Working Capital and Fixed Investment Effect on Sales Growth in SAARC Countries’ SMEs

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The study investigates the impact of various financing sources of working capital and fixed investment on sales growth. Population of the study comprises South Asian Association for Regional Cooperation (SAARC) countries’ small and medium sized enterprises (SMEs). Data of 6777 SMEs is retrieved from World Bank’s website. Multiple regression model is used to achieve the study objectives. Results signify a positive link between bank financing use for working capital and sales growth while the negative link between friends and family finance and sales growth is observed. Similarly all formal sources of finance used for fixed investment have positive link with sales growth. Finally, it is found that the government interventions and policy makers can alleviate access to formal sources of finance for boosting sales growth.

Introduction

Small and medium sized enterprises (SMEs) are the back bone of any economy. SMEs across the globe are differently defined based on number of employees, total assets the firm holds and annual sales. According to size definition of World Bank, SMEs are business enterprises having number of employees more than 1 and less than 100 (V Kuntchev, Ramalho, Rodríguez-Meza, & Yang, 2014). SMEs role in job creation, poverty alleviation, improving life standard of people, contribution to Gross Domestic Product (GDP) and macroeconomic development is highlighted by (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011; Khan, 2015; Veselin Kuntchev, Ramalho, Rodríguez-Meza, & Yang, 2013). They further documented the importance of SMEs both for developed and developing countries. Similarly (Beck, 2007) highlighted that manufacturing SMEs provide more than 60% employment across many countries. SMEs play dual role for country and regional development. On one hand they generate jobs, increase GDP and boost up economic growth on the other hand they play a role of nursery for larger enterprises. But at the same time rate of failure in SMEs is higher and few SMEs are successful in their survival. Rate of failure and success in SMEs is dependent upon multiple factors. These factors include, crime, political instability, financing obstacles (Beck, 2007). Among all these factors financing obstacles are the most robust factors affecting SMEs growth (Ayyagari, Beck, & Demirguc-Kunt, 2007). For example (Abe, Troilo, & Batsaikhan, 2015) documented that inefficient management of working capital deny SMEs future growth. Thus sustainable growth is heavily dependent upon financial management. Different proxies for firm performance e.g. sales growth, profitability (return on assets, return on equity) market capitalization and employment growth are used in literature. But this study following (Degryse, Lu, & Ongena, 2016) use the proxy of sales growth as measure of firm performance because sales growth effect firm’s profitability, employment growth and regional economic growth (Birch, 1979; Shane & Venkataraman, 2000; Thurik & Wennekers, 2004).

Stream of literature have also focused the impact of financing sources on firm performance and explored that formal sources of finance accelerate sales growth and informal sources reduce sales growth (Khan, 2015). But the studies has not differentiated between short term financing.
i.e. working capital and long term financing i.e. fixed investment and their impact on firm performance. Present study tries to fill the gap by answering the research questions (a) whether sources of working capital financing effect SMEs performance and (b) whether sources of fixed investment effect SMEs performance. Some studies like (Molíček & Martinovičová, 2014; Silva, 2017) have studied the association among working capital and firms performance but they either have studied the association among working capital components and firm performance or working capital optimality and firm performance. Furthermore earlier studies have focused long term financial management and short term financial management did not received much attention in financial decision making (ALShubiri, 2011). Similarly some studies have documented the relationship among fixed investment and firm performance but again these studies like (Cordis & Kirby, 2017; Grazzi, Jacoby, & Treibich, 2016) have either studied the effect of firm level investment on firm performance or the sensitivity of investment with firm performance. So there is need of study which investigate the association among sources of fixed investment and firm performance. Because different financing sources have different cost and benefit which directly affect the cost of capital.

Findings of the study will help SMEs owner and top management in attaining sustainable competitive advantage, increase sales and survival. Moreover the study might open new doors of research.

