue is present if the value of VIF is 10 and greater than that. The results in the table above show that the range of VIF value of independent variables is between 1.031 and 2.532. Therefore, the multicollinearity assumption is not violated. This analysis is important to be run at the beginning of the study because if the VIF value is 10 or greater than that it is likely that regression coefficient are poorly estimated and significant tests on those coefficients may be misleading. The multicollinearity analysis results show that the regression analysis can be run and the results from the regression coefficient results that are shown in the below section are reliable and significant.

4.3 Correlation

Table 5. Pearson Correlation Analysis

	Size	FD	Liq	Lev	CE	CMA	Growth	Cash
Size	1.000							
FD	.071	1.000						
Liq	.169	-.137	1.000					
Lev	-.144	-.452***	.071	1.000				
CE	.038	.104	.000	-.082	1.000			
CMA	.448***	-.505***	.135	.438***	.017	1.000		
Growth	.387***	.184	-.055	-.365***	-.038	-.076	1.000	
Cash	-.069	-.998***	.138	.448***	-.042	.509***	-.186	1.000

* significant at the 0.10 level (2-tailed)

**significant at the 0.05 level (2-tailed)

*** significant at the 0.01 level (2-tailed)

Table 5 shows the Pearson correlation matrix for the main variables used in multiple regressions. The highest correlation between the explanatory variables is 0.505. Hence, in general, there is no high correlation between the explanatory variables, which implies that there are no multicollinearity problems that could have been detrimental to the results of multiple regression analysis. Since cash is the dependent variable, high correlation between cash and FD does not affect the multicollinearity problem.

4.4 Heteroscedasticity Test

The objective of the heteroscedasticity test is to determine whether the variance of residuals is constant. One of the assumption tests in linear regression using the ordinary least square (OLS) method is that the variance of residuals is constant. The output of the heteroscedasticity test based Breusch-Pagan Test for Heteroskedasticity can be seen in the table below:

Table 6. Breusch-Pagan Test for Heteroskedasticity

Chi-Square	df	Sig.
.190	1	.663

Based on the heteroscedasticity test output according to the table above, the sig value is 0.663. It indicates that if p-value is greater than 0.05, the residual variance is constant (homoscedasticity). Since the p-value in this analysis is 0.663, it can be concluded that this regression model has fulfilled the OLS assumption.

4.5 Multiple Regression Results

Table 7. Multiple Regression Results

Variable	Coefficients	t-test	p-value
Intercept	0.006	1.764	0.080
Size	-0.001	-1.728	.0086*
FD	-1.000	-704.452	0.001***
Liq	0.000	-.143	0.886
Lev	0.000	-.285	0.776
CE	1.033	56.235	0.001***
CMA	0.000	1.423	0.156
Growth	0.001	1.717	0.088*
Adjusted R^2	53.9		

***, ** and * are significant at 1%, 5% and 10% respectively.

Table 7 summaries the results of the multiple regression for Malaysian local authorities where Cash holdings (Cash) is the dependent variables and other corporate financial variables are the explanatory variables. Our results suggest that financial deficit (FD) and capital expenditure (CE) are the main determinants of the local authorities' cash holding decision. While size of local authorities and their growth have marginal relationship to local authorities' cash holding decision, such decision is not determined by liquidity (Liq), leverage (Lev) and access to credit market (CMA).

Size is negatively related to cash holding decisions for local authorities in Malaysia. This implies that while city hall local authorities would prefer lower cash holding, district local authorities would prefer higher cash holding. District local authorities may have fewer internal funds generated from operations. Hence, they may rely more on external financing options like debt. This reliance on external financing can lead to smaller local authorities maintaining higher cash reserves as a precautionary measure. They might need a cash buffer to cover unexpected expenses or to mitigate the potential costs of external financing. This finding is inconsistent with the pecking order theory which suggests that local authorities prefer to finance their activities in a specific order, which is based on the relative costs of different sources of funds. This negative relationship is in line with the findings of several existing studies (Bigelli & Sánchez-Vidal, 2012).

