EFFECT OF FIRM CHARACTERISTICS ON WORKING CAPITAL MANAGEMENT OF MANUFACTURING FIRMS IN AMHARA ETHIOPIA

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DoI: 10.23862/kiit-parikalpana/2019/v15/i1-2/190170

Abstract

Research studies on the determinates of working capital management in developing countries especially in Ethiopia remained untouched area of empirical research. Thus the fundamental objective of this study is to examined the effect of firm characteristics on Working Capital management by using audited financial statements of 11 Share Manufacturing Company out of 16 targeted population in Amhara National Regional State (ANRS), Ethiopia for the period of 2002-2006E.c. Those which have five year full annual audited financial data were selected in the sampling. The study Used Working Capital Management as dependent variable and firm Characteristics (profitability, size of the firm, current ratio, operating cash flow, sales growth, and debt ratio/Leverage) are used as independent variable. Cash Conversion Cycle is used as a measure of dependent variable (Working Capital Management). Empirically examined the effect of firm characteristics on working capital management and the data of 11 companies from 16 targeted share manufacturing companies which are found in ANRS were analyzed using descriptive statistics and pooled OLS multiple linear regression analysis. Data were collected from there audited financial statement reports of the available firms for the period 2002-2006E.c. The data was analyzed using STATA Version12, pooled OLS Regression analysis Method was employed. The results indicates that there is a significant negative impact of operating cash flow on cash conversion cycle which is a comprehensive measure of working capital management. The result also shows that there is t significant positive impact of sales growth on cash conversion cycle. And there is no significant effect of variables like Size, Return on Asset, Current Ratio, Debt ratio, on cash conversion cycle. The results conclude that sales growth and operating cash flow have significant impact on cash conversion cycle.

***Key Words**: Effect of Firm Characteristics, Working Capital Management, Cash Conversion cycle*

Background of the study

A manufacturing business is any business that uses components, or parts/ row materials in to finished goods that meet a customer's expectations or

specification. Manufacturing business in today's world are normally composed of machines, robots, computers and humans that all work in a specific manner to create a product. This company's mostly uses working capital to make profit and sustain their competitive advantage in their industry. Under financing decision there is Working capital management which refers to the administration of the firm's current assets and financing needed to support current assets (James. et.al, 2012). Working capital or short term finance as if otherwise regarded as the lifeblood of any business unit (Sobhaba, et.al, 2013). According to (Tirngo, 2003) Working Capital Management is one of the most important and challenging aspect of the overall financial management that needs a serious consideration in firms financial decision. For operating the firms, working capital is as crucial as fixed capital. The two major components of working capital management strategy are current assets and current liabilities. Current asset include financial asset such as cash, money and accounts receivable but also real assets such as inventories since it is thought that they can relatively easily be converted in to cash. On the other hand Current Liabilities consists of account payable and short term debt. The purpose of liabilities is to meet the company's operations budget. Some of the examples of current liabilities are inventory purchases, employee wages, taxes, accounts payable, unearned revenue. Generally, current liabilities are expected to be paid during a one-year time period. Regular analysis of a company's currents assets and liabilities is necessary to maintain an effective working capital management strategy.

The management of working capital may have both negative and positive impact on the firm's characteristics, which in turn, has negative and positive impact on firm's performance. This study will seek to explore in detail the effects of these characteristics on the working capital management of manufacturing firms. There is no sufficient research which is conducted on the area of under study. Even though there are some studies but it is not conducted in Ethiopian case especially in Amhara regional state. This problem is determining working capital management of manufacturing enterprise in Amhara Regional State. The study will investigate the effect of Firm Characteristics on Working Capital Management for the case of governmental manufacturing enterprise of Amhara Regional State, by taking the entire16 share manufacturing enterprise. By considering the above points, the study try to investigate the effect of firm characteristics on working capital management of selected Share manufacturing company in Amhara Regional State, Ethiopia.

Statement of the problem

Most of the previous empirical studies are related to working capital management and its impact on company profitability and company performance (Shahid A. 2011, Kulkanya N. 2012 Moben U. and Rehma N.2013, Shahid A. 2013). Efficient management and

financing of working capital management can increase the operating profitability of manufacturing firms (Abdul R. et.al. 2010). There are a number of contradictory outcomes in deferent studies which conducted about the relationship between working capital management and its determinants. For example, it was suggested that components of working capital management; receivable collection period, inventory conversion period, cash conversion cycle period quick ratio, current asset ratio and debt ratio don't influence profitability of firms (Tendaizawaira and Enard M. 2014). On the other hand efficient working capital management can increase the operating profitability of manufacturing of firms (Abdul R., 2010). This means the components of working capital management have a significant relation with the firm's profitability and it is not match with the above findings. This finding also supported by (Harsh V. et. al., 2013) it proofs as working capital management is one of the important facets of a firm's financial management affecting both its profitability and performance. Amarjit G., et.al, (2010) also supports the above empirical finding. The study supports profitability can be enhanced if firm's managed their working capital in a more efficient way.