Related Literature

Literature have identified importance of corporate financial policies because it effect directly firm performance. For example (Aktas, Croci, & Petmezas, 2015; Zeitun & Tian, 2014) identified significant relationship among corporate financial management and firm performance. Similarly enterprises with high level of fixed investment compare to scale of operation measured in total sales or asset will underperform compare to firms with opposite character in terms of stock return (Cooper, Gulen, & Schill, 2008; Hsiao & Li, 2013; Polk & Sapienza, 2008).

Short term financial management in SMEs is more important as they have limited resources and financing choices moreover, small businesses have high liquidity and high current liabilities. Level of investment in working capital is a tradeoff between risk and firm financial performance so decision taken to increase profitability will increase firm level risk (Juan García-Teruel & Martínez-Solano, 2007). Similarly some studies signified a positive relationship among aggressive working capital policies and profitability (Deloof, 2003; Wang, 2002). But Wang (2002) also highlighted that reducing inventory level too much might cause losing the future sales growth. Thus before setting certain level of working capital it is necessary to look at the tradeoff between risk and expected profitability. Studies regarding short term financial management have mainly focused larger enterprises (Juan García-Teruel & Martínez-Solano, 2007). But results of larger enterprises cannot be generalized to SMEs because there exist difference while analyzing the relationship between working capital and firm performance (Zariyawati, Hrnissa, & Diana-Rose, 2017).

Studies regarding components of working capital and firm performance signified the link between inventory, receivables and firm performance or sales growth (Baños-Caballero, García-Teruel, & Martínez-Solano, 2012). They justified that increase the level of investment in receivables and inventory results into sales growth. Increase the level of inventory results into prevention of interruptions and production activities and loss of business due to unavailability of products moreover maintain price fluctuation also (Blinder & Maccini, 1991). Moreover little has been done regarding short term financial management their importance and consequences in developing countries SMEs.

In Chinese SMEs it was justified that informal finance have positive impact on sales growth whereas negative impact in larger enterprises (Degryse et al., 2016). Results about bank financing and firms performance is inconclusive as (Khan, 2015) documented positive relationship among bank financing and firm performance while on the other hand to much debt can also harm business operations due to high interest risk and agency cost (Bańos-Caballero, García-Teruel, & Martínez-Solano, 2016). Short term bank loan will expires and business enterprises need to renew loan which might be at higher interest rate as result firm performance might be effected negatively. Similarly SMEs confirmed negative link between debt ratios (trade credit, short term debt and long term debt ratios) and firm performance in term of profitability (Tsuruta, 2017; Yazdanfar & Öhman, 2015).

Little has been done regarding fixed investment and firm performance due to lack of investment data (Grazzi et al., 2016). High investment trends leads to higher production, employment and sales after controlling for firms and owner specific characteristics (Grazzi et al., 2016). Contrarily investment in IT (information technology) infrastructure and human IT resources show strong significant relationship with IT enabled intangibles, but show insignificant relation with firm performance (Huang, Ou, Chen, & Lin, 2006).

Literature have mix results about link between fixed investment and firm’s performance. Like a stream of literature highlighted the link between level of investment and firms financial performance and found that firms higher investment in fixed asset compare to their scale of operation will have lower stock return than firms that are
opposite in phenomenon (Cooper et al., 2008; Hsiao & Li, 2013; Polk & Sapienza, 2008). Similarly in Indian context there exist negative and persistent relationship among firm performance and capital expenditure or fixed asset investment (Jaisinghani, Tandon, & Batra, 2018). But the negative correlation between investment and firm financial performance may be due to poor budgeting practices (Cordis & Kirby, 2017). Studies have also focused debt and equity financing and its effect on performance but results of the studies are contradictory like (Tsuruta 2017) documented that SME's with high level of leverage have low average performance while positive variance of firm performance (Tsuruta, 2017). Contrary to the above high leverage firm performance is good compare to low leverage firm (Tsuruta, 2015). Again there exist a lack of studies that have observed the impact of sources of fixed investment financing i.e. internal, banks financing, nonbank financial institution and trade credit on SMEs performance. In summary all these studies have focused the level of investment and its effect on firm’s performance. Important aspect of fixed investment i.e. sources of fixed investment and its effect on performance have been ignored. Most importantly SMEs financing in developing countries have not been a viable topic for research.

