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Economic Laboratory Transition
Research Podgorica

Montenegrin Journal of Economics

Citation:

Suwaidan, M.S. (2022), "Determinants of Corporate Cash Holding: Evidence from an Emerging Market", *Montenegrin Journal of Economics*, Vol. 18, No. 3, pp. 109-119.

Determinants of Corporate Cash Holding: Evidence from an Emerging Market

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ARTICLE INFO

Received September 10, 2021
Revised from October 11, 2021
Accepted November 11, 2021
Available online July 15, 2022

JEL classification: G32, G34, G35, G39

DOI: 10.14254/1800-5845/2022.18-3.9

Keywords:

Cash holdings,
Emerging markets,
Amman Stock Exchange

ABSTRACT

The objective of this study is to examine the impact of several variables in explaining variations in cash holding for a sample of (62) manufacturing companies listed on the Amman Stock Exchange (ASE) during the period (2012-2017). The results indicate that on average the company holds 6.69% of its net assets (total assets – cash and cash equivalents) as cash and cash equivalents, with a standard deviation of 11.60% suggesting that there is a large variation between the sample companies/years in the cash holdings. Using multiple regression analysis, the results identified, as hypothesized, cash flows and dividends to be positively and significantly associated with variation in cash holdings at the 1% level. Thus, companies with higher amounts of generated cash flows and pay dividends hold more cash than other companies. In addition, size is found (as hypothesized) to be negatively significant, though, at the 10% level. From the coefficients of the variables, the result for the cash flows variable is consistent with the pecking order theory which predicts a positive relationship between cash flow and cash holdings. On the other hand, the negative coefficient of the size variable supports the prediction of the trade-off theory. It also suggests that when a need exists for cash, larger firms have better access to capital markets as compared to smaller firms.

INTRODUCTION

Recent years have witnessed a great deal of research investigating an item that exists in every firm's balance sheet. This item is cash holdings. Firms hold large amounts of their assets in cash. In this study cash holding refers to cash and cash equivalents. Cash equivalents are short term investments that are highly liquid that can be converted into cash easily with minimal risk. The significance of cash holdings increased after the global financial crisis in 2008. A study by Lee and Song (2010) revealed that post the financial crisis, Asian firms have increased their average cash holdings and decreased their leverage.

There are several reasons why firms hold cash. Firms hold cash for transitional, precautionary and speculative reasons (Keynes, 1936; Myers and Majluf, 1984; Opler et al., 1999; Dittmar et al., 2003; Ozkan and Ozkan, 2004), and for agency reasons (Jensen, 1986). Transaction reasons make certain the accessibility of sufficient cash in the company to pay for necessary expenses, while precautionary rea-

sons concern the unanticipated cash requirements. Speculative reasons motivate companies to hold cash to benefit from unexpected profitable opportunities (Ranajee and Pathak, 2019). According to Wasiuzzaman (2014) whatever the reason for holding cash, the eventual objective of the cash management should be to have sufficient cash to cover these reasons. Any excess cash represents cost and may be invested, for example, in marketable securities that can be easily converted into cash when a need exists.

Previous studies indicated that firms vary considerably in the amount of cash and cash equivalents they hold as a percentage of their total assets. This is attributed to a number of factors. Opler *et al.* (1999), in their cash model, identified growth opportunities, size, operating cash flow, cash-flow volatility, leverage, net operating working capital, capital expenditure, the decision to pay out dividends and research and development (R & D) expenditure as factors nominated to explain differences in cash holdings between firms.

The objective of this study is to examine the impact of a number of variables in explaining variations in cash holdings for a sample of manufacturing companies listed on the Amman Stock Exchange (ASE) during the period (2012-2017).