Vijayalak S. & Nikhel B., (2013) reveals on their empirical study on determinants of Working capital management they analyzed all factors (raw materials, growth in sales of firm & Business environment factors) are in significant and variables (performance of the firm, size, operating efficiency and operating cash flow don't play a significant role in determining the working capital requirement of the firm. But determining the important factors affecting working capital management would make managers of a firm able to manage working capital efficiently and effectively (Ebrahim et.al, 2012).

There are many studies which support the relationship between working capital management and variables like debt ratio/leverage, current ratio, size of the firm, operating cash flow, growth and the like, but as previous discussion this relation is in contrary as (Hashem et . al, 2012). Some other previous studies support the significant relationship between working capital management and profitability, return on assets, performance, debt ratio, (Amarjit et. al, 2010, Theiri and Ati A., 2011). This different suggestion and contradictory out comes in different studies motivate the researcher to know which variables are significant and which are not significant on working capital management in Ethiopian context specifically.

Objectives of the study

1. To examine the impact of profitability on working capital management.
2. To evaluate the effect of sales growth on working capital management.
3. To analyze the effect of current ratio on working capital management.

4. To investigate the impact of operating cash flow on working capital management.
5. To identify the influence of debt equity ratio /leverage on working capital management.
6. To examine the impact of the firm size on working capital management.

Hypothesis of the study

This study will use the following alternative hypotheses:

H1. There is a significant impact of profitability on working capital management

H2. There is a significant impact of debt ratio/leverage on working capital management.

H3. There is a significant impact of current ratio on working capital management

H4. There is a significant impact of sales growth of the firm on working capital management.

H5. There is a significant impact of operating cash flow on working capital management.

H6. There is a significant impact of size of the firm on working capital management

Review of related literature

Ebrahim and Joriah, (2012) conducted a study in case of Singapore firms during 2003 – 2010 and found that firm size, operation cash flow to sales, and capital expenditures to total sales, gross domestic product, & profitability have a relationship and also they decide that there is no relationship between cash conversion cycle and debt ratio.

Farai and Merle, (2014) did their research on ISE-Listed firms for the period of (2001 – 2010) and the analysis has been done using dynamic panel data and employed QMM estimation techniques. The result of this study suggested that leverage, fixed investment and short term finance had significant influence on working capital management.

Vijaylakshmi and Nikhel, (2013) identify some factors affecting working capital management in a study done on cement industry in case of Accounted. The result indicated that debt equity ratio plays as significant role plays in determining the working capital requirement of the firm.

Mobeen et.al, (2013) examines the impact of WCM on profitability on cement sector Pakistan from 2003-2008.By using correlation regression analysis the result of the study provides there is inverse and positive association between working capital management and profitability.

Niaz et al, (2011) carried out their research on the relationship of cash conversion cycle with firm size, working capital approaches and firms profitability in Pakistani industries. In these studies 157 non-financial companies comprising on 12 industrial groups in 2009 were examined. In this study there was a significant negative, relationship between the firm size and the length of cash conversion cycle. An increase in sales causes an increase in working capital investment, particularly

inventory and accounts receivable (Farai and Merle, 2014).

Raheem and Ali, (2013) carried out the relationship between cash conversion cycle and profitability in Pakistan manufacturing companies. In this 165 manufacturing companies are selected and it considered 5 years financial statements data from 2007 to 2011. In this study the researchers were used correlation matrix to find the relationship between different variables the result founds that an inverse and significant relation between cash conversion cycle and profitability of manufacturing companies and also concludes that cash conversion cycle has an opposite effect on return on assets and return on equity.

Suleiman et al, (2013) reviewed the determinants of working capital requirement in 8 Palestinian Industrial corporations within 2004 – 2011. By using ordinary list square method of estimation the researchers found that cash conversion cycle, operating cash flow size of the firm, return on assets, debt ratio (leverage) are statistically significant determinants of working capital requirements.

Mustafa, (2011) also investigate the impact of Working capital management on the profitability of Small and Medium Enterprises in Pakistan by taking 40 sample from 2003 to 2008 for a period of six year data. The findings from the analysis suggested that indicators of Working capital Management had a perceptible impact on profitability of firms.

On the other hand, Ankita Rajdev, (2013) analyses the association between the liquidity management and profitability of makes on group. The study use the management of accounting technique that is ratio analysis the researcher was employed statistical techniques like measure of central tendency measure of dispersion Pearson correlation and spearman's rank correlation .The student,s applied to test the significance was of rank correlation coefficient. The outcome of the study suggested that the liquidity is managed mostly by owner past experience and data and hence is no significant, there correlation b/n liquidity and profitability is seen.

Soyemi et al, 2014 carried out a comparative analysis on WCM of brewery companies in Nigeria. The study was aimed that to examine the cost of WC and the effect on firm performance and to take a critical view of the adopted liquidity measures the Nigeria firm and attempt to see how it has been achieved. The author was used to analyze the data collected which is the best statistical techniques for working capital management. The result indicates Guinness Nigeria possessed huge amounts of current assets than consolidated breweries.

