

Demographics And Financing Patterns Of SMEs In SAARC Countries

Asad Ullah^{*}, Muhammad Khushnood[†] and Rao Aamir Khan[‡]

Abstract

Small and Medium Enterprises (SMEs) have lower internal resources and limited access to external finance. Extensive literature is available on the capital structure of corporate sector, the SME sector is relatively ignored. To bridge this gap, the study has considered the role of firm's demographics in determining financing patterns of SMEs in the SAARC countries. Data is acquired from the enterprise survey conducted by World Bank and Seemingly Unrelated Regression is used for analysis. Results indicate that the industry, and location, play key role in determining financing patterns. Similarly, age and size are also important determinants of the financing patterns. Age is least important for financing of fixed asset financing patterns.

Key Words: Working capital, fixed assets, demographics.

Introduction

SMEs play pivotal role in the economic development, job creation and overall development of economies around the world (Erdogan, 2015). SMEs constitute 95% of the overall business industry, and provide about 60% employment in private sector (Ayyagari, Kunt, & Maksimovic, 2011). Moreover, SMEs are initiatives for larger firms (S. Kumar & Rao, 2016).

SMEs are differentially defined in various economies on the basis of investment, sales, revenue and employment (Daskalakis & Psillaki, 2008). However, the present study considered firms having number of employees greater than 1 and less than 100 as SME, as this definition is used in enterprise survey (Kuntchev, Meza, & Yang, 2013). SMEs have limited internal resources and few options for external financing compared to larger firms (Nouman & Ullah, 2014). Therefore, SMEs financing pattern is an interesting and emerging area among academia (Wu, Song, & Zeng, 2008). Companies investment policies are

*Asad Ullah, Ph.D. Scholar Institute of Business Studies (IBS) Kohat University of Science and Technology Kohat, Pakistan. Email: asadagrian095@gmail.com

†Assistant Professor Institute of Business studies (IBS) Kohat University of Science and Technology Kohat, Pakistan mkhushnood@kust.edu.pk

‡Assistant Professor Department of Management Science COMSATS University Islamabad, Pakistan. Rao_aamir@comsats.edu.pk

effected by the differential cost of internal and external sources of financing (Fazzari, Hubbard, Petersen, Blinder, & Poterba, 1988).

Since, private SMEs are not listed on stock market, therefore, they can't access equity finance (Aswath, 2001). Private SMEs face more variation in their financing patterns compared to larger firms (Hall, Hutchinson, & Michaelas, 2004). Due to these facts they rely on internal resources and external debt only. Limited studies on financing patterns of SMEs have been conducted mainly due to data limitations (Beck, Kunt, & Maksimovic, 2008; Keskin, 2010). The extant literature on financing patterns of SMEs is limited in several ways. For example: *Firstly*, financial theories, like MM theory (1958), trade off theory (1976), and pecking order theory (1984) have tried to explain financing patterns. However, these theories have been tested mostly in the context of publicly traded corporations. *Secondly*, It is assumed that due to the lack of entrepreneurial spirit in developing countries research is also minimum in those countries (Ghanem, 2013). *Thirdly*, earlier studies about financing patterns of SMEs did not differentiate between working capital and fixed assets financing due to data limitation (Beck et al., 2008). The present paper seeks to fill these research gaps by examining the effect of firm's demographics on financing patterns for financing of working capital and fixed assets in SAARC countries.

Literature Review

Formal discussion on capital structure started with the theorem of (Modigliani & Miller, 1958). They advocated that firm's financial policy is irrelevant. Later on (Kraus & Litzenberger, 1973) documented that firm choose certain level of debt to balance its cost and benefits. Alternatively (Myers & Majluf, 1984) pecking order approach.

Financial growth cycle is important for financing pattern because at different points different combinations of internal and external finance are optimal (Berger & Udell, 1998). The choice between formal and informal finance is determined by various firm and owner specific factors. Among firms specific factors age has key role in determining financing patterns (Nguyen & Luu, 2013). Positive relationship exists between firm size and the use of external finance (Fama & French, 2002). As firms grow they need external sources to finance its activities. But still the cost of debt is less than the other sources of finance (Degryse, de, & Peter, 2012).