Methodology

Population, Sample and Sampling Procedure

Population of the study consist of SAARC countries, but some countries have been excluded from the sample. World Bank collect data based on size of economy and thus only manufacturing firms have been sampled in very small economies which is insufficient to achieve the objectives of the current study. Similarly, Bhutan Maldives and Nepal are also excluded from the sample by World Bank as they are very small economies. So, population of the study consist of India, Pakistan, Bangladesh and Sri Lanka. All these countries have been consider as a single reign/unite because despite some difference there also exist similarities like all the countries have population stress, low income, unemployment, rural economies, and geographically neighbor states, moreover all the countries are classified as lower middle income group by world bank (Zaheer, 2013).

Furthermore 6777 SMEs have been sampled to achieve the said objectives. Stratified random sampling technique is used by World Bank in which strata are drawn based on sector of activity, firm size and geographical location. Geographical location has been considered to have a representative from all the reigns of the country. Size is stratified in small firms comprises of 5 to 19 employees, medium 20 to 99 and more than 100 as large firms. Similarly, sector of activity is stratified based on the size of economy i.e. very small economies, small economies, medium and large economies.

Data and Data Sources

As the study is purely quantitative in nature and secondary data is retrieved from Enterprise Survey World Bank website. World Bank have strategic goal to eradicate poverty, create more jobs and improve life standard of community around the world. For this purpose, World Bank has launched a project “the enterprise survey” which collect data around the globe.

The following table show detail about the measures.

### Table 1. Description of variables

<table>
<thead>
<tr>
<th>Independent Variables i.e. Sources of Working Capital and Fixed Investment Financing</th>
<th>Name of Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal sources</td>
<td>the part of working capital and fixed investment that was financed with internal resources in the previous year</td>
</tr>
<tr>
<td></td>
<td>Banks</td>
<td>the part of working capital and fixed investment that was financed with bank loan in the previous year</td>
</tr>
<tr>
<td></td>
<td>Financial institutions</td>
<td>the portion of working capital and fixed investment that was financed with loan from financial institutions other than banks</td>
</tr>
<tr>
<td></td>
<td>Credit/ trade credit</td>
<td>the portion of working capital and fixed investment that was financed with advances and credit from supplier and customers</td>
</tr>
<tr>
<td></td>
<td>Friends and family</td>
<td>the portion of working capital and fixed investment that was financed with loan obtained from friends, family and money lenders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Name of Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sales growth</td>
<td>Current year sales minus sales three years ago</td>
</tr>
</tbody>
</table>

Sources: Authors Generated
Agricultural and financial services sectors are excluded from the sample. Moreover, qualitative, and quantitative data on different topics are covered by enterprise survey like, crime and informality, innovation, trade, finance, regulation and corruption etc.

**Measures**

**Regressors**

Independent variables i.e. sources of working capital and fixed investment financing are continuous having five sources. These sources include financing with internal resources, Bank loan, nonbank financial institutions, advances and credit from suppliers & customers and friends and family (FF) sources.

**Regressand**

Regressand of the study that comprises sales growth is continuous variable which is calculated by subtracting three year ago sales from previous year sales.

**Diagnostic Tests**

Before applying statistical model Box Cox transformation was applied for data normality. Moreover, as the data is cross sectional in nature so there might exist problem of heteroscedasticity but after running Breusch Pagan test the results show that P-value is less than 0.05 so, here we accept null hypothesis.

**Descriptive Results of Independent Variables**

The following tables show descriptive results of independent variables.

**Table 2. Summary Statics of Working Capital Sources**

<table>
<thead>
<tr>
<th>Sources</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>69.76</td>
<td>32.292</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Banks</td>
<td>21.54</td>
<td>30.17</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Financial Institution</td>
<td>1.003</td>
<td>7.27</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>T. Credit</td>
<td>5.57</td>
<td>14.64</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>FF and lenders</td>
<td>2.079</td>
<td>8.37</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 3. Summary Statistics of Fixed Investments Sources**

<table>
<thead>
<tr>
<th>Sources</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>70.03</td>
<td>38.46</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Banks</td>
<td>24.80</td>
<td>35.37</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Financial Institution</td>
<td>1.24</td>
<td>8.89</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>T. Credit</td>
<td>1.459</td>
<td>4.65</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>FF and lenders</td>
<td>2.33</td>
<td>8.34</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

Summary results shows that mean of internal resources used to finance working and fixed investment are 69.76%, 70.03% respectively. Similarly, after internal resources the most abundant sources is Bank financing with mean values of 21.54% and 24.80% both for working capital and fixed investment. Tarde credit and credit from suppliers and customers is also preferable source to finance working capital.

**Model specification**

Multiple regression model is used to achieve objectives of the study.

\[
\text{Sales Growth} = \alpha + \beta_{\text{internal}} + \beta_2 \text{banks} + \beta_3 \text{NBFIS} + \beta_4 \text{T. credit} + \beta_5 \text{FF} (1)
\]

\[
\text{Sales Growth} = \alpha + \beta_{\text{internal}} + \beta_2 \text{banks} + \beta_3 \text{NBFIS} + \beta_4 \text{T. credit} + \beta_5 \text{FF} (2)
\]

Equation 1 and 2 show the impact of different financing sources used for working capital and fixed investment financing respectively on firm performance i.e. sales growth. In above equations internal show owner equity and retained earnings sources used to finance fixed investment and working capital. Banks and NBFIS show loan...
obtained from bank and nonbank financial institutions whereas T. credit and FF both show informal sources of finance. T. credit are the advances and credit from suppliers and customers whereas FF show the amount obtained from friends and family sources.

**Results**

**Working Capital Financing and Sales Growth**

In order to achieve objectives of the study multiple regression model is used. Table 4 shows results for sales growth and sources of finance used for working capital in private SMEs of SAARC countries. Results show that banks financing have significant link with sales growth. Coefficient value is positive which indicates that with increase in bank financing for working capital the sales growth will also increase.

Internal and nonbank are statistically insignificant which show that they have no effect on sales growth. Coefficient value for FF financing is negative and significant at 10%. Which indicates that with increase in informal financing for working capital sales growth will decrease. P-value of F-statistics is 0.00 which show that over model is statistically significant. R-square of the model is 5.7% which indicates that more than 5% variation in the regressand is due to regressors while rest of the variation is due to other factors which have not been consider in the study. R-square in cross sectional data if low than it is due to the diversity of cross sectional units (Gujarati, 2009).

**Table 4. Working Capital Sources and Sales Growth**

| Explanatory variables                  | Coef.     | Std. Err. | t      | P>|t| |
|----------------------------------------|-----------|-----------|--------|-------|
| Internal                               | 0.0101003 | 0.0116118 | 0.87   | 0.384 |
| Banks                                  | 0.0228108 | 0.0116251 | 1.96   | 0.050*|
| Nonbank                                | 0.008535  | 0.0120269 | 0.71   | 0.478 |
| Suppliers and customers                | 0.0068248 | 0.0116998 | 0.58   | 0.560 |
| Informal                               | -3.516664 | 1.715313  | -2.05  | 0.096*|

R-Square 0.057, Adj R-Square 0.056, F(5, 5397) = 12.80, Prob > F = 0.000***

**Fixed Investment Financing and Sales Growth**

Table 5 represents fixed investment results. Internal sources used to finance fixed investment effect sales growth positively. Similarly bank financing also effect sales growth positively, which indicates that with increase in bank financing for fixed investment sales growth will also increase and vice versa.

Nonbanks financial institution positively affect SMEs sales growth as p-values is less than 0.05, although in practice SMEs obtained very less amount from nonbank financial institution to finance fixed investment. Suppliers, customer and FF lenders financing show negative relationship with sales growth but are insignificant. The negative and insignificant link among sources of fixed investment financing and sales growth can be justified by the facts that fixed investment need long term finance while informal finance is for short term. For example advances form supplier and customer finance could be for 30 days, 60 days or maximum 90 days. Results indicates that all the formal sources (internal, banks, nonbanks financial institute) of finance for fixed investment has positive relationship with sales growth, while all the informal sources has negative but insignificant relationship with sales growth. P-value of F-statistics is 0.00 which show that over all model is statistically significant. R-square is 0.046 which indicates that 4.6% variation in the dependent variable is explained by independent variables while the remaining variation is due to other factors which are not consider in the model.