Research Methodology

In this study Quantitative research method has employed. Specifically, explanatory research type has employed. Quantitative research method is a means for testing theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that

numbered data can be analyzed using statistical procedures. Like qualitative researchers, those who engage in this form of inquiry have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings.

Population and sampling techniques

As seen in the Amhara Region industry and transport office document there are 16 share manufacturing enterprise till the end of June2006/2014. The researcher takes the entire targeted population for the study. The technique is employed depending on the companies audited financial statement availability. From this targeted companies the researcher was able to find only 11 share manufacturing companies audited financial statement data. The remaining companies don't have audited financial statement till 2006/2014.

Model specification

Dependent variable

A popular measure of working capital management is the cash conversion cycle, that is, the time span between the expenditure for the purchases of raw materials and the collection of sales of finished goods (Amarjit et al., 2010). Previous studies conducted on determinants of working capital management (Melita, 2010; Ebrahim et al., 2012; Sadia et al., 2013; Muhammed, 2013) uses cash conversion cycle as a measure of working capital management. So in order to know the effect of firm characteristics on working capital management, the cash conversion cycle (CCC) will uses as the measure of WCM.

Cash conversion cycle can be expressed as:

Cash Conversion cycle = (AICP + ARCP) – APDP

Where, ICP = Inventory Conversion Period

RCP = Receivable Collection period PDP = Payable Deferral Period

- Average Inventory conversion periods = (Average inventory/cost of goods sold) *365
- Average Receivables Conversion periods = (Average accounts receivables/ Net sales)*365
- Average number of days accounts payable = (Average Account Payable/ cost of goods sold)*365

Independent variables:

Some previous studies indicates that firm characteristics like profitability, growth of the firm, size of the firm, age of the firm, operating cash flow, leverage, current ratio and quick ratio, sales growth are considered as independent variables partially or fully from this studies. (Ebrahim L.et. al, 2012, Alexandra, 2010; Hashem , 2012) are included.

1. **Profitability:** There are several indicator of profitability such as, Return on Equity (ROE), Return on Assets (ROA), Net Operating Profit (PRO), and Return on Common Equity.

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$$

2. **Operating Cash flows:** It is a type of cash that the firm will obtain from its routine operations (Suleiman and Rasha, 2013). It is calculated as according to

$$OCF = \frac{\text{Cash flow from operating activities}}{\text{Total Assets}}$$

3. **Current Ratio**: Current ratio establishes the relationship between current assets and current liabilities.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

4. **Debt to equity ratio/Leverage (D/E)**: is a financial ratio indicating the relative proportion of entity's equity and debt used to finance an entity's equity and debt used to finance an entity's assets. This ratio is also known as financial leverage. It calculated as:

$$\text{Debt} - \text{to} - \text{equity ratio} = \frac{\text{Liabilities}}{\text{Equity}}$$

5. **Firm Size:** Some studies try to identify the relation between WCM and companies size from this (Kamal N. et.al 2013). It computed as a Natural logarithm of total assets is used as a proxy of size.

Size = ln(Total Assets)

6. **Sales growth:** It is the amount of sales which represents the accelerator was included as an explanatory because the level of investment in WC depends on the sales value.

$$\text{Sales Growth} = \frac{\text{Current year sales} - \text{Previous Year Sales}}{\text{Previous Year Sales}}$$

Econometric model:

WCM = β0+ 1ROAit + $_2$LEVEit + $_3$CFit + 4SGOWTHit + $_5$CR it + $_6$SIZEit + it

Where: 0 = Intercept

1, 2, 3, 4, 5, 6 = Slope parameters

WCM= Dependent variable (Measured by cash conversion)

ROA = Profitability of the firm

DEBT = Debt ratio measured as liability/ equity

OCF = Operating cash flow measured as (previous year cash flow less current year cash flow) dived by previous year

CR = current ratio (current asset divide by current liability)

GROWTH = sales growth the natural logarithm of total sale

SIZE = Size of the firm (Log of total asset)

$_{it}$ = Error term (captures the effect of unobserved factors on working capital management)

Data organization and analysis

In this study, a Multiple Regression model will employ in line with previous studies of Padachi (2006), Rehman and Nasr (2007) and Gill et al. (2010) to investigating the impact of firm characteristics on WCM. The study has been employed 5 year panel data to investigate the impact of explanatory variables on WCM. The data was analyzed by STATA version12. The data has been diagnosed with different

statistical tests like multicolinearity, heteroscedasticity and VIF to test the assumptions of regression analysis.

Descriptive analysis

Descriptive analysis shows the average and standard deviation of the different variables in the study. Table 1 presents descriptive statistics for 11 share manufacturing firms in Amhara National Regional State (ANRS), Ethiopia for a period of five years from 2012 – 2016. The mean value of the firms for the 2002 cash conversion cycle (CCC) 134.7 days and it deviates 49 days. This means that it takes on average 135 days for the cash to return based on the sampled company's. For 2013 the mean value of the conversion cycle is 109.48 days average with the standard deviation of 49.48. This amount is less than the previous year mean value of the companies. More over the average value of the cash conversion cycle at 2014 is 127 days which is greater than 2013's cash conversion cycle. And the standard deviation of this year is 69.44. Both the standard deviation and the mean value of the cash conversion cycle for 2015 is less than the previous year value which are 38.54 and 109.4 respectively. It indicates that the trends of the companies Cash conversion value on average from previous year is become declining. The 2016 mean and standard deviation value of CCC is less than 2015 mean value which is 71.88 and 38.54 respectively. The sampled company's total mean and standard deviation value of CCC is 110.563 and 61.07 respectively for five year from 2012 to 2016. Generally the trend of the CCC for the sampled company's for five year is not continuous increase or decrease it is one year increase and the other year decrease.

Table 1 Descriptive statistics for dependent and independent variables for five year

Year	Index	CCC	ROA	SIZE	CR	CF	S.GROWTH	LEVE
2012-2013	Mean	134.702	0.110	17.464	19.721	0.081	1.227	1.437
	N	11	11	11	11	11	11	11
	Std. Dev.	49.488	0.250	1.715	35.443	0.117	1.437	12.861
2013-2014	Mean	109.814	0.005	17.595	2.629	0.175	0.447	0.610
	N	11	11	11	11	11	11	11
	Std. Dev.	57.715	0.331	1.865	3.333	0.158	0.610	1.853
2014-2015	Mean	127.019	0.026	17.864	7.632	0.262	3.306	9.549
	N	11	11	11	11	11	11	11
	Std. Dev.	73.932	0.174	1.889	15.701	0.618	9.549	1.910
2015-2016	Mean	109.404	0.021	17.840	3.735	0.728	6.623	20.609
	N	11	11	11	11	11	11	11
	Std. Dev.	69.444	0.080	1.992	4.565	1.461	20.609	2.230

2016-2017	Mean	71.875	0.095	17.443	12.482	0.127	-0.348	0.390
	N	11	11	11	11	11	11	11
	Std. Dev.	38.539	0.171	2.194	16.709	0.139	0.390	3.335
2012-2017	Mean	110.563	0.051	17.641	9.240	0.275	2.251	4.438
	N	55	55	55	55	55	55	55
	Std. Dev.	61.072	0.214	1.873	19.391	0.730	10.119	11.495

Source: authors own computation

The mean for return on Asset (ROA) from Table 1 is 0.11 or 11% and the standard deviation is 25% for 2012. At 2013 the mean value of this independent variable is 0.5% and it deviates by 33.1%. In the year 2014 the companies have lower mean and standard value which was 2.6% and 17.3%, moreover at 2015 the mean value of the company is 2.1% with 8% standard deviation. On 2016 the ROA have mean of 9.5% and standard deviation of 17.1% for sampled company. From 2012 – 2016 the total mean value of the companies ROA is 5.1% and it deviates by 21.4% for ANRS manufacturing company.

The other independent variable is the size of the firm which is measured as the natural logarithm of total assets of the company for each consecutive year. Almost Most of the years have the same mean size during the sampled periods. At 2012 the companies mean value of the size is 17.46 and has a standard deviation 1.71 and in 2013 the size of the company has 17.59 mean values and 1.87 standard deviation. Both the mean and standard deviation of this year value is greater than the previous year value. The 2014 mean and standard deviation value of the company's size is 17.86 and 1.89 respectively which is greater value from period's value. On 2015 sampled companies have 17.840 mean and 1.992 standard deviation, and implies that it have higher than the previous year. The next year which is 2016 have 17.44 mean values and 2.19 standard deviation value. For this independent variable the total or the entire year mean value is 17.64 and the standard deviation value is 1.83.

The other independent variable is current ratio which is measured as current Asset divided by current liability. The 2012 mean value of this ratio is 19.72 and the standard deviation is 35.44 as depicted in Table 1. This value is the highest value from the entire selected years of study. At 2003 it has 2.63 mean value and 3.33 standard deviation value. For 2014 7.64 mean and 15.7 standard deviation value this amount of ration is greater than the previous year value of the respective variable. The next year which is 2015 has the mean value of the current ratio is 3.74 and 4.57 standard deviation. In the last year for the sample which is 2016 has a mean value of 12.48 and 16.71 standard deviation which is relatively greater value than previous year. The entire year mean value of Current ratio of the company is 9.24 and has 19.39 standard deviation values for the sampled company.

The other independent variable is operation cash flow which is measured as dividing operating cash flow by total assets. The mean value of operating cash flow (OCF) for 2012 is 8.1% and it deviates by 11.7% which is less than the next year mean and standard deviation value of 17.5% and 15.8% respectively. At 2014 the company has more percentage value from the two previous year values. At this period the company has 26.2% mean value and 62% standard deviation value. Similarly the company has greater mean and standard deviation value at 2015. At this year the mean value of the companies operating cash flow is 73% and the standard deviation of 146.1%. At the recent year which is 2016 the operating cash flow mean value is 12.7% and 13.9% standard deviation value. It is less value than previous year value. The total mean value of the sampled company is 27.5 and the standard deviation is 73%.

The fifth independent variable is sales growth which is measured as current year sales less previous year sales and divides by previous year sales to check its relationship with the CCC which is measure of working capital management. Sales growths have an average standard deviation 1.23 and 1.44 at 2012 and 2013 respectively; the mean value of this variable is 0.45 and 0.16 of standard deviation. And also this variable have a higher sales growth in 2014 that is 3.31 mean values and 9.55 standard deviation value. In 2015 the sales growth is higher than the previous year for sampled companies according to value of mean and standard deviation i.e. 6.623 and 20.609 respectively. The least value of sales growth from 2012 – 2016 is the value of year 2016 that is -0.35 mean value and 0.39 standard deviation. The total mean value for 2012 to 2016 is 2.25 and the value of the standard deviation is 10.12 for the sampled manufacturing share companies of ANRS.

The other independent variable is Debt ratio which is measured as total liability divide by total equity. These variables have a mean value of 1.44 and standard deviation12.86 in 2012. This value is relatively lower than 2013's values that are 0.61 mean and 1.85 standard deviation values respectively. At 2014 the companies mean value of debt ratio is 9.55 and it deviates by 1.91. But the 2015 value of this variable is highest which is 20.61 mean value and 2.23 standard deviation value. On the other hand the mean value and standard deviation of 2016 is lowest since it is 0.39 and 3.34 mean and standard deviation value. The total mean and standard deviation value from 2012 – 2016 is 4.44 and 11.49 respectively.

4.3 Correlation analysis

The descriptive statistics on previous section showed the average values with their respective variations views of cash conversion cycle and other independent variables of the firm in the sample. The correlation analysis was done to analyze the relationship between working capital management and the firm characteristics. To examine the relationship among these variables, Pearson correlation matrix was used to compute the correlation coefficients and their significance level. Based on the

Pearson correlation computed the following table is constructed.

Table 2, Presents the result of the correlation analysis of WCM measures with firm characteristics like return on asset (ROA), Size, sales growth, current ratio, debt ratio (leverage) and operating cash flow and between the independent variable each other. The analysis of correlation matrix started between cash conversion cycle which is a comprehensive measure of working capital management and ROA.

Table 2 Pearson's correlation matrix

	CCC	ROA	SIZE	CR	CF	S.GROWTH	LEVE
CCC	1						
ROA	0.112 (0.208)	1					
SIZE	0.197*** (0.075)	-0.016 (0.454)	1				
CR	0.271** (0.023)	0.024 (0.431)	0.077 (0.288)	1			
CF	-0.232** (0.044)	-0.048 (0.364)	-0.121 (0.190)	-0.052 (0.353)	1		
S. GROWTH	0.101 (0.233)	-0.107 (0.219)	-0.082 (0.277)	0.002 (0.493)	0.435* (0.000)	1	
LEVE	-0.010 (0.471)	-0.029 (0.417)	-0.155 (0.129)	-0.002 (0.495)	-0.087 (0.265)	-0.046 (0.368)	1

**Significant at 0.01 significance level*
***Significant at 0.05 significance level*
****Significant at 0.1 significance level*
Source: SPSS software results

The variables on table indicated measures that ROA equals net profit/total asset. SIZE is measured as the natural logarithm of total assets. CR measured as current asset divide by current liability. CF operating cash flow divides by total asset. S. Growth measured as current year sales mines previous year sales divide by previous year sales. LEVERAGE is the result of total debt divide by total equity.

Table 2 shows positive correlation coefficients of CCC with Return on Assets are 0.112 and the P-value is 0.208. It is in significant because the p-value is 0. 208 and it is greater than a 0.05 significance level. As a result cash conversion cycle and Return on asset have positive insignificant association. But the CCC has positive and significant relationship with the size and current ratio. The p-value for this relationship is 0.075 for size and 0.023 for current ratio and significant at the 0.1 & 0.05 significance level respectively.

Furthermore the cash flow has a negative and significant association with the CCC as depicted on Table 2, by the p-value of 0.044 which is significant at the 0.05 significance level. On the other hand the sales growth has positive and insignificant association with CCC by the p-value 0.233 that is not significant at a 0.1 significance level. Finally the leverage (debt ratio) negative insignificant association with the CCC because it have p-value of 0.471 which is greater than a 0.1 significance level.

As stated on Table 2 there is negative insignificant association at 0.1 significance level between the ROA and size which also indicates there is no collinear by 0.454 p-value. On contrary to this ROA have positive insignificant correlation with the current ratio i.e. the p-value is 0.431 which is not significant at a 0.1 significance level. The correlation of ROA with the rest variable is negative and insignificant. The p-value for the variables cash flow, sales growth and leverage is 0.364, 0.219 and 0.417 respectively which is not significant at a 0.1 significance level. Table 2 depicted that the correlation between the size and current ratio is not significant at the 0.1 significance level by the p-value 0.288 for the sampled company on the five year. On the other hand the correlation of size with the cash flow, sales growth and leverage is negative but insignificant at the 0.1 significance level (p-value 0.190, 0.277 and 0.129 respectively for cash flow, sales growth and leverage). The correlation of current ratio with the cash flow is negative and insignificant at the 0.1 significance level because the p-value for association is 0.353. On the other hand the association between current ratio and sales growth has p-value 0.493 which implies it is no significant at the 0.1 significance level. More over the relation of current ratio and leverage is negative but not significant at the 0.1 significance level by the p-value 0.495. The correlation of cash flow and sales growth depicted on the Table 2 indicates that there is positive and highly significant correlation. The p-value for this correlation is 0.000 which is significant at a 0.001 significance level. In contrast to that the correlation of cash flow and leverage is negative and insignificant at the 0.1 significance level (p-value 0.265). Finally the correlation of sales growth and leverage is negative and insignificant at the 0.1 significance level (p-value 0.368).

The result of correlation analysis indicate that as far as manufacturing firms are concerned, firm characteristics like operating cash flow and current ratio has significant impact on working capital management.

Econometrics diagnostic test

To judge the results of econometrics models the diagnostic assumptions must hold especially those which make the models efficient and consistent. These diagnostic assumptions are normality test, model specification test, multicollinearity test, heteroskedasticity test and appropriate model selection test for panel data.

Normal distribution of residuals

The normal distribution of error term allowed us to drive the exact sampling

distribution of the OLS estimators, which led exact distribution of t statistic, and an F statistic for any sample size. The normality for the study indicated that the error terms are normally distributed (Wooldridge J. M., 2000). The p-value 0.10000 for Shapiro wilk test indicated that the null hypothesis is not rejected which is the residuals was normally distributed at 0.05 significance level.

Multicollinearity

Multicollinearity is the degree of the correlation of independent variable with each other whether it is high or not. (According to Ushanthat et.at 2014) the tolerance variance inflation factor is acceptable when it is less than ten. The variation inflation factor (VIF) implies that the model have no multicollinearity problem. The VIF results for all variables are less than five and their mean is also less than five which is less than the rule of thumb number ten.

Model specification

Model specification test is the test of whether the model omit variable or not. Based on the Ramsey reset test there is no omitted variable which is the null hypothesis is not rejected because the p-value 0.1680 for the test is insignificant at the 0.05 significance level

Heteroscedasticity

This test is used to test whether the variance of error term conditional on explanatory variable is constant. If the heteroskedasticity test fails the models estimate or not efficient but unbiased. The test for heteroskedastcity for the model indicates that the model error variance is constant. The p-value 0.9566 for the test is insignificant which is unable to reject the null that says the Constant variance of the error by using Breusch-Pagan / Cook-Weisberg test at 0.05 significance level.

Serial correlation

Serial correlation is a test whether the residuals correlate each other from different observations. This indication of the variables may be missing or an incorrect functional form, which should make the estimators inefficient, inaccurate standard errors and t-test, and misleading R^2 for the model. Based on the user written test known as Lagram Multiplier test for panel data set the model indicates it have no serial correlation problems. The p-value 0.4992 indicates the support for null hypothesis at the 0.05 significance level which says there is no first-order autocorrelation by Wooldridge test for autocorrelation in panel data.

Model selection test

The panel data have two different set of observations which comes from cross section and time series. To test the fitted model for this data the Hausman test for random and fixed effect, Breusch and Pagan Lagrangian Multiplier Test for Random Effect was used. The hausman test is used to choose the best fitted model from the fixed effect and random effect model since this model have

unique characteristics for panel data. Fixed effect model treats the company specific effect to correlate to the repressor and each company has different specific intercept. On the other hand random effect includes this company specific effect in the error term. Based on the hausman test the random effect is selected which is the p-value 0.0882 is insignificant at the 0.05 significance level to fail reject the null that states the random effect is appropriate. So based on this result the random effect is chosen. The Breusch and Pagan Lagrangian Multiplier Test were used to choose between the random effect and pooled OLS. The pooled OLS specifies constant coefficient for all companies and uses all the usual cross section assumption. The Breusch and Pagan Lagrangian Multiplier Test for Random Effect indicate that the pooled OLS is appropriate. This is because it fails to reject the null hypothesis that states the pooled OLS is appropriate by the p- value of 1.00 at the 0.05 significance level by rejecting the alternative hypothesis that states random effect is appropriate.

Regression result

To evaluate the study models, the R square has been considered to determine the amount of variance in the dependent variables which is explained by all variables in the formula. The value for the R-squared in the model is 0.2397 which endorses that 23.97% of the variation in the dependent variable is explained by the independent variables of the model. The remaining value from the hundred percent variations in the dependent variable remains unexplained by the independent variables of the study i.e. explained by the residuals. The value for F-statistics is 0.0384 and is significant endorsing the validity and stability of the model relevant for the study.