The current study contributes to the literature in a number of ways. First, most studies addressing the determinants of cash holding have been conducted in the context of developed countries; thus, the current study assists us to understand this issue in the context of a developing country, Jordan. As stated by Joshi *et al.*, (2007: 85), "More studies on developing countries are needed to provide a research base...". Second, the study adds to the literature on the determinants of cash holdings by providing empirical results using data from companies listed in an emerging market, the ASE. As will be discussed later on, this is important since the results of previous studies conducted in other countries and settings provide mixed, and sometimes conflicting results. Finally, the study is expected to provide feedback to manufacturing Jordanian companies about the levels of cash they hold, and the variables associated with cash holdings increase or decrease.

This study is organized as follows. Section 2 provide a review of the literature relevant to this study and their related theoretical background. Section 3 sets up the research hypotheses. Section 4 describes the methodology employed by the study. Section 5 reports on the main results of the study. Finally, section 6 summarizes the study and presents its conclusions and implications.

1. PREVIOUS STUDIES

Researchers often cite three theories and arguments to explain the level of cash holdings and its determinants (e.g., Opler *et al.*, 1999; Ozkan and Ozkan, 2004). The first is the trade-off theory, which was developed by Miller and Orr (1966). It posits that firms can reach their optimal level of cash holdings by considering the marginal benefits and marginal costs of holding cash. On the one hand, the benefits of holding cash include reducing the likelihood of financial distress, allowing the undertaking of new investment projects, and minimizing the costs of raising external funds or liquidating existing assets. On the other hand, the traditional marginal cost of holding cash is the opportunity cost of the cash held due to no or low return on liquid assets (Ferreira and Vilela, 2004; Al-Najjar, 2017). The second is the pecking order theory, which was offered by Myers and Majluf (1984). It posits that in the presence of asymmetric information, companies prefer to finance their investments and activities first with retained earnings in form of cash held, then with safe debt and risky debt, and finally with equity. The reason for this order is to reduce asymmetric information costs and other financing costs. Therefore, the level of cash holdings would be the result of financing and investment decisions proposed by this hierarchical pattern of finance (Dittmar *et al.*, 2003). The third is the agency theory proposed by Jensen's (1986). It argues that managers have incentives to hold large amounts of cash to increase the amount of assets under their control and to gain discretionary power over the firm's investment decisions. This tends to give managers more flexibility to pursue their own objectives. By having cash available to invest, the manager does not need to raise external funds and to provide detailed information to the capital markets about the firm's investment projects. Therefore, more established managers hold excess cash to avoid market restraints.

Thus, investing in cash can have harmful effects on a firm's value which may subsequently impair the interests of shareholders (Fama and Jensen 1983).

Based on the above theoretical background, a large number of studies have been undertaken to identify the variable responsible for explaining differences between companies' cash holdings (e.g., Opler et al., 1999; Ozkan and Ozkan, 2004). In their pioneering study, Opler et al., (1999) investigated the determinants of cash holdings for a sample of publicly traded US firms for the period (1971-1994). The results of the study indicated that firms with strong growth opportunities, riskier activities, and small in size hold more cash than other firms. Further, the study found that large firms that have the highest access to the capital market, and those with credit ratings, have a tendency to hold less cash. However, limited support was provided to the proposition that exceeds cash leads to more spending on investments and acquisition.

Following Opler et al. (1999), several studies attempted to use similar methodology to examine the reasons why companies have cash holdings. Ozkan and Ozkan (2004) examined the impact of a number of variables on the cash holdings of a sample of UK companies. The results of the study showed that companies' growth opportunities, cash flows, liquid assets, leverage, and bank debt are important in determining cash holdings. The study indicated that the relation between managerial ownership and cash holdings is a significant non-monotonic relation.

Wasiuzzaman (2014) investigated the factors that influence the cash-holding decision for a sample of Malaysian listed companies for the period (2000-2007). The results of the study indicated that companies with more cash holding are characterized by more growth opportunities, higher cash flows, less liquid substitutes, less capital and R&D expenditures, lower leverage and pay dividends. The study also found that the company's size and its cash-flow vitality had no influence on the cash holding decision.