Regional studies emphasize policy making and regional differences for entrepreneurial promotions because all these factors shape business environment (Canton, Grilo, Monteagudo, & Van, 2013). Business environment creates platform for smooth operation of

enterprises and facilitate creation of new businesses. A study documented that SMEs located in Greece and France have similar financing patterns but the only difference is in the intensity of capital structure which is due to firms specific factors (Daskalakis & Psillaki, 2008). The determinants of financing patterns in China are not aligned with determinants in US because institutional environment shape the financing patterns unique in China (Chang, Chen, & Liao, 2014, Muneer et al., 2017). The asset structure, growth and profitability affect financing patterns (Cassar & Holmes, 2003). Size has significant impact on firms financing patterns in Brazilian SMEs (Kumar & Francisco, 2007). Larger and older firms finance working capital with external resources while younger and larger firms finance with external (Erdogan, 2015).

Methodology

Population of the study comprises of SAARC countries, whereas sample consist of India, Pakistan, Bangladesh and Sri Lanka. Afghanistan, Bhutan Maldives and Nepal are excluded from the sample due to small size of their economies as only manufacturing SMEs are sampled in these countries. Data for 6777 SMEs have been acquired from World Bank enterprises survey.

Independent Variables (Smes Demographics)

Among SMEs demographics age show number of years since the firm is registered. Similarly size is measured in term of full time permanent employees. For location, Dummy variable is used and given the value of 1 if firm is located in main business city otherwise 0. For industry dummy variable is given the value of 1 if firm is manufacturing otherwise 0.

Dependent Variable

Dependent variable is financing patterns of working capital and fixed asset. Both have five different sources which include internal, bank, non-bank financial institutions, credit & trade credit and friends or family sources. Financing patterns show percentage of different sources use to finance working capital and fixed assets.

Model Selection

To achieve the said objectives Seemingly Unrelated Regression (SUR) is used. SUR model estimates multiple equations at a time for dependent variables. Equations given below represent the models used for estimating the determinants of different sources for working capital financing and fixed asset.

$$internal = \alpha + \beta_1 Size + \beta_2 Location + \beta_3 Industry + \beta_4 Age + \mu$$

$$\begin{aligned}
 \text{Banks} &= \alpha + \beta \text{Size} + \beta_2 \text{Location} + \beta \text{Industry} + \beta \text{Age} + \mu \\
 \text{NBFIS} &= \alpha + \beta \text{Size} + \beta_2 \text{Location} + \beta \text{Industry} + \beta \text{Age} + \mu \\
 \text{T Credit} &= \alpha + \beta \text{Size} + \beta_2 \text{Location} + \beta \text{Industry} + \beta \text{Age} + \mu \\
 \text{FF} &= \alpha + \beta \text{Size} + \beta_2 \text{Location} + \beta \text{Industry} + \beta \text{Age} + \mu
 \end{aligned}$$

In the above equations Internal represents internal resources, bank show the proportion of Working capital or Fixed Assets financed with banks, nonbanks show the proportion financed with nonbank financial institutions (NBFIS) while, T credit show the proportion financed with credit. While, FF represents the proportion financed with friends and family sources.

Demographic and Working Capital Financing

Table 1 show results of the SUR estimates for determinants of different sources of working capital. Among the firm's demographics age significantly affect internal financing and the positive sign of coefficient show that with increase in age the proportion of internal financing for working capital requirement increases. For bank financing the coefficient of age is negative which indicates that with increase in age SMEs reduce bank financing. The reason is that internal resources grow with aging and firm's reliance on external debt decreases. These results are consistent with (Erdogan, 2015; Le, 2012) who reported positive link between age and internal resources while negative relationship between age and bank financing.

Size significantly affect internal resources while the negative coefficient depicts that with increase in firm's size the proportion of working capital financing with retained earnings and owner equity decreases. There is significant association between firm size and the use of bank loan, positive sign of coefficient indicates that with increase in firm size the probability of working capital financing through banks also increases. These Results are similar to (Kumar & Francisco, 2007) who stated that the use of external sources increases with increase in size. Similarly size also affect the proportion of informal financing for working capital but coefficient sign is negative which indicates that when firm's size increases, the proportion of informal finance decreases.