Table 3 The results of multiple regressions from STATA

Model			
Variables	Coefficient (Std. error)	t-value.	p-value
CONSTANT	3.477119* (0.781574)	4.45	0.000
ROA	0.5780356 (0.3736843)	1.55	0.128
SIZE	0.0565543 (0.0435092)	1.30	0.200
CR	0.0060669 (0.0041168)	1.47	0.147
CF	-0.3031737** (0.1220864)	-2.48	0.017
S.GROWTH	0.0196287** (0.0087721)	2.24	0.030
LEVE	0.0026773 (0.0070441)	0.38	0.706
Observation = 55			
F(6, 48) = 2.52*			
Prob > F = 0.0334			
R-squared = 0.2397			
Adj. R-squared = 0.1447			
Root MSE = 0.58386			

**Significant at 0.01 significance level*
***Significant at 0.05 significance level*

The variables on table indicated measures that ROA ROA equals net profit/total asset. SIZE is measured as the natural logarithm of total assets. CR measured as current asset divide by current liability. CF operating cash flow divides by total asset. S. Growth measured as current year sales mines previous year sales divide by previous year sales. LEVERAGE is the result of total debt divide by total equity.

Profitability (return on assets)

The result on Table 3 reveals that ROA which is a measure of profitability have positive and insignificant effect on cash conversion cycle (CCC) which is a comprehensive measure of WCM. The P-value which is 0.128 is the indicator of insignificant effect at the 0.05 significance level. On the other hand the coefficient for ROA indicates that when ROA increase by one the cash conversion cycle would increase by 57.8% days (0.5780*100 since CCC is natural logarithm) for the Amhara National Regional State share manufacturing company for five year study. The hypothesis developed for the study which says, there is significant impact of profitability on working capital management is not supported by this empirical results. This empirical outcome opposes the finding of Angahar P. A. and Alematu A. (2014) in, but it supports the finding of Gill et al., (2010) in United States and Ul Haf et al., (2011). Overall this empirical result implies that the increase or decrease of profitability ROA will have insignificant on Cash Conversion Cycle (CCC).

H_1: Rejected because the result shows us profitability has no significant effect on CCC at 0.5 significant levels.

Size of the firm

This independent variable is measured as the natural logarithm of total assets. The result on Table 3 shows that size which have positive and insignificant effect on cash conversion cycle which is a measure of WCM. The P-value which is 0.20 is the indicator of insignificant effect at the 0.05 significance level. On other hand the coefficient for size indicates size increase by one percent the cash conversion cycle would increase by 5.66 percent (0.0566*100 CCC is natural logarithm) for the sampled share manufacturing company for five year data. This finding contradicts the hypothesis developed for the study that says there is significant impact of size of the firm on working capital management.

This empirical result supports the finding of Wasiuzzaman and Arumugam, (2013) which they found there is not any significant impact on Cash Conversion cycle which is a comprehensive measure Working Capital Management of firms by the size of the firm. Generally this empirical finding suggests that even though size of the firm has a relationship with cash conversion cycle but have no significant impact.

H_6: Rejected because the result above show us size of the firm have no significant effect on CCC which is a measure of WCM at 0.5 significant level.

Current ratio

In Table 3 above shows those current ratios (CR) have positive and insignificant effect on cash conversion cycle. The P-value which is 0.147 is the indicator of insignificant at the 0.05 significance level. Furthermore the coefficient for current ratio indicates that when CR increase by one cash conversion cycle of the firm would increase by 0.607 percent (0.00607*100 which CCC is natural logarithm form) for the sampled share manufacturing firm in ANRS for the five selected years. This is in contrast to the hypothesis developed for the study which says there is a significant impact of current ratio on working capital management.

This empirical outcome opposes the findings of Valipour et al., (2012), Loftinia et al., (2012) and Mehmet SEN (2009) in Karachi. The Overall implication of this imperial result shows that the decrease or increase in the current ratio have no significant impact on cash conversion cycle.

H_3: Rejected because as the result show us current ratio have no significant effect on CCC at 0.5 significant level.

Operating cash flow

The result on Table 3 shows that operating cash flow has a negative and significant effect on cash conversion cycle. The P-value which is 0.017 is the indicator of the significant at the 0.05 significance level. On the other case the coefficient for cash flow indicates that when operating cash flow add by one the CCC would decrease by 30.317 percent (0.30317*100 since CCC is natural logarithm). This empirical finding supports the hypothesis developed by the author for this study which says there is a significant impact of operating cash flow on WCM measure CCC.

This empirical outcome contradicts to the work of Kwenda and Holden, (2014) conducted in Johannesburg, and Sen and Oruc, (2009). Generally the operating cash flow has negative and significant effect on cash conversion cycle. This implies that when we increase the company's operating cash flow it is possible to have cash within a short period of time. That means cash conversion cycle periods becomes lower.

H_5: Accepted because at 0.5 significant levels operating cash flow have negative and significant effect on CCC.