In a more recent study, Ahmed et. al., (2018) examined the effect of firm-specific characteristics on the level of corporate cash holdings for a sample of 115 large Chinese listed firms for the period 2012 to 2016. The results indicated that leverage, bank debt, and non-cash liquid assets negatively affect the levels of cash holdings. While cash flow volatility, investment opportunity and dividends positively affect the levels of cash holdings. Finally, the study found no association between size, cash flow, board independence and ownership concentration and the levels of cash holdings.

Thu and Khuong (2018) examined the effect of a number of variables on corporate cash holdings for a sample of companies listed on Vietnam's Stock Market for the period (2010-2016). The results found a negative relationship between leverage, return on assets, operating cash flow and corporate cash holdings while a tangible asset has a positive relationship.

In India, Singh and Misra (2019) investigated the determinants of cash holdings for a sample of agricultural companies for the period (1995- 2016). Using multiple regression, the results of the study indicated that companies with higher capital expenditures and distributing dividends hold more cash as compared to other companies. On the other hand, the study found that companies with greater profitable opportunities tend to hold less cash. Finally, the study concluded that transaction motives and precautionary motives are important determinants of cash holding levels for Indian companies.

While previous studies provided mixed results concerning the impact of size on cash holdings, Magerakis et. al., (2020) focused on the impact of large, medium, and small size firms on cash holdings for a sample of non-financial and non-utility listed companies in the United Kingdom for a period (2010 to 2018). The results showed that small-sized firms tend to hold more cash than larger firms due to precautionary motives. The study also revealed that firms with riskier cash flows, more growth opportunities and higher research and development expenditures tend to hold more cash.

2. SETTING UP THE HYPOTHESES

The following section sets up the research hypotheses and provides the rationale for each hypothesis.

Firm Size

Researcher predicts a negative relationship between the firm's size and cash holdings (Ahmed, et al., 2019; Ozkan and Ozkan, 2004). Ozkan and Ozkan (2004), among others, argue that the fixed cost component of borrowings may cause smaller firms to hold higher level of cash. In addition, larger firms have better access to capital markets as compared to smaller firms (eg. Opler et al., 1999; Al-Najjar and Clark, 2017). One more reason is that larger firms are subject to a lower risk of financial distress due to the diversification they have in their products and services (Ferreira & Vilela, 2004; Ozkan & Ozkan, 2004). However, empirical results showed mixed results of the relationship between size and cash holdings. For example, Opler et al., (1999), Ahmad et al. (2018) and Magerakis et al., (2020), among others, reported a negative relation between size and cash holding while Wasiuzzaman (2014) did not find a relationship between the two variables. Based on the above arguments, the following hypothesis is tested:

H1: *There is a negative relationship between firm size and cash holdings.*

Financial Leverage

There are conflicting theoretical views concerning the impact of leverage on cash holdings. While the pecking order theory predict a negative relationship especially when the level of investment exceeds retained earnings, the trade-off theory, on the other hand, predicts a positive relationship. This is because firms with high leverage face greater probability of financial distress and bankruptcy. Thus, highly leverage firms tend to hold more cash (Ferreira & Vilela, 2004; Ozkan & Ozkan, 2004). Beside the two theories, the agency theory predicts a negative relationship between leverage and cash holdings. As leverage increases, the debt holders attempt to restrict management discretion by decreasing the levels of free cash flow available (Ferreira & Vilela, 2004). Thus, we expect a lower levels of cash holdings for highly leveraged firms. Empirically, most of the previous studies reported a negative relationship between leverage and cash holdings (e.g., Opler et al., 1999; Thu and Khuong, 2018; Ahmed et al., 2018). Based on the above argument and the empirical results of most studies, the following hypothesis is tested:

H2: *There is a negative relationship between financial leverage and cash holdings.*