Consistent with Bigelli and Sánchez-Vidal (2012), this study finds that financial deficit is found to be highly significant and negatively related to the cash holdings of local authorities. It suggests that a high financial deficit would reduce cash reserves. The finding is in line with pecking order theory which suggests that local authorities prefer to use internal funds and minimise external financing, especially debt, to reduce the risk of financial deficit. Accumulating cash reserves can be seen as a precautionary measure to mitigate the risk of financial deficit. Therefore, there is a negative relationship between financial deficit and cash holding decisions, as local authorities such as city halls with larger cash holdings are better equipped to endure financial difficulties and are less likely to face financial deficit.

Interestingly, capital expenditure of local authorities shows a highly significant and positive relation with cash holdings. As local authorities engage in larger capital expenditure projects, they may accumulate more cash to ensure they have the necessary funds readily available for these investments. This proactive approach to cash management aligns with the pecking order theory's preference for using internal funds. The positive relationship between capital expenditure and their cash reserves contradicts previous research (Nurul Hoque at el., 2022 and Alnori et al., 2022).

The results show that the growth of local authorities is found to be significant and positively related to their cash holding decision. As local authorities experience higher growth rates and pursue ambitious growth strategies, they may accumulate more cash as a precautionary measure to ensure they have sufficient funds to seize growth opportunities as they arise. Consistent with Ahmad and Adaoglu (2019), this finding aligns with the pecking order theory's preference for using internal funds and reducing the reliance on external financing.

This study finds that liquidity, leverage and access to credit market factors are not significant for the cash holding decision among Malaysian local authorities. From a pecking order theory perspective, local authorities prefer to use internal funds (retained earnings) before external financing. This means that local authorities may not necessarily accumulate cash reserves solely for liquidity purposes. They would rather use internal funds as needed for liquidity management. Local authorities following the pecking order may have a reduced reliance on cash holdings as a primary means of ensuring liquidity. Instead, they may rely on the availability of internal funds to meet short-term liquidity needs. The insignificant relationship between liquidity and cash holdings is not in line with Nurul Hoque at el. (2022). Even though pecking order theory suggests an inverse relationship between debt levels and the need for cash holdings, local authorities with high leverage may still maintain cash holdings as a risk management strategy. High debt levels increase the risk of financial distress, and having cash on hand can provide a buffer against potential liquidity crises. Inconsistent with pecking order theory's preference for internal funds, local authorities may not accumulate large cash reserves because they have the option to raise funds quickly through capital markets when needed, reducing their dependence on cash holdings for financing. The insignificance of these relationships is consistent with Nurul Hoque at el. (2022).

5. Conclusion

The local authorities in Malaysia were established to implement the Government's policies to ensure the best services are delivered to the people. They act as financial stewards of their respective regions to manage cash efficiently and effectively. Cash holdings in the context of local authorities refer to having cash and cash equivalents within a short period to cover operating expenses and capital investments. The objective of the present study to examine the factors influencing the cash holdings of local authorities in Malaysia was achieved.

The present study suffers from some limitations. First, the research was conducted in Malaysia so, its results could be generalized cautiously. It implies that the researchers are aware of potential limitations or context-specific factors in Malaysia that might affect the applicability or relevance of the findings elsewhere. Second, due to limitations in the available data, researchers were unable to thoroughly analyse the outcomes and ascertain the factors influencing cash reserves among local authorities in Malaysia.

The present study discovers that size and financial deficit are found to be significant and negatively related to the cash holdings of local authorities in Malaysia. Additionally, the current research demonstrates a positive relation with capital expenditure, highlighting that higher capital expenditure promotes having the necessary funds for the investment. A higher growth rate will also incentivize local authorities to maintain a higher cash reserve to seize expanding opportunities.

The present study proposes that the government should offer financial guidelines or a framework and provide support to local authorities to enhance transparency, accountability, and sustainability. This will result in the progress and expansion of local authorities, consequently contributing to the economic development of Malaysia.

Acknowledgements

This work was supported in part by DDF (Faculty of Accountancy) under Grant Nos. 600-FPN (RICAEN. 5/2/1).

References

Afza, T., & Adnan, S. M. (2007). Determinants of corporate cash holdings: A case study of Pakistan. *In Proceedings of Singapore Economic Review Conference (SERC)* (Vol. 2007).

Ahmad, W., & Adaoglu, C. (2019). Cash management in the travel and leisure sector: Evidence from the United Kingdom. *Applied Economics Letters, 26*(7), 618-621. https://doi.org/10.1080/13504851.2018.1488050

Alnori, F., Bugshan, A., & Bakry, W. (2022). The determinants of corporate cash holdings: evidence from Shariah-compliant and non-Shariah-compliant corporations. *Managerial Finance, 48*(3), 429-450. https://doi.org/10.1108/MF-02-2021-0085

Alnori, F., & Bugshan, A. (2023). Cash holdings and firm performance: empirical analysis from Shariah-compliant and conventional corporations. *International Journal of Islamic and Middle Eastern Finance and Management, 16*(3), 498-515. https://doi.org/10.1108/IMEFM-01-2022-0005

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

Al-Najjar, B. (2013). The financial determinants of corporate cash holdings: Evidence from some emerging markets. *International Business Review, 22*(1), 77-88. https://doi.org/10.1016/j.ibusrev.2012.02.004

Amess, K., Banerji, S., & Lampousis, A. (2015). Corporate cash holdings: Causes and consequences. *International Review of Financial Analysis, 42*, 421-433. https://doi.org/10.1016/j.irfa.2015.09.007

Angelovska, M., & Valentinčič, A. (2020). Determinants of Cash Holdings in Private Firms: The Case of the Slovenian SMEs. *Economic and Business Review, 22*(1). https://doi.org/10.15458/ebr95

Besley, S., & Brigham, E. (2005). *Essentials of managerial finance: Thomson South-Western*.

Bigelli, M., & Sánchez-Vidal, J. (2012). Cash holdings in private firms. *Journal of Banking & Finance, 36*(1), 26-35. https://doi.org/10.1016/j.jbankfin.2011.06.004

Bugshan, A., Alnori, F., & Bakry, W. (2021). Shariah compliance and corporate cash holdings. *Research in International Business and Finance, 56*, 101383. https://doi.org/10.1016/j.ribaf.2021.101383

Chen, D., Li, S., Xiao, J. Z., & Zou, H. (2014). The effect of government quality on corporate cash holdings. *Journal of Corporate Finance, 27*, 384-400. https://doi.org/10.1016/j.jcorpfin.2014.05.008

Denis, D. J., & Sibilkov, V. (2009). Financial constraints, investment, and the value of cash holdings. *The Review of Financial Studies, 23*(1), 247-269. https://doi.org/10.1093/rfs/hhp031

Dittmar, A., Mahrt-Smith, J., & Servaes, H. (2003). International corporate governance and corporate cash holdings. *Journal of Financial and Quantitative Analysis, 38*(1), 111-133. https://doi.org/10.2307/4126766

Dittmar, A., & Mahrt-Smith, J. (2007). Corporate governance and the value of cash holdings. *Journal of Financial Economics, 83*(3), 599-634. https://doi.org/10.1016/j.jfineco.2005.12.006

E. Magerakis, G. Konstantinos, T. Athanasios, & S. Costas. (2020). "Firm Size Does Matter: New Evidence on the Determinants of Cash Holdings. *Journal of Risk and Financial Management, 13*, 163. https://doi.org/10.3390/jrfm13080163

Fahlevi, H. (2018). Cash Management in Indonesian Local Governments: A Study On The Relationship Between Government Profile And Cash Holding. *Simposium Nasional Keuangan Negara, 1*(1), 1232-1246.

Ferreira, M. A., & Vilela, A. S. (2004). Why do firms hold cash? Evidence from EMU countries. *European Financial Management, 10*(2), 295-319. https://doi.org/10.1111/j.1354-7798.2004.00251.x

Gore, A. K. (2009). Why do cities hoard cash? Determinants and implications of municipal cash holdings. *The Accounting Review, 84*(1), 183-207. https://doi.org/10.2308/accr.2009.84.1.183

Guizani, M. (2017). The financial determinants of corporate cash holdings in an oil rich country: Evidence from kingdom of Saudi Arabia. *Borsa Istanbul Review, 17*(3), 133-143. https://doi.org/10.1016/j.bir.2017.05.003

Hand, M. L., Pierson, K., & Thompson, F. (2016). A replication study of 'Why Do cities hoard cash?' (The accounting review 2009). *Public Finance Review, 44*(5), 681-687. https://doi.org/10.1177/1091142115580130

Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate governance and firm cash holdings in the US. *Journal of financial economics, 87*(3), 535-555. https://doi.org/10.1016/j.jfineco.2007.04.002

Hoque, M. N., Bhuiyan, M. B. U., Nomura, T., & van Zijl, T. (2022). Determinants of cash holdings—evidence from New Zealand local councils. *Public Money & Management, 42*(8), 605-615. https://doi.org/10.1080/09540962.2020.1836803

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review, 76*(2), 323-329.