Debt ratio

The result depicted on Table 3 above shows that debt ratio have positive and insignificant impact on cash conversion cycle. The P-value which is 0.706 is the indication of insignificant at a 0.05 significance level. Moreover the coefficient for debt ration /leverage (0.00268) indicates that when debt ratio goes up by one the conversion cycle increase by 0.268 percent (0.00268*100 which CCC is natural logarithm form) for the Amhara National Regional State (ANRS) share companies. This empirical finding contradicts the hypothesis developed for the study which says there is a significant impact of debt ratio on WCM which measured by cash conversion cycle. The empirical result is opposed by (Hashem and Fatemeh, 2012) in Tehran. Over all the result for

the debt ratio indicates its impact on cash conversion cycle is insignificant.

H_2: Rejected because as the result show us debt ratio/leverage have no significant effect on CCC at 0.5 significant level.

Sales growth

The sales growth result on Table 3 shows that sales growths have positive significant effect on cash conversion cycle which is a measure of WCM. The P-value for this relationship is 0.03 which implies it is significant at the 0.05 significance level. Moreover the coefficient from regression indicated that when sales increase by one the CCC would increase by 1.963 percent (0.01963*100 since CCC is natural logarithm) for the sampled companies for five years data that taken from ANRS. Furthermore the result supports the hypothesis developed for the study that says there is a significant impact of sales growth on working capital management. This empirical outcome supports the findings of Naser et al., (2013) in Abu Dhabi. Generally the results of the sales growth in this study shows that it have positive significant effect on cash conversion cycle (working capital management).

Over all this empirical study indicated that profitability (ROA), size of the firm, current ratio, and debt ratio/leverage have insignificant effect on cash conversion cycle. It implies that the increase or the decrease of these variables have no significant impact on working capital management. On the other hand sales growth has a positive significant impact on cash conversion cycle. The increase in sales indicates the increase in cash conversion cycle periods. The company may have high credit sales when the company increases their sales and if they have receivable conversion periods, finally it would result high cash conversion period. The company's cash conversion periods become high, and it implies that working capital management would be in effective. The other significant variable is that operating cash flow which has negative significant impact on CCC. It implies that the decrease in operating cash flow results the increase in CCC periods. So the increase or decrease in operating cash flow has an impact on Working Capital Management.

H_4: Accepted, because at 0.5 significant level sales growths have positive and significant effect on CCC.

Conclusions

The corporate finance decisions of any business are generally composed of two main parts: the management of assets (investment decisions) and source of funds or liabilities and equity (financing decisions) in the short term (Pandey, 2007) under financing decision there is WCM which plays a vital role in the company's current assets and financing needed to support current assets (James et.al, 2012). The management of working capital management concerns the management of cash, inventories, account receivables, accounts payable and other short term assets and liabilities. One way to achieve the

objective of having efficient working capital management is to know about its determinants (which is considered as firm characteristics in this study) indifferent studies such as the effect of profitability, sales growth, size of the firm, operating cash flow, current ratio, and debt ratio.

This study then analyzed the data by using quantitative basis and pooled operating list square regression analysis. Results from regression analysis indicates profitability, size of the firm, debt ratio, current ratio are firm characteristics which have no an effect on Cash Conversion Cycle. This implies that these variables have no significant impact on Working capital management in the context of Amhara national regional State Share Manufacturing Company. And also Results from regression analysis reports operating cash flow, and sales growth affect the cash conversion cycle which is used as a measure of working capital management in manufacturing companies. This study found a significant positive impact of sales growth on CCC. This result is similar with (Kamal and Ahmed, 2013, Hashem et. al, 2012). The positive effect demonstrates that the increase sales growth have an impact on a higher in the length of cash conversion cycle which indicates lower effective working capital management the implication is that the companies have more credit sales and it takes longer period to hold cash.

Further the study has found that negative significant impact between operating cash flow and cash conversion cycle. This outcome is similar with the work of (Suleiman, 2013). The negative effect of operating cash flow on cash conversion cycle will pursue an increase in operating cash flow is an attempt to decrease their cash conversion cycle periods. The negative sign between CCC and operating cash flow is consistent with the view that firms wait longer period to have cash.

Recommendation

The recommendations of the research are based on the study findings are as follows:

- The negative significant impact of operating cash flow on Manufacturing Share Company's cash conversion cycle will increase the Company's Working Capital Management; if there is lower Cash Conversion Cycle periods the researcher recommended that even though shortest Cash Conversion period is not always good the manufacturing companies must develop clear procedure to shortening cash conversion cycle period.
- The study also found positive significant impact of sales growth on cash conversion cycle. Selling stocks/ goods account may increase the account receivables collection period. The delay in account receivable conversion period makes cash conversion cycle periods longer. If the cash collection cycle periods longer the company's account payable period also longer. However, the inventory conversion period is lower in this case because the company's sales growth is high. The researcher

recommends that the company should have a good and clear account receivables collection period procedures to make cash conversion cycle minimum when increase sales of the company.

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