Non-Cash Liquid Asset Substitutes

The existence of non-cash assets that can be converted into cash during reasonable time at low cost can be considered as a substitute for holding higher levels of cash when a company is facing liquidity problems. Thus, we expect a negative relationship between the existence of non-cash liquid assets and cash holdings (Opler et al., 1999; Ferreira and Vilela, 2004; Ozkan and Ozkan, 2004). In other words, if a need for cash appears the company can convert such assets into cash. Empirically, previous studies provided support for the negative relationship between this variable and cash holdings. Based on the above arguments, the following hypothesis is tested:

H3: *There is a negative relationship between liquid asset substitutes and cash holdings.*

Cash Flow

According to the tradeoff theory, a negative relationship is expected between cash flows and cash holdings. This is because companies that are expected to generate higher amount of cash from operations are expected to hold lower levels of cash as a cash reserve (Ferreira and Vilela, 2004; Jibrán et al.,

2019). On the other hand, the pecking order theory predict a positive relationship between cash flow and cash holdings. This is because the cash flows generated from operations are considered an internal source of cash which is less costly as compared with external sources (Ozkan & Ozkan, 2004). Empirical results concerning this variable are, to some extent, mixed. For instance, Opler et. al., (1999) and Wasiuzzaman (2014), among others, reported positive relation between cash flows and cash holdings, while Ahmed et. al., (2018) found a negative relation and no relation, respectively, between the two variables. However, consistent with most previous studies, the following hypothesis is tested:

H4: *There is a positive relationship between cash flows and cash holding.*

Capital Expenditure

According to the pecking order theory, companies with higher capital expenditures tends to use up the liquid assets including cash to spend on the newly purchased assets, thus, such companies would have to keep lower cash in reserve (Opler et al., 1999). This suggests a negative relation between capital expenditures and cash holdings. In contrast, the trade-off theory predicts a positive relationship between capital expenditure and cash holdings. This is because firms with high capital expenditures prefer to hold more cash than to raise external capital (Jani et al., 2004). Consistent with most previous studies, the following hypothesis is tested:

H5: *There is a negative relationship between capital expenditure and cash holdings.*

Payment of Dividends

According to the tradeoff theory, companies that pay dividends are expected to have fewer liquid sources because of dividends payments (e.g., Opler et. al., 1999; Ferreira & Vilela, 2004). Thus, this suggests a negative relation between dividends payment and cash holdings. On the other hand, the pecking order theory suggests that companies pay dividends out of the cash available, thus, they have lower levels of cash holdings. In other words, both theories predict a negative relation between dividends payment and cash holdings. Nevertheless, Ozkan and Ozkan (2004) argue that it is expected that companies that pay dividends to have higher levels of cash as compared to those companies that do not pay dividends. In addition, Hill et al., (2014) state that firms that pay dividends may hold higher amounts of cash to avoid cash shortages, mainly when there is a need to pay dividends. This suggests a positive relationship between dividends payment and cash holdings. However, consistent with most previous studies, the following hypothesis is tested:

H6: *There is a positive relationship between payment of dividends and cash holdings.*

3. RESEARCH METHODOLOGY

3.1 Population and sample

The population of the study includes all manufacturing companies listed on the ASE for the period (2012-2017), while the sample includes companies on which all needed information is available. Of the 72 listed manufacturing companies, annual reports for 62 companies were available and useable, giving 372 company-year observations. This number represents 86.511% of the listed companies on the ASE during the period covered by the study.

3.2 Sources of information and variables measurements

Information on the variables of the study was obtained through two sources. The first was the ASE publications, while the second source was the annual reports of listed companies. Table (1) provides information about the variables included in the study and their measurement.