**Table 5. Fixed Investment Sources and Sales Growth**

| Explanatory variables                  | Coef.     | Std. Err. | t      | P>|t| |
|----------------------------------------|-----------|-----------|--------|-------|
| Internal                               | 0.0213977 | 0.0063533 | 3.37   | 0.001***|
| Banks                                  | 0.0230062 | 0.0066125 | 3.48   | 0.001***|
| Nonbank                                | 0.030457  | 0.0064044 | 4.76   | 0.000 ***|
| Suppliers and customers                | -0.0150196| 0.0126831 | -1.18  | 0.237 |
Informal

<table>
<thead>
<tr>
<th>R</th>
<th>F(5,1312)</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.720</td>
<td>12.80</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

Significant at 10%*
Significant at 5%**
Significant at 1%***

Discussion

The results that internal resources for working capital have positive link with sale growth but statistically insignificant are in line with (Shah, 2010) who also reported positive but insignificant relationship among equity financing and firms financial performance. Bank financing fuel up sales growth i.e. increase in bank financing for working capital results increase in sale growth. Bank financing is justified the most reliable financing source for SMEs among the formal financing sources and that is the reason that it boost up sales and indirectly profitability. These results are in line with earlier studies who reported positive significant relationship among bank financing and sales growth or firms financial performance (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010; Khan, 2015). Some studies reported contradictory results for the level of debt and SMEs financial performance in term of profitability due to the fact that SMEs owners are reluctant to high level of debt due the high agency cost (Yazdanfar & Öhman, 2015). Nonbank financial institutes are positively and insignificantly affecting sales growth. This type of financing is relatively new with limited outlets in South Asian countries (Khan, 2015). Literature have no clear picture about the association among sources of finance and firm performance (sales growth). Some studies documented negative link among sales growth and the use of informal finance by small firms but reported the reverse phenomenon in larger firms context (Degryse et al., 2016). Our results are in line with the stream of research that there exist negative relation among informal finance and sales growth. The negative link could be justified by the fact that informal finance have high cost moreover it is unreliable and untimely.

Results indicates positive link between the use of internal finance and firms growth (Khan, 2015; Muriithi, 2014). Unavailability of internal finance negatively affect firms sales growth and vice versa (Carpenter & Petersen, 2002). Our findings are also consistent with previous studies that there is positive and significant link between internal financing used for fixed investment and sales growth.

Bank finance fuel up sales growth in Pakistani SMEs (Khan, 2015). Our results are indicates that if fixed investment is financed with bank loan compare to other informal sources than it will boost up sales growth. Bank financing increase the probability of growth in export SMEs which automatically increase sales (Abor, Agbloyor, & Kuipo, 2014). These results signify the importance of bank loan for SMEs growth and also bank contribute the most among the formal sources of finance. NBFIS also have positive significant relationship with sales growth. This confirm that all the formal sources of finance used by SMEs to finance fixed investment or capital expenditure accelerate sales growth. Or more specifically formal finance play vital role in SMEs success and survival.

Conclusion

This paper has investigated the impact of various financing sources used for working capital and fixed investment on sales growth. Enterprise survey data is used in the study which is collected over the period 2013 to 2015. Results indicates that financing working capital with banks accelerate sales growth while informal finance obtained from friends and family decrease sales growth. Similarly financing fixed investment with internal and formal sources e.g. banks, nonbank financial institutions boost up sales growth whereas informal finance like tared credit and finance from obtained from friends and family reduce sales growth.
References


A temporally incorrect reference and text, possibly due to a formatting issue, is not included in the natural text.


Kuntchev, V., Ramalho, R., Rodríguez-Meza, J., & Yang, J. (2013). What have we learned from the enterprise surveys regarding access to credit by SMEs?