The is negative coefficient of location indicates that firms located in main business cities use less internal resources for working capital financing compared to those in rural areas.

Table 1 SUR Estimates for Working Capital Financing

| | | | | | |
|------|----------------------|----------------------|------------------|-------------------|---------------------|
| Age | .6093** (0.015) | -.6483** (0.011) | .0319 (0.648) | .06283 (0.657) | -.0747 (0.350) |
| Size | -2.628*** (0.000) | 3.6102*** (0.000) | .1186 (0.286) | -.2696 (0.231) | -.832*** (0.000) |

| | | | | | |
|----------|----------------------|----------------------|---------------------|---------------------|---------------------|
| Location | -2.672*** (0.000) | 3.1629*** (0.000) | .2985 (0.134) | -1.05*** (0.009) | .2157 (0.343) |
| Industry | -5.232*** (0.000) | .9009*** (0.000) | -.754*** (0.000) | -1.47*** (0.000) | -1.38*** (0.000) |
| R-square | 3.8% | 6.0% | 0.3% | 0.5% | 1.6% |

Significance level *** at 1%, ** at 5% and * at 10%

Whereas, the results of bank loan is opposite for internal resources. These results are in line with (Abor, 2008) who documented that firm's location in main business cities gives an edge to obtain external finance. Credit and trade credit have negative, significant coefficient. This indicates that firms located in main business cities use less credit and T credit for working capital financing.

Negative link between industry and internal resources show that manufacturing SMEs compared to service industry use fewer internal resources. Literature has same results (Chang et al., 2014). Positive link between banks and industry indicates that bank financing for working capital in manufacturing SMEs compared to service SMEs increases. The reason is that manufacturing SMEs have more tangible assets relative to non-manufacturing firms. In Australian context asset structure significantly determine financing patterns (Cassar & Holmes, 2003). Industry has negative impact on NBFIS and informal sources. Because manufacturing firms use more formal and less informal finance for working capital.

Demographics & Fixed Assets Financing

Table 2 reports SUR estimates for determinants of fixed assets financing. The coefficients of age are statistically insignificant for all models which indicate that age does not significantly affect fixed assets financing. Alternatively, size significantly affect internal sources and negative sign of coefficient show that as firms grow the proportion of internal finance for fixed assets decreases. Furthermore, when firm's size increases the proportion of bank financing for fixed assets increases as indicated by its positive coefficient. Friends and family financing show that with increase in size the proportion of informal finance decreases. NBFIS have negative significant link with size. The reason is that financing from NBFIS is a comparatively new concept with limited outreach and higher cost.

Table 3 SUR Estimates for Fixed Assets Financing

| | | | | | |
|------|---------------------|---------------------|--------------------|-------------------|--------------------|
| Age | -.3595 (0.613) | .2724 (.686) | -.0706 (0.706) | .1223 (0.190) | -.0562 (0.724) |
| Size | -2.858** (0.010) | 3.769*** (0.001) | -.5666* (0.066) | -.2188 (0.155) | -.80*** (0.002) |

| | | | | | |
|----------|----------------------|----------------------|---------------------|-------------------|--------------------|
| Location | -10.03*** (0.000) | 9.0194*** (0.000) | .2346 (.645) | -.1600 (0.529) | -.4085 (0.347) |
| Industry | -.5083 (0.822) | 4.0385* (0.059) | -1.87*** (0.002) | -.3209 (.262) | -2.6*** (0.000) |
| R-square | 3% | 3.7% | 01.4% | 0.8% | 1.7% |

Significance level *** at 1%, ** at 5% and * at 10%

Results show that if firm is located in main business city, than the probability of internal financing decreases compared to the SMEs in rural areas. Similarly, bank financing for firm located in main business cities increases compared to those located in rural areas. These findings are in conflict with (Nguyen & Luu, 2013) who stated that location doesn't give an edge to firms in obtaining bank finance. Because bank and other financial institutions officials prefer to provide funds to firms located in main business cities because they can easily monitor their activities regularly. Industry results show that bank financing for fixed assets increