



THE FACTORS AFFECTING CASH HOLDING DECISIONS OF MANUFACTURING SHARE COMPANIES IN ETHIOPIA

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Abstract: *This study is aimed to investigate the firms' specific and macroeconomic variables of cash holdings of manufacturing share companies in Ethiopia over the period from 2009 to 2014 inclusive. In doing so, a multiple linear regression model is used for 15 randomly selected manufacturing share companies of Ethiopia. The findings of the study revealed that growth opportunity, cash flows and firm size are statistically significant and positively affect the cash holding of the manufacturing share companies. On the other hand, net working capital, capital expenditure and inflation have negative and statistically significant impact on cash holdings. Besides this, the leverage, profitability and real gross domestic product are statistically insignificant variables of cash holding decision for Ethiopian manufacturing share companies.*

Key words: *determinants, cash holding, manufacturing share companies, Ethiopia*

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1. INTRODUCTION

Cash holding decision is one of the decisive decisions made by managers to achieve the goals of the firm by adding the value to a firm in the manufacturing sector. In light of this, managers are responsible to choose the optimum cash holding in order to maximize the firm's value. According to Basely and Brigham (2005), manufacturing companies hold certain amounts of cash to get benefits from three motives. Of these motivates the first motive is transactional motive, in which cash is hold to meet the needs of day to day transactions. The second motive on the other hand is precautionary motive, in which companies hold some amount of cash for unforeseen fluctuation or for safety. Lastly, for the speculative motive, cash may hold to take the advantage of bargain purchases that may arise in the future. Even though, holding cash has the above advantages, it has its own costs such as opportunity cost of capital invested in liquid assets and agency conflict.

According to Jensen and Meckling (1976), the trade off theory, suggests that firms can set their optimal level of cash holding by weighting marginal costs and marginal benefits. On the other hand, the pecking order theory of Myer's (1986), suggest that firms should finance their investment first with retained earnings, then with safe debt and risky debts and finally with equity to minimize asymmetric information costs and financial distress costs. Lastly, the free cash flow theory of Jensen (1986) suggests 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.

These theories were extensively tested by different researchers, and plays' an important role in determining the optimal cash holdings. For instance, Ferriara &Vilelal, (2004); Afza and Adnan, (2007); Drobetz and Gruninger (2007), Hardin III *et al.* (2009), Megginson and Wei (2010), Rizwan and Javed (2011), Kim *et al.* (2011) were conducted their study on cash. Hence, determining the optimal cash balance is one of the most controversial issues in the literature of corporate finance.

Most of the studies were investigated on the theories of cash holding and as well in the determinants of cash holding based on developed countries data. For instance, Gill and Shah (2012) , taken the data from Canadain companies, Drobetz and Gruninger (2007) used the data obtained from Swiss non financial firms, Opler *et al.*, (1999) data from publicly



traded United States firms, Daher M. (2010) used data obtained from public and private firms of United Kingdom.

Despite of the above, there are few studies conducted based on the developing countries data such as Islam S. (2012) used data from Bengladish, Yuanto K. (2007) used data from Singapore and Malaysia, Olatunde *et. al.*, (2012), taken the data from Nigerian firms, and Hyung K. (2007) conducted a study to investigate the empirical determinants of Korean manufacturing corporate cash holding during the period from 1991 to 2003.

Most of the previous researches conducted in the area of cash holding were based on developed countries data. Now a day's some researchers were trying to investigate this researchable area based on developing countries data. Enyew A. (2013) conducted a study on determinants of cash holdings of manufacturing share companies in Addis Ababa, Ethiopia using 12 randomly selected companies' data from the period 2006 to 2011 inclusive. However, the study was conducted based on data obtained from manufacturing share a company operating in Addis Ababa only which is difficult to generalize about the Ethiopian manufacturing share companies and the study was focused on firms' specific variables only. Hence, the factors that affect cash holdings of Ethiopian firms particularly macro variables were not extensively examined variables in the literature of finance particularly for the manufacturing sector. Therefore, this study is conducted to fill this gap by investigating both the firm specific and macro economic variables that affect cash holdings of manufacturing share companies in Ethiopia.

2. LITERATURE REVIEW

2.1. Theoretical framework of cash holding

According to Gill and Shah (2012), cash holding is defined as "cash in hand or readily available for investment in physical assets and distribute to investors." In the last few years, different theories have been developed in order to explain factors behind optimum cash balance. Trade off theory suggests that, firms have an optimal cash balance in which they can determine by tradeoff between benefits and cost of holding cash (Islam, 2012). According to Ogundipe *et al.* (2012), cash holding generates benefits and costs and it is very important in financing the growth opportunities of the company. One of the benefits of cash holding is that it constitutes a safety buffer which permit firms to avoid the cost of raising external funds or liquidating the existing assets and which allows firms to finance



their growth opportunities. On the other hand, insufficient cash balance forces firms to miss profitable investment projects or go for abnormal cost of financing.

The pecking order theory, argued a different way of looking investment decisions by considering how the investment is financed. According to Modigliani and Miller (1958), the firm should evaluate the investment opportunity as though it already had funds to finance it. However, it is reasonable to assume that managers often have better information than investors with regards to the investment opportunity set because managers know more about their company's prospect, risks and values and therefore, due to this information asymmetry, there are costs entrenched in to every issuance of new securities (Brealey *et al*, 2008).

Myers and Majluf (1984), as cited in Prenker, (2009), suggested that cash become available to a firm when its profit exceeds its investment needs. When cash is available abundantly and the firm is confident about the profitability of its investment, then excess cash is paid out in the form of dividends. In addition, they argued that there is no optimal level of cash but cash has rather the role of a buffer between retained earnings and investment needs. Pecking order theory describes a financing hierarchy that minimizes the costs associated with external financing resulting from information asymmetry. In this hierarchy internal financing has the highest priority, followed by low risk debt, leaving equity as a last resort (Mohammadi *et al*, 2012).

The free cash flow theory of Jensen (1986) suggested that managers have an incentive to hold cash to increase the amount of assets under their control and to gain discretionary power over the firm's investment decision. With the cash holding, managers do not need to raise external funds and could undertake investments that have a negative impact on shareholders wealth. Thus, management may hold excess cash simply because it is risk averse. The possibility that management could be using cash for their own objectives raises the cost of external funds because outsiders do not know whether management is raising cash to increase the firm's value or to pursue its own objective. Finally, management may accumulate cash because it does not want to make payout to shareholders and want to keep funds within the firm (Opler *et al*, 1999). Having the cash, however, the management seeks the ways to spend it, and hence chooses poor projects when good projects are not available Opler *et al* (1999).



2.2. Empirical findings

Most research studies on the area of cash holding determinants have been conducted based on the developed countries data. Here are the researcher's reviews on the studies that have been conducted based on the developed and developing countries data.

Ferreira and Vilela (2004) had taken a sample of 400 firms from 12 Economic and Monetary Union countries to investigate the determinants of corporate cash holdings. The result of the study shown that cash holdings are positively affected by the investment opportunity set and cash flows and negatively affected by assets liquidity, leverage, size and bank debt, which supports that a close relationship with banks allow the firm to hold less cash for precautionary reasons. Besides this, firms in countries with superior investor protection and concentrated ownership hold less cash, supporting the role of managerial discretionary agency costs in explaining cash levels.

Daher M. (2010), conducted a research study on determinants of cash holdings in UK private and public companies by taking 60,000 private and public companies as a sample size between 1985 and 2005. The researcher finds a negative relationship between cash holding and firm size, cash flow, liquidity assets substitutes, capital expenditure and leverage but no relationship between cash holding and investment opportunity.

Kim *et al.* (2011) examined a panel data set obtained from 125 publicly traded US restaurant firms and found that restaurant firms with greater investment opportunities tend to hold more cash. At the same time, large restaurant firms, firms holding liquid assets other than cash, firms with higher capital expenditures, and firms paying dividends were shown to hold less cash.

Gill A. and Shah C. (2012) were investigated the determinants of corporate cash holding in Canada firms listed on Toronto Stock Exchange. The result of their study shown that cash flow, networking capital, leverage, firm size, board size, chief executive officer duality significantly affect the corporate cash holding of Canada firms.

Hofmann (2006) cited in Ogundile, (2012) examined the determinants of corporate cash holdings of nonfinancial firms. He found that the main determinants of corporate cash holdings in New Zealand firms' growth opportunities, the variability of its cash flows, leverage, dividend payments, and the availability of liquid asset substitute. While growth



opportunities and the variability of cash flows are positively related to cash holdings, large dividend payments and liquid asset substitutes indicate lower cash holdings.

Afza and Adnan (2007) also investigated on determining the level of corporate cash holding of non financial Pakistan firms, across different firm sizes and different industries for the period of 1998 to 2005. They found that cash holdings are negatively related with growth opportunities, net working capital, and cash holding uncertainty, dividend payments, leverage and a positive relationship with firm size and cash flow for non financial firms in Pakistan.

Alvarez *et al.* (2010), cited in Islam, (2012) conducted a study on liquidity crisis in side of the country and its impact on cash holding by corporations Chili. Their findings evidenced that leverage, bank debt, liquid assets, and size reduce cash holdings of Chilean firms and precautionary motives was still the reason behind holding cash at hand like any other firms. Megginson and Wei (2010) studied the determinants of cash holdings and the value of cash in China's share-issue privatized firms from 1993-2007. They found the smaller, more profitable and high growth firms hold more cash. Debt and net working capital are negatively related to cash holdings, while cash holdings decline as state ownership increases.

Islam S. (2012) conducted a study on manufacturing firms' cash holding evidence from Bangladesh' for five years data of firm's specific determinants. The finding revealed that current asset, cash flow, short term debt and total debt, leverage, intangible assets, market to book value ratio, firm size, tangibility of total asset holds significant relationship with cash holdings by firms. However, in his study he argued that Tobin's Q, volatility of cash flow, and net working capital were insignificant in making cash holding decision of manufacturing firms of Bangladesh.

Ogundipe *L.et. al.*, (2012), examined the determinants of corporate cash holding of non-financial quoted firms in Nigeria using a sample of 54 non-financial quoted firms listed on the Nigeria Stock Exchange for the period 1995-2009. The result of the study showed a significant negative relationship between cash holdings and firm size, net working capital, return on asset and bank relationship and positive relationship with growth opportunities, leverage, account receivables and financial distress. Furthermore, there is no significant relationship between cash holdings and cash flow.



Enyew A. (2013) investigated the determinants of cash holdings of manufacturing share companies in Addis Ababa, Ethiopia. The study focused only on the firms' specific variables and it is found that net working capital, cash flow capital expenditure, firm size and growth opportunity are the significant variables of cash holding decisions of 12 selected manufacturing companies in Addis Ababa. In light of the recommendation by Enyew A. (2013) and reviewing different literatures this study is conducted to investigate the firms specific and macro economic variables of cash holdings for manufacturing share companies in Ethiopia.

3. METHODOLOGY

Quantitative research approach is used to make generalization about the population based on the information obtained from the sample manufacturing share companies in Ethiopia. The population of this study was manufacture share companies operating in Ethiopia which have audited financial statements from year 2009 to 2014. Of these companies the researcher selected 15 manufacturing share companies as sample size randomly. The panel data was obtained from audited financial statements of the selected companies from year 2009 to 2014 inclusive.

3.1. Variables and their measurements

From the above literature reviews the following are selected variables, their measurements and the expected signs of the selected variables;

Variables	Proxy	Notation	Sign
Dependent variable			
Cash holdings	$\text{Cash}/(\text{Total Assets}-\text{Cash})$	CASH	
Independent variable			
Growth opportunity	$\text{End sales}-\text{Beg. Sales})/\text{Beg. Sales}$	GRZ	+
Firm size	Natural logarithm of total assets	FRS	+
Cash flow	$(\text{ATP} + \text{Dpn} + \text{Amrz})/(\text{TA}-\text{Cash})$	CAF	+
Net working capital	$(\text{CA}-\text{Cash})/(\text{TA}-\text{Cash})$	NWC	-
Leverage ratio	Total liability/ total assets	LVR	-
Profitability	Operating income/ total assets	PRF	+
Capital expenditure	Total fixed asset/ Total asset	CAE	-
Economic growth	Real GDP growth (%)	GDP	+
Inflation	The annual inflation rate	INF	+/-



3.2. Model specification

Random effect model is used to estimate the coefficients of variables based on the results of Hausman test employed in order to test whether the random effect model is appropriate. Hence, the random regression model used for this study is;

$$CASH_{i,t} = \alpha + \beta_1 GRZ_{i,t} + \beta_2 NWC_{i,t} + \beta_3 LVR_{i,t} + \beta_4 CAE_{i,t} + \beta_5 PRF_{i,t} + \beta_6 CAF_{i,t} + \beta_7 FRS_{i,t} + \beta_8 GDP_t + \beta_9 INF_t + \omega_i, t$$

Where, $CASH_{i,t}$ is cash holding for firm i in time t , $GRZ_{i,t}$ is Growth opportunity of firm i in time t , $NWC_{i,t}$ is net working capital for firm i in time t , $LVR_{i,t}$ is leverage ratio of firm i in time t , $CAE_{i,t}$ is capital expenditure for firm i in time t , $PRF_{i,t}$ is profitability of firm i in time t , $CAF_{i,t}$ is cash flow of firm i in time t , $FRS_{i,t}$ is firm size for firm i in time t , GDP_t is real GDP in time t , INF_t inflation at time t , $\omega_{i,t}$ is the error term, α is the intercept, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \text{ and } \beta_9$, are coefficients of the explanatory variables. Ordinary least square is used to analyze the collected data with help Eviews 6 software package. Durbin-Watson test was employed to test the existence of autocorrelation and the result indicated that there is no auto correlation between disturbance errors. In addition, the Jarque Bera statistic implied that the data were consistent with the null hypothesis of a normal distribution assumption i.e. the errors terms are normally distributed. Hence, there was no problem of normality. Furthermore, the white's test is employed in order to test the assumption homoscedasticity. Both the F- and Chi-Square versions of the test statistic give the same conclusion that there is no evidence for the presence of heteroscedasticity.

4. REGRESSION RESULTS AND ANALYSIS

4.1. Descriptive statistics

Descriptive statistics is used to give the general description about data used in the model. As revealed in table 4.1, the total observation is 90 and there are ten variables, one dependant variable and nine independent variables. Moreover, the table also shows the mean, standard deviation, minimum, median and maximum values for these variables i.e. dependent and independent variables.

As shown in the descriptive statistics table 4.1, the mean cash holding is 9% with minimum -14.2% and a maximum of 23.2%. This means, the least manufacturing share company from the sampled firms holds -14.2 cents of cash for a single birr that the company invested. This negative value may indicate that firms are choosing the investment by borrowing so that their cash holding is negative. The standard deviation statistics for cash is 0.049 which



indicates that the cash holding variation between the selected companies is very small as compared with standard deviation of other variables except GDP.

Table 4.1 Descriptive statistics

<i>Variables</i>	<i>Observation</i>	<i>Mean</i>	<i>Median</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Std. Dev.</i>
CASH	90	0.09	0.086	0.232	-0.142	0.049
GRZ	90	1.594	0.149	98.43	-0.345	11.57
NWC	90	0.582	0.622	1.364	0.081	0.260
LVR	90	2.156	0.420	121.68	0.0038	14.29
CAE	90	0.248	0.212	2.965	-3.051	0.569
PRF	90	0.060	0.048	0.401	-0.959	0.156
CAF	90	0.084	0.061	2.065	-0.958	0.282
FRS	90	18.37	18.35	21.18	13.45	1.271
GDP	90	0.110	0.113	0.118	0.099	0.0066
INF	90	0.181	0.169	0.364	0.028	0.107

Source; Financial statements of manufacturing share companies and own computation.

Even though, there was small dispersions in the minimum and maximum observation of cash holdings relatively there was high variation in the growth opportunity. As shown in table, the mean of growth opportunity ratio equals 159.4% with a maximum of 9843% and minimum value of -34.5%. The standard deviation statistics for growth opportunity shows 11.57% which shows the higher variation as compared with cash holding.

On the other hand, the table also shown that the mean real GDP growth in Ethiopia for the last six years was 11% with a maximum of 11.8% and a minimum of 9.9 %. In addition, the table revealed a smaller standard deviation of 0.0066 (0.66%) for GDP, this implies that economic growth in Ethiopia during the period of 2009 to 2014 remains reasonable and stable. In addition the value of standard deviation is also lower than other variables which imply that there was stable economic growth in the country.

4.2. Correlation matrix

According to the correlation matrix table below, cash holding is positively correlated with growth opportunity, net working capital, profitability, cash flow, firm size and GDP with correlation coefficient of 22.5%, 2.8%, 23.4%, 29.8%, 34.3%, and 22.2% respectively. This positive correlation indicates that firms with higher growth opportunity, net working capital, profitability, cash flow, and large in size had higher cash balances and positive correlation coefficient of GDP also indicated that cash holding is directly related with GDP. On the other hand, leverage, capital expenditure and inflation are negatively correlated



with cash holdings of the sampled manufacturing share companies with a correlation of -8.2%, -65.8% and -16.2% respectively.

Table 4.2 Correlation matrix

	CASH	GRZ	NWC	LVR	CAE	PRF	CAF	FRS	GDP	INF
CASH	1.000									
GRZ	0.225	1.000								
NWC	0.028	0.008	1.000							
LVR	-0.082	-0.0002	0.180	1.000						
CAE	-0.658	-0.048	-0.352	-0.054	1.000					
PRF	0.234	0.013	0.286	0.076	-0.318	1.000				
CAF	0.298	0.007	0.237	0.076	-0.257	0.559	1.000			
FRS	0.343	0.149	-0.182	-0.103	0.102	-0.113	-0.010	1.000		
GDP	0.222	0.069	-0.028	0.081	-0.182	-0.031	0.093	-0.048	1.000	
INF	-0.162	-0.006	-0.054	-0.085	0.048	0.124	0.108	-0.045	-0.355	1.000

Source; Financial statements of manufacturing share companies and own computation.

As it is indicated the above table, there is no high correlation between explanatory variables because the highest correlation is 55.9% between cash flow and profitability. According to Islam (2012) the multicollinearity exists if the correlation between two independent variables is more than 0.80. Thus, there is no severe problem of multicollinearity between independent variables in the econometric model used and this enhances the reliability of the study.

4.3. Regression analysis

According to table 4.3, the R-squared statistics and the adjusted-R squared statistics of the model is 84.4% and 82.1% respectively. The result of this estimation particularly the adjusted R squared indicates that the changes in the independent variables explain 82.1% of the changes in the dependent variable. This means growth opportunity, networking capital, leverage, capital expenditure, profitability, cash flow, firm size, gross domestic product and inflation collectively explain 82.1% of the changes in cash holding. Thus, these variables collectively are good explanatory variables of the cash holdings of manufacturing share companies of Addis Ababa, Ethiopia which is in line with the result found by Ogundipe *et al* (2012) and Gill and Shah (2012).

In addition, the table also revealed that the null hypothesis of F-statistic (the overall test of significance) that the R^2 is equal to zero was rejected at 1% as the p-value was sufficiently low. So that the F-statistic value of 0.0000 indicates strong statistical significance, which enhanced the reliability and validity of the model that the researcher used.



According to the estimated regression results shown in table 4.3, growth opportunity, net working capital, cash flow, firm size, capital expenditure and inflation had statistically significant impact on cash holding. Among these significant variables growth opportunity, net working capital, capital expenditure and firm size were significant at 1% significance level since the p-value for these variables were less than 0.01. On the other hand, cash flow and inflation were among the independent variables significant at 5% significance level with the p value of 0.0101 and 0.111 respectively. Moreover, leverage, profitability and GDP were insignificant variable even at 10% with the p- value of 0.1430, 0.8438 and 0.7303 respectively. The following Table 4.3 shows panel regression results:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.132077	0.064286	-2.054509	0.0441*
GRZ	0.000574	0.000209	2.741973	0.0080**
NWC	-0.041873	0.010978	-3.814300	0.0003**
LVR	-0.000253	0.000170	-1.483646	0.1430
CAE	-0.071864	0.004779	-15.03674	0.0000**
PRF	0.003800	0.019209	0.197849	0.8438
CAF	0.027795	0.010478	2.652730	0.0101*
FRS	0.014038	0.002102	6.677825	0.0000**
GDP	0.136151	0.393234	0.346235	0.7303
INF	-0.062880	0.024023	-2.617453	0.0111*
R-squared	0.844021	Mean dependent var		0.080439
Adjusted R-squared	0.821379	S.D. dependent var		0.048402
S.E. of regression	0.020456	Sum squared resid		0.025945
F-statistic	37.27664	Durbin-Watson stat		2.119651
Prob (F-statistic)	0.000000			

**and * denote significance at 1%, and 5% levels respectively.

Source; Financial statements of manufacturing share companies and own computation.

Growth opportunity

The coefficient of growth opportunity, which is measured by the ratio of sales at the end of the year minus sales at the previous year divided by sales at previous year, had positive and statistically significant effect on cash holding at 1% significance level (p-value=0.008). The positive coefficient of growth opportunity is in favor of the static trade off theory and this is in line with the expectation as firms with more investment opportunities might face higher cost of external financing due to higher cost of financial distress. So, in order to reduce the cost of financial distress, firms are expected to hold larger amount of cash for precautionary



motives. This finding is consistent with previous studies of Opler *et al.*, 1999, Ferreira and Vilela (2004), Sanddour (2006), Afza and Adnan (2007), Megginson and Wei (2010), Kim *et al.* (2011), Rizwan and Javed (2011), Alam *et al.* (2011) and Gill and Shah (2012).

Net working capital

The ratio of current assets less current liabilities minus cash to total assets had a negative impact on cash holding, which is in agreement with a prior expectation. From the results of the regression analysis there was a statistically significant relationship at 1% significance level between net working and cash holding, with a regression coefficient of -0.041873, t-statistic of -3.8143 and P-value of 0.0003. Thus, net working capital is considered as a vital driver of the cash holding of manufacturing share companies in Ethiopia. That means, in the Ethiopian manufacturing share companies for the last six years net working capital is one of the relevant drivers of their cash holding. Furthermore, the higher negative coefficient (-0.041873) indicated that the Ethiopian manufacturing share company's cash holding is inversely related with net working capital and it had a greater impact on the cash holding decisions of the manufacturing share companies. The finding is similar with the previous findings of Bates *et al.* (2009), Lee and Song (2007), Tong (2006), Daher (2010), Sanddour (2006), and Bigelli and Vidal (2009) and trade off theory.

Capital expenditure

Table 4.3 also shows that, a negative and strongly statistically significant relationship between capital expenditure and cash holding, with a regression coefficient of -0.071864, t-statistic of -15.03674 and P-value of 0.0000. In light of this, the negative coefficient of this variable, which is in line with the prior expectation, indicated the existence of an inverse relationship between capital expenditure and cash holding and it is in line with the argument that is stated as capital spending reduces the cash amount that the company has. The result is in line with pecking order theory and the findings of prior researchers Bates *et al.* (2009), Opler *et al.* (1999), Lee and Song (2010), and Daher (2010).

Firm size

The firm size which is measured by the natural log of total assets had a positive impact on the cash holdings of Ethiopian manufacturing share companies. The variable is also strongly statistically significant at 1% with the regression coefficient of 0.014038, t-statistic of 6.677825 and p-value of 0.0000 in the model. Furthermore, the positive coefficient



between the company's size and cash holding is clearly indicated that larger companies can earn profit from economic of scale and hence, have more stable cash balance coupled with a lower probability of financial distress than smaller companies. The finding was the same with trade off theory and the findings of Ferreira and Vilela (2004), kim et al, (2007), Sanddour (2006), Gill and Shah (2012), Drobetz and Gruninger (2007), Daher (2010), and Islam (2012).

Leverage

As it is indicated in table 4.3, there is negative and insignificant relationship between leverage and cash holdings with a regression coefficient of -0.000253, t-statistic of -1.4836646 and P-value of 0.1430. This indicated that leverage is insignificant even at 10% to further the relationship with cash holding since the p value more than 0.1. The result is in line with pecking order theory and with the findings of Ozkar and Ozkar (2004), Drobetz and Gruninger (2006), Kusnadi (2006), Hyung (2007), Afza and Adnan (2007), Ferreira and Vilela (2004), Kalcheva and Lins (2003), and Lee and Song (2010), and Sanddour (2006).

Profitability

The regression result shows a positive and statistically insignificant relationship between profitability and cash holding, with a regression coefficient of 0.0038, t-statistic of 0.197849 and P-value of 0.8438. Moreover, the insignificant parameter indicates that the profitability does not affect cash holdings of Ethiopian manufacturing share companies. This result supports the pecking order theory and the previous findings of Ferreira and Vilela (2003) Almeida *et al.* (2004), Ozkar and Ozkar (2004), Bates et al. (2009) and Kim *et al.* (2011).

Cash flow

Cash flow which is measured by after tax profit plus depreciation and amortization to total assets less cash had a positive and statistically significant impact on the decision of cash holdings of the Ethiopian manufacturing share companies. The coefficient of cash flow is 0.027795 with t- static of 2.652730 and p- value of 0.0101. The p-value of this variable shows that it is significant at 5% significance level and the coefficient shows cash flow had a positive impact on the Ethiopian manufacturing share companies. The result is consistent with the argument of pecking order theory which states as cash flows are regard as sources of financing future investment, one can expect that stable cash flows, hence, decreases the need of cash holding. Furthermore, the finding of this study is also in line with the prior



researchers findings like Daher (2010), Islam (2012), Ogundipe et al.(2012) and Gill and Shah (2012), Ferreira and Vilela (2004), Kalcheva and Lins (2003), Opter et al (1999), and Sanddour (2006).

Real Gross Domestic Product

The coefficient of GDP has a positive but it was statistically insignificant even at 10% effect on cash holding with the regression coefficient of 0.136151, t-static of 0.346235 and p-value of 0.7303. The parameter of GDP which is 0.136151 in the regression result indicated that the GDP is positively related even if it has insignificant impact on the cash holdings. The positive parameter indicated that as firms hold more cash in anticipation of favorable economic conditions so that they would have enough internal funds when profitable investment opportunities come along. Chen and Mahajan (2010) found the positive and significant effect of GDP on the cash holding of 34 countries. However, for manufacturing share companies of Ethiopia, GDP does not affect their cash holding.

Inflation

The coefficient of inflation in the regression result is negative as anticipated, and it was statistically significant, thus, the effect of inflation on Ethiopian manufacturing share company's cash holding is significant with parameter of -0.062880, t-static of -2.617453 and p-value of 0.0111. The findings also suggested that inflation is one of determinants of manufacturing share companies cash holding in Ethiopia, since; the parameter for this variable is significant as suggested by the p-values of 0.0111. This indicated that inflation had inverse and statistically significant impact on cash holding. So that, one can understand that inflation and cash holding were negatively related with the cash holding. The result of this variable is in line with the management should reduce non-interest-bearing cash in response to higher inflation because holding cash becomes costly and the prior study conducted by Natke (2001) also found the same result.

5. CONCLUSION

The result had shown a positive and statistical significance relation between growth opportunity and cash holding. The coefficient of growth opportunity is relatively low compared with the coefficient other variables except leverage, showing that an increase in growth opportunity would result in little increased cash holding. The statistical significance is in line with trade off theory that as firms with more investment opportunities might face



higher cost of external financing due to higher cost of financial distress. So that, firms are expected to hold larger amount of cash for precautionary motives in order to reduce the cost of financial distress.

As revealed in the finding, there was negative relation between net working capital and cash holding with statistical significance. The result is consistent with the trade off theory that states firms that hold more liquid assets are expected to hold less cash because liquid assets can easily be liquidated when a cash shortage arises and are consequently considered to be substitutes of cash. In addition, the result also showed a negative relationship between capital expenditure and cash holding with strong statistical significance. The coefficient of the ratio CAE is relatively a negative and higher as compared with other significant variables, showing that an increase in capital expenditure would result in decreased cash holding. This is in line with the pecking order theory that argues as capital spending typically reduces the cash amount.

Besides, the result showed a positive relation between cash flow and cash holding with statistical significance. The positive coefficient of cash flow is in line with the pecking order that states as prefer internal financing to reduce the cost of external financing. The natural logarithm of total assets had a positive impact on cash holding with strong statistical significance. This indicates that large firms typically perform better than small firms and hence, have more cash which was consistent with the pecking order theory.

Finally, the inflation also had statistically significant and negative relationship with cash holding. This indicated that inflation had negative impact on cash holding and this is in line with the idea that state management should reduce non-interest-bearing cash in response to higher inflation because holding cash becomes costly. Despite of these, leverage, profitability and GDP were factors that had little or no impact on the cash holding of Ethiopian manufacturing share companies even at 10% significance level.

Generally, Growth opportunity, net working capital, capital expenditure, cash flow, firm size and inflation were key drivers of cash holding of manufacturing share companies in Ethiopia. So that, manufacturing share companies should assess these variables carefully in making cash holding decision. Among the external factors included in this study inflation had a significant key factor of cash holding of Ethiopian manufacturing share companies.



This is a clear signal to all manufacturing share companies in Ethiopia that they cannot ignore the macroeconomic indicators in deciding the optimum level of cash.

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