Does Working Capital Management make a Difference?

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Abstract:

Result from a sample of 358 firms from KSE is analyzed to examine the contact of working capital variables with profitability. It is found that profitability is negatively affected by average period, DPO, Inventories accumulation and financial leverage but profitability increase with increase in growth opportunities.

Keywords: Working Capital Management, Profitability, Liquidity, Financing and Investment, Fixed effect model, Descriptive Statistics.

INTRODUCTION

Working capital is also often used for the measurement of the liquidity of the firms. Liquidity is the condition which ensures that firms have enough amount of money to meet their short term obligations, (Deloof, Does working capital management affect profitability of Belgian firms?, 2003). If there is insufficient balance, then firms can get to the bankruptcy. Too much liquidity is the depiction of huge profits for the companies. Thus good working capital management is assured when company has successfully managed their profitability ratio and liquidity, so to enhance their value. The major advantage of extending the trade credits and holding the inventory is the less availability of the money for the profitable investment of the firms. Howsoever, it is very difficult task for the management to assure the most favorable rank of the working capital managing, (Deloof, 2003).

Financing and investment structure of a firm is considered as main policy question. According to (Cleary, 1999), Pakistani firms are more risk averse. It means Pakistani firms are very reluctant in expansion and further investment; this is a cultural and environmental factor for investment decisions (Maschek, McAllister, & Sauvant, 2009). That is the reason; most of the decisions of the financial managers of Pakistan have to face restriction. They prefer to depend over the internal sources of financing, rather than external due to the risk associated with the external financing, (Fazzari & Petersen, 1993). So this has become the major constraint for the flow of investment in the firms. In this way, the Pakistani firms who do not want to take risk have to face accumulated cash (Globerman, Shapiro, & Tang, FOREIGN DIRECT INVESTMENT IN EMERGING AND TRANSITION EUROPEAN COUNTRIES, 2004). They have limited cash flows and thus they always try to hold their cash, so to ensure that their leverage ratio remained stable and their business operations remain unaffected. (Fazzari & Petersen, 1988) have identified that dependence of the firms is more over the internal financing rather than the external funding. External financing attainment is linked with several constraints ( Markusen & Venables, 1999). It has also been explored that the financial constraints is high for the sensitive firms as compared to the less sensitive firms, (Nunn, 2001).

For the economic development, investment and financing requirement through external sources are as important as internal sources, (Xia, Li, & Long, 2009) (Lee & Bruvold, 2003). Thus the
firms are required to highlight those constraints which are hindering in the way of bringing cash inflows.

**Objectives and significance of the study**

The purpose of study is to identify the role of managing working capital on profitability of a firm. This research is also plays significant role in Pakistani context to examine the affect of working capital management on profitability. The research will be in depth analysis of working capital because study uses variable (assets, growth opportunities, financial leverage, inventories/sales, working capital/capital, working capital, inventories/capital, DSO ratio, DPO ratio, ITO ratio, cash conversion cycle) to measure working capital rather than one measure of net working capital.

**PROBLEM STATEMENT**

Every firm wants to increase profitability but the task is not easy. One of the factors which may affect profitability is working capital.

**Literature review:**

Working capital is the investment which is considered compulsory for running a business. Working capital, although important part but more risky part of investment, therefore investors are reluctant to invest in a working capital (Maschek, McAllister, & Sauvant, 2009).

Trends are changing with the environmental changes in financial market, and corporate decisions are more effective to attract investment in working capital (Pennsylvania Securities Commission, 2012). An important element of this investment is to invest for a shorter period of time and it has

According to (Fazzari & Petersen, 1988) firms are mostly dependent over their internal funding and feel reluctant to pay off their dividends, (Whited & Wu, 2006)(Globerman, Shapiro, & Tang, 2004). By this way they gather their internal funds and show less dependency over the external funds. Moreover, it is explored that small funds have no option rather to go for internal financial resources, as they have less documentation to meet the requirements of the external financing (Markusen & Venables, 1999). They have also explored that financial constraints is high for the sensitive firms as compared to the less sensitive firms, (Fazzari & Petersen, 1993).