Kariuki, S.N., Namusonge, G.S., & Orwa, G.O. (2015). Firm characteristics and corporate cash holdings: A managerial perspective from Kenyan private manufacturing firms. *International Journal of Advanced Research in Management and Social Sciences, 4*, 51-70. https://doi.org/10.6007/IJARAFMS/v4-i3/1026

M. A. Zariyawati, & R. F, Diana. (2018). Determinants and Performance of Cash Holding: Evidence from Small Business in Malaysia. *International Journal of Economics, Management and Accounting, 26*(2), 457-473.

Michalski, G. (2009). Effectiveness of investments in operating cash. *Journal of Corporate Treasury Management, 3*(1).

Myers, S.C. (1977). "Determinants of corporate borrowing". *Journal of Financial Economics, 5*(2), 147-175. https://doi.org/10.1016/0304-405X(77)90015-0

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221. https://doi.org/10.1016/0304-405X(84)90023-0

Muncef Guizani. (2017). The Financial Determinants of Corporate Cash Holdings in an Oil Rich Country: Evidence from Kingdom of Saudi Arabia". *Borsa Istanbul Review*. doi: 10.1016/ j.bir.2017.05.003.

N. Bilal, A. Nisar, & R. Abdul. (2017). The Determinants of Cash Holdings: Evidence from SMEs in Pakistan. *A Research Journal of Commerce, Economics, and Social Sciences, 11*(1), 111-116. https://doi.org/10.24312/paradigms110117

Ogundipe, S. E., Salawu, R. O., & Ogundipe, L. O. (2012). The determinants of corporate cash holdings in Nigeria: Evidence from general method of moments (GMM). *World Academy of Science, Engineering and Technology, 61*, 978-984.

Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics, 52*(1), 3-46. https://doi.org/10.1016/S0304-405X(99)00003-3

Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (2001). Corporate cash holdings. *Journal of Applied Corporate Finance, 14*(1), 55-67. https://doi.org/10.1111/j.1745-6622.2001.tb00320.x

Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Australia: Allen & Unwin Book Publishers.

Panjaitan, S. H., & Fitrawaty, D. R. (2017). Analysis of the growth of Total Assets Perbankkan Sharia in Indonesia. *Journal of Finance and Economics, 5*(4), 189-194.

Rahmatika, S., & Kholid, M. N. (2021). Determinants of cash holdings: Analysis of Islamic and conventional banks in Indonesia. *Jurnal Ekonomi & Keuangan Islam*, 92-104. https://doi.org/10.20885/jeki.vol7.iss1.art7

Satrianto, A., Candrianto, C., ayu Gusti, M., Juniardi, E., & Novenica, M. (2019). Analysis of the Effect of Asset Growth, Profitability, and Company Size on Capital Structure (Empirical Study in Mining Sector Companies in Indonesia Stock Exchange). In *Third Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2019)* (pp. 745-752). Atlantis Press. https://doi.org/10.2991/piceeba-19.2019.10

S. Maheswar, & K. Rabindra. (2019). "Determinants of Cash Holdings: A Study of Manufacturing Firms in India". *International Journal of Management Studies*. ISSN(Print) 2249-0302 ISSN (Online) 2231-2528.

Siregar, B., & Pratiwi, N. (2017). The effect of local government characteristics and financial independence on economic growth and human development index in Indonesia. *Jurnal Manajemen, 19*(2), 65-71. https://doi.org/10.9744/jmk.19.2.65-71

Vergara Garavito, J., & Chión, S. J. (2021). Relationship between cash holdings and expected equity returns: evidence from Pacific alliance countries. *Journal of Economics, Finance and Administrative Science, 26*(51), 77-93. https://doi.org/10.1108/JEFAS-03-2020-0078