Table 1. Variables and their Measurements

<i>Variable</i>	<i>Code</i>	<i>Measurement</i>
Cash holdings	CH	Cash and cash equivalents divided by total assets net of cash and cash equivalent
Firm size	SIZE	Natural logarithm of total assets
Leverage	LEV	Total liabilities divided by total assets
Liquid asset substitutes	LIQ	(Current assets - cash and cash equivalent - Current liabilities) / Net assets
Cash flows	CF	(Net profit after tax + Depreciation) / Net assets
Capital expenditure	CEX	(Change in fixed assets + Depreciation) / Net assets
Dividend payment	DIV	Dummy variable, 1 is given if the firm paid dividends and 0 otherwise

3.3 The Regression Model

To investigate the effect of the selected independent variables on cash holdings in Jordan, the study uses panel model analysis for 62 manufacturing companies listed on the ASE over the period 2012-2017. Before estimation, a number of tests were performed which help in the model selection and accuracy of the estimated parameters. The first is concerning descriptive statistics analysis, followed by the test for correlation among the explanatory variables. The following multiple linear regression model is estimated:

$$CH_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 CF_{it} + \beta_4 LIQ_{it} + \beta_5 CEP_{it} + \beta_6 DIV_{it} + e_{it}$$

Where:

β_i = the regression coefficient, $i = 0, 1, \dots, 6$.

CH = Cash holding.

SIZE = Firm size.

LEV = Firm's financial leverage.

CF = Cash flow.

LIQ = Liquid assets substitutes

CEX = Capital expenditure.

DIV = Dividends payment.

β_0 = Intercept.

ε = Error term.

The independent variables include one categorical variable: the dividends (DIV). This is represented by a dummy variable in regression. In addition, six variables are continuous variables represented in the regression. These variables are size, leverage growth opportunities, liquid assets substitutes, cash flows, and capital expenditures. Table 2 presents the research hypotheses and the predicted sign of the coefficient (β) for each explanatory variable associated with each hypothesis.

Table 2. Research hypotheses and predicted signs of the coefficients

<i>Research Hypotheses</i>	<i>Predicted Sign of β</i>
H ₁ : Size	-
H ₂ : Leverage	-
H ₃ : Liquid assets substitutes	-
H ₄ : Cash flows	+
H ₅ : Capital expenditures	-
H ₆ : Dividends payment	+

4. RESULTS

4.1 Descriptive Statistical

Table (3) presents the descriptive statistics for the variables used in the study. As seen from the table, on average the firm holds 6.69% of its net assets (total assets – cash and cash equivalents) as cash and cash equivalents, with a standard deviation of 11.60% suggesting that there is a large variations between the sample companies/years in the cash holdings. It can also be noted that the standard deviations, value for the size variable is large, suggesting that there is a considerable variations in the sizes of the manufacturing companies examined. As for the leverage, it can be seen that, on average, the sample company/year finances about 40% of its assets by liabilities or external sources. Also, the standard deviation, the minimum and maximum values suggest that companies have significant differences in their sources of financing. The table also shows that on average the company generates 2.15% cash flows. The negative sign in the minimum value indicate that some companies reported negative cash flows. The information in the table also reveals that, on average, the company spends about 2.57% of net assets on capital expenditures. The other values also indicates that there is a considerable variations on the companies' capital expenditures. Finally, as for the dividends payment which is represented by a dummy variable, the information reveals that about 38% of the company/year have distributed cash dividends during the study period (2012-2017).

Table 3. Descriptive Statistics

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Cash holdings (CH)	360	.000001	.714928	.06697810	.116084960
Firm Size (SIZE)	369	283371	1183605000	56349569	161275701
Leverage (LEV)	369	.0040	1.8378	.401127	.2644310
Cash Flows (CF)	369	-1.91-	.55	.0215	.17912
Liquid Assets Substitutes (LIQ)	369	-1.0427-	.7740	.134493	.2731853
Capital Expenditures (CEX)	369	-1.9199-	2.7161	.025695	.1881366
Dividends Payment (DIV)	369	0	1	.38	.486

4.2 Multiple regression analysis

Before conducting the multiple regression analysis, the regression model was checked for the presence of multicollinearity problem between the independent variables. According to Anderson et al. (1993) multicollinearity does not represent a problem if one is interested in predicting the dependent variable from several independent variables, but it does when interpreting the individual influence of each independent variable. However, the latter is one of the major concerns of this investigation. A popular technique for detecting multicollinearity is using a correlation matrix. A high correlation between any pair of independent variables may indicate the presence of multicollinearity. Anderson et al. (1993) consider an absolute correlation coefficient high if it exceeds .7 for any two of the independent variables. To assess the extent of this problem with respect to the current regression model, a complete correlation matrix incorporating all the independent variables was run (see Table 4). As seen from the table, no high level of correlation is found between any two of the independent variables suggesting the absence of multicollinearity problem.

Table 4. Correlation matrix

Variable	SIZE	LEV	CF	LIQ	CEX	DIV
SIZE	1	.069	.382**	-.023-	.060	.226**
		.184	.000	.663	.250	.000
LEV	.069	1	-.250**	-.598**	.011	-.366**
	.184		.000	.000	.828	.000
CF	.382**	-.250**	1	.164**	.097	.404**
	.000	.000		.002	.063	.000
LIQ	-.023-	-.598**	.164**	1	-.011-	.264**
	.663	.000	.002		.829	.000
CEP	.060	.011	.097	-.011-	1	.063
	.250	.828	.063	.829		.228
DIV	.226**	-.366**	.404**	.264**	.063	1
	.000	.000	.000	.000	.228	

** denotes correlation is significant at the 1% level (two tailed)

Another more popular technique for detecting multicollinearity is using variance inflation factors (VIF), which are calculated by $(1 - R^2)^{-1}$, where R^2 is obtained by regressing each independent variable on all other independent variables (Anderson et. Al., 1993). A $VIF > 10$ constitutes a potentially harmful degree of multicollinearity. The results of VIF reveals that the value for each of independent variable is well below 10 (see the last two columns of Table 5).

The model is also checked for normality. Variables which deviate significantly from normality were transformed using the log function. This can “achieve normality, or linearize a relationship (Anderson et. Al., 1993). The regression model was also checked for the presence of outliers, and these were subsequently removed from the analysis.

Table (5) present a summary of the results of the multiple regression analysis. As seen from the table, the regression model is highly significant was highly significant ($F = 15.299$, $p = .0000$), suggesting that the regression model is important from statistical point of view. It can also be noted from the table that the independent variables incorporated in the model explain 19.3% of the variations in the cash holdings between the companies under investigation.

Table 5. Summary results of the regression model

Model Summary:							
	R^2	.206					
	R^2 (Adj.)	.193					
	F	15.299	Sig. F =	0.000			
Variables	β	Beta	t-value	Sig. t	Tol	VIF	
1 (Constant)	.155		2.258	.025			
Size	-.017-	-.087-	-1.710-	.088	.866	1.155	
Leverage	.016	.037	.582	.561	.565	1.770	
Cash Flows	.268	.381	6.917	.000	.742	1.348	
Liquid Assets Sub.	-.001-	-.003-	-.053-	.958	.632	1.582	
Capital Expenditures	.012	.020	.428	.669	.987	1.014	
Dividends Payment	.044	.185	3.367	.001	.745	1.343	

For the individual independent variables, it can be seen from Table (5) that the size variable is found significant with a negative coefficient, though, at the 10% level. The negative coefficient of the variable supports the prediction of the trade-off theory. It also suggests that when a need exists for cash larger firms have better access to capital markets as compared to smaller firms (eg. Opler et. al., 1999; Al-Najjar and Clark, 2017). The result for this variable is consistent with Opler et. al., (1999), Ahmad et. al. (2018) and Magerakis et. al., (2020), among others, who reported a negative relation between size and cash holdings. However, the results are inconsistent with Wasiuzzaman (2014) who did not find a relationship between the two variables.

The results of the study also reveal (see Table 5) that there is a relationship between the cash flows and cash holdings at the 1% level of significance. As hypothesized, the coefficient for the cash flows variable is positive indicating the higher the cash flows generated by the company's operations, the higher the amount of cash and cash equivalent the company holds. This result agrees with the pecking order theory which predicts a positive relationship between cash flow and cash holdings, because the cash flows generated from operations are considered an internal source of cash which is less costly as compared with external sources (Ozkan & Ozkan, 2004). Compared to other studies, this result is consistent with Opler et. al., (1999) and Wasiuzzaman (2014), among others, who reported positive relation between cash flows and cash holdings, and inconsistent with Ahmed et. al., (2018) who found a negative relation and no relation, respectively, between the two variables.

As for the dividends payment variable, the results indicate that there is a positive relationship between this variable and cash holdings at the 1% level of significance. As argued by Ozkan and Ozkan (2004), this may suggest that Jordanian manufacturing companies that pay dividends hold higher levels of cash as compared to those companies that do not pay dividends, or they may hold higher amounts of cash to avoid cash shortages, mainly when there is a need to pay dividends. Compared with other studies, this result is consistent with Ahmed et. al., (2018) in China and Singh and Misra (2019) in India.

For other independent variables, namely, financial leverage, liquid assets substitutes, and capital expenditures, the results indicated that these variables are insignificant in explaining the Jordanian manufacturing companies' decision concerning cash holdings.

SUMMARY AND CONCLUSIONS

This study reported the results of multiple regression analysis of the effect of a number of independent variables (size, financial leverage, cash flows, liquid assets substitutes, capital expenditures and dividends payment) on explaining variation in cash holdings for a sample of companies listed on the AFM during the period (2012-2017). As hypothesized, the regression model identified cash flows and dividends to be positively and significantly associated with variation in cash holdings at the 1% level. Thus, the null hypotheses that the coefficients associated with these variables are not different from zero can be rejected at the 1% level of significance. Thus, companies with higher amounts of generated cash flows and pay dividends hold more cash than other companies.

Among other variables, size was found to be negatively significant (as hypothesized) though, at the 10% level. The negative coefficient of the size variable supports the prediction of the trade-off theory. It also suggests that when a need exists for cash larger firms have better access to capital markets as compared to smaller firms. For the remaining variables (financial leverage, liquid assets substitutes, capital expenditures), the results provided no support for them in determining the level of cash holdings.

From the coefficients of the variables, the result for the cash flows variable is consistent with the pecking order theory which predicts a positive relationship between cash flow and cash holdings. This may be explained on the ground that the cash flows generated from operations are considered an internal source of cash which is less costly as compared with external sources. On the other hand, the negative coefficient of the size variable supports the prediction of the trade-off theory. It also suggests that when a need exists for cash, larger firms have better access to capital markets as compared to smaller firms.

Overall, the findings of the study offer practical implications for managers of the manufacturing companies listed on the ASE. The findings provide better understanding of the impact of company specific characteristics on the cash holdings decision which, according to the results of the study, is, to some extent, driven by the availability of internal funds and the ability of the company to generate positive cash flows. This may suggest that the pecking order theory is better able to explain the cash holdings decisions made by the Jordanian manufacturing companies than do the trade-off theory. This may also suggest that the company's decision to pay or not to pay dividends is dictated by the availability of internally generated cash. This is evident by the moderate positive Pearson correlation coefficient (.404) between the cash flows and the dividends variables.

The current study has attempted to investigate the determinant of cash holdings in the context of an emerging economy; however, this subject is so broad that one study cannot be expected to cover all its aspects. Thus, further research is needed to incorporate other possible explanatory variables such as ownership structure, the macroeconomic variables and the legal environment, that may improve the predictability power of the cash model employed by the current study.

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