In order to ensure the flow of the investment, companies have to do working capital supervision. Working capital administration is a term coined for the difference among the in progress assets and the present liabilities of the organizations. It is one of the sources of financing, which is mostly based over the short term financing. According to the findings of (Bottazzi, Secchi, & Tamagni, Financial constraints and firm dynamics, 2011), working capital comes along with the fixed capital, which one of the major element for the firms. The researchers have also talked about stressing the assessment of the entity constituent of the operational capital. for instance, by property huge amount of inventory in the warehouse of the company, enables the firms to avoid the interruptions in the costly stock outs and the production process, (Hale & Long, 2011). In addition, allotting trade credits to the clients can have power to stimulate the sales. This also enables the consumers to authenticate the superiority of acquiring manufactured goods, previous to pin point of fact giving for them as well as also add good source of the credit for the company.

Through literature study, several studies have been traced which evaluated the factors which influence working capital administration in firms. In the same line of study, (Jose, Lancaster, & Stevens, 1996) traced association connecting working capital organization and the productivity of firms in several industries by using return on equity (ROE), return on assets (ROA) as pointer of productivity and the cash conversion cycle (CCC) as pointer of working capital administration. They carried out investigation of the related ratios and found that there exists negative association among return on assets and the cash conversion cycle. In accumulation, they comprise in addition exposed so as to low cash conversion is derived by organizations which have high profitability. Moreover, return on equity (ROE) and cash conversion cycle are also negatively related in service industries. Besides all these factors, (Jose, Lancaster, & Stevens, 1996) have also reported that several other issues for example production process, capital intensity, marketing channels, corporate competitive position in addition to product durability may also
impact the association among return on equity (ROE) and the cash conversion cycle (CCC).

In another study, (Lazaridis & Tryfonidis, 2006) have revealed that leverage or gearing ratio also impacts working capital management in an organization. In this regard, the results of their study suggested that gearing ratio reflects the extent to which assets of an organization are financed by debt. In this regard, the results reflected that low leverage results in generating high cash flows for the organization and also result in low investment in future expansion projects. Conversely, the results have also reflected that high leverage ratio suggests low cash flows generated by the organization and low investment. This is because organization will be having low cash flows which will limit the ability of organizations to invest in future projects. Therefore, it can be suggested that investment decisions and working capital management of an organization depends on the outside borrowings of organization. In the same line of literature, (Chiou, Cheng, & Wu, 2006) have reported that bet ratio as well as working capital organization are pessimistically correlated by means of all added. These results imply that at what time a firm has near to the ground quantity of the net working capital, it might look for external sources of money to finance its operation and activities. Ultimately, high leverage ratio is obtained by the firm and investment opportunities are reduced. Contrary to this, (Rimo & Panbunyuen, 2010) have suggested that debt ratio is positively related to cash conversion cycle (CCC).

Considering several factors affecting working capital management and difficulty in assessing several factors, there arises a question that whether are competent to professionally organization working capital otherwise not. Within this regard, several indicators have been proposed by prior studies which impact performance of working capital. Among these factors, one important factor is Days Sales Outstanding (DSO) which refers to ratio between accounts receivable to sales in terms of number of days in a year. It can be calculated by following formulae:

\[ DSO = \frac{\text{accounts receivable}}{\text{sales}} \times 365 \]

It has been reported that increasing DSO point towards the organization that does not administer its working capital professionally and efficiently. This is for the reason that it obtains longer to bring together expenditures and it may not encompass adequate cash to assemble small term monetary responsibilities. Consequently, cash cycle will be lengthened.

Another important indicator which might impact the working capital organization is the Days Payable outstanding (DPO) which submits to ratio stuck between accounts payable and cost of goods sold in conditions of numeral of the time in a year. This ratio can be calculated through following formulae:

\[ DPO = \frac{\text{accounts payable}}{\text{cost of goods sold}} \times 365 \]

These relations disclose that higher DPO results in effective management of working capital and is beneficial for the organization. This ratio also reveals that some organizations are slow in paying their liabilities and receiving quicker from customers. However, this can be assumed as weak working capital management of organization.

There is also another important indicator which impacts working capital management in organizations i.e. Inventory Turnover. this ratio is termed as ratio between cost of goods sold and inventories. Formulae for calculating this ratio is as follows:

\[ ITO = \frac{\text{cost of goods sold}}{\text{inventories}} \]

These relations disclose the extent by which organizations are able to rotate inventory. Higher ITO indicates effective working capital management in organizations.

(Deloof, 2003) reported relationship between different factors and working capital management in 1009 nonfinancial organizations of Belgium. He evaluated that average collection period and inventory turnover (ITO) are negatively related with each other. In this regard, he suggested that financial managers of these firms need to enhance profitability of organization by improving average payment days and also by reducing average collection period and inventory turnover (ITO). Finally, (Deloof, 2003) suggested that working
capital organization has strapping association with productivity of organizations. Enlargement chances are not unimportant first and foremost for the reason that of a far above the ground optimistic association with the money shortfall. This previous variable presents a considerable negative sign in the regression resulting in the enhancement of this lack of enthusiasm to the enlargement chances variable require it to be unable to find part of the predictable positive pressure (Bigelli & Sanchez-Vidal, 2012)

Financial leverage can be calculated by considering financial debt over total assets. In terms of monetary individuality of little organizations, they more often than not have a better money shortfall, a better cash conversion cycle, a not as good as financial pressure, an inferior proportion of bank debt on sum of the debt, low net working capital and extremely little amount for R&D (Bigelli & Sanchez-Vidal, 2012). The inferior monetary influence and bank debt possibly will be outstanding to the better riskiness and less important recognition merit of little firms while the better cash conversion cycle on the whole results owing to their inferior constricting authority in payables and receivables’ conditions of payment, compared with the mammoth private firms.

(Lyroudi & Lazaridis, 2000) have reported that cash conversion cycle (CCC) and liquidity of firms are associated with each other. In addition, they elaborate that average collection period, average age of inventory, current ratio, in addition to cash conversion cycle are unenthusiastically connected with every one other. Furthermore, standard payment era and cash conversion cycle (CCC) are also negatively related with each other. However, Lyroudi and Lazaridis (2000) finished that statistically there is no important association among variables which are used dimension of profitability in firms. In the same vein, (Deloof, 2003) reported that gross operating income and inventory turnover in days (ITO) have significant relationship with each other. In this regard, this study found that decrease number of sales result in increase in volume of inventories which ultimately result in low profitability for the firms. When firms have low profits, they have less money and cash left for investment activities. Therefore, it can be suggested that investment decisions and inventory turnover (ITO) are associated with each other. In the same vein, (Boisjoly, 2009) have also reported that inventory turnover results in improved inventory management in firms. (Boisjoly, 2009) has also evaluated that for managing inventory, manufacturing organizations need to apply certain techniques such as make to order products, just in time inventory management approach, lean manufacturing, and approaches to manage operating performance, quality programs and supplier rationalization for reducing the number of suppliers. All these factors result in effective capital management in manufacturing firms (Boisjoly, 2009).

Finally, (García-Teruel & Martínez-Solano, 2007) have reported that working capital management techniques of firms may also impact the performance and investment opportunities of firms. They analyzed 8872 firms to evaluate the collision of operational capital organization on productivity of little and average venture. They have fond that return on assets (ROA) is negatively related with figure of existence accounts receivable, figure of existence accounts receivable, figure of existence inventory and the cash conversion cycle (CCC).

**Methodology**

**Sample**

Non-financial public limited. companies listed on KSE are taken as a sample to determine the affect of working capital management on profitability. The data was drawn from balance sheet analysis ranging from 2007 to 2011. Observations with missing data were dropped from the analysis as a result we get unbalanced panel.

The following variables are used to gauge working capital management .

DPO ratio

http://www.ijmsbr.com
DSO ratio
Inventories/Sales
Networking Capital
Growth Opportunities
Financial leverage

\[ ROA = \alpha + \beta_1 \text{assets} + \beta_2 \text{growth opportunities} + \beta_3 \text{financial leverage} + \beta_4 (\text{inventories/sales}) \\
+ \beta_5 (\text{working capital/capital}) + \beta_6 \text{networking capital} + \beta_7 (\text{inventories/capital}) \\
+ \beta_8 \text{DSO ratio} + \beta_9 \text{DPO ratio} + \beta_{10} \text{ITO ratio} \]

The results of the hausman specification test show that the fixed effects model will be appropriate for the analysis. The results of the fixed effect model are reported in Table 1.

**Table 1: Results of Fixed effect Model**

<table>
<thead>
<tr>
<th>ROA</th>
<th>Coef.</th>
<th>Std. Err.</th>
<th>t-stats</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>assets</td>
<td>-4.50e-09</td>
<td>3.38e-08</td>
<td>-0.13</td>
<td>0.894</td>
</tr>
<tr>
<td>Growth opportunity</td>
<td>0.06046</td>
<td>0.0346508</td>
<td>1.91</td>
<td>0.057</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>-9.74253</td>
<td>2.274636</td>
<td>-4.28</td>
<td>0.000</td>
</tr>
<tr>
<td>Inventories/sales</td>
<td>-7.649236</td>
<td>2.441165</td>
<td>-3.13</td>
<td>0.002</td>
</tr>
<tr>
<td>Working capital/capital</td>
<td>0.0136594</td>
<td>0.0240577</td>
<td>0.57</td>
<td>0.570</td>
</tr>
<tr>
<td>Net working capital</td>
<td>1.48e-07</td>
<td>8.58e-08</td>
<td>1.73</td>
<td>0.084</td>
</tr>
<tr>
<td>Inventories/capital</td>
<td>0.0644903</td>
<td>0.0627012</td>
<td>1.03</td>
<td>0.304</td>
</tr>
<tr>
<td>DSO ratio</td>
<td>-0.0323426</td>
<td>0.0117025</td>
<td>-2.76</td>
<td>0.006</td>
</tr>
<tr>
<td>DPO ratio</td>
<td>-0.0272237</td>
<td>0.0054082</td>
<td>-5.03</td>
<td>0.000</td>
</tr>
<tr>
<td>ITO ratio</td>
<td>0.0000468</td>
<td>0.0007769</td>
<td>0.06</td>
<td>0.952</td>
</tr>
<tr>
<td>_cons</td>
<td>13.15099</td>
<td>1.001561</td>
<td>13.13</td>
<td>0.000</td>
</tr>
</tbody>
</table>

ROA is used to compute profitability. Descriptive statistics of the variables are shown in Table 2.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>assets</td>
<td>1581</td>
<td>9113483</td>
<td>2.41e+07</td>
<td>17605</td>
<td>2.63e+08</td>
</tr>
<tr>
<td>Growth opportunity</td>
<td>1581</td>
<td>.438404</td>
<td>-1.288846</td>
<td>296.2979</td>
<td></td>
</tr>
<tr>
<td>Financial leverage</td>
<td>1581</td>
<td>.1905018</td>
<td>.2065862</td>
<td>0</td>
<td>1.677644</td>
</tr>
<tr>
<td>Inventories/sales</td>
<td>1581</td>
<td>.2833903</td>
<td>3.609904</td>
<td>-3.455894</td>
<td>143.5</td>
</tr>
<tr>
<td>Working capital/capital</td>
<td>1581</td>
<td>-.03708</td>
<td>14.26034</td>
<td>-396.7606</td>
<td>335.48</td>
</tr>
<tr>
<td>Net working capital</td>
<td>1581</td>
<td>394337.7</td>
<td>6368713</td>
<td>-8.62e+07</td>
<td>1.28e+08</td>
</tr>
<tr>
<td>Inventories/capital</td>
<td>1581</td>
<td>.8028551</td>
<td>5.534632</td>
<td>-67.6525</td>
<td>115.6881</td>
</tr>
<tr>
<td>DSO ratio</td>
<td>1581</td>
<td>36.6091</td>
<td>49.05248</td>
<td>-781.0911</td>
<td>340.383</td>
</tr>
<tr>
<td>DPO ratio</td>
<td>1581</td>
<td>102.7944</td>
<td>91.65122</td>
<td>-1896.561</td>
<td>364.7827</td>
</tr>
<tr>
<td>ITO ratio</td>
<td>1581</td>
<td>31.82355</td>
<td>337.682</td>
<td>-.0483532</td>
<td>12518</td>
</tr>
<tr>
<td>ROA</td>
<td>1581</td>
<td>5.244004</td>
<td>13.59551</td>
<td>-90.16</td>
<td>77.74</td>
</tr>
</tbody>
</table>

From the table it is clear that the selected sample has an average ROA mean of 5.24 Million. It takes more days for the company to pay off its current liabilities and average collection period for its receivables.

Results from table 2 indicate that profitability increases with growth opportunities so it means that if firms have more opportunities for growth it may be more profitability. Financial leverage is found to be negatively influencing profitability of the firm. The accumulation of more inventory also result in decrease in profit the reason maybe increase in strong cost of the inventory.

Profitability is found to be negatively affected by longer average collective periods. Longer average collective periods. Longer collection period may result in increase in bad debts and hence decrease in profitability. Interestingly the affect of DPO is also to found to be negatively affecting profit. By taking more time to pay debt the companies are also loosing trust in the market and they may get the raw material at highest cost.

**Conclusion:**

The study conclude that the companies should avail growth opportunities to diversity their business. In Pakistan context it is observed that companies with lesser financial leverage tend to be more profitability. Firms should decrease their average collection period to avoid default risk. Payables should be paid on time to increase profitability in Pakistani context.

**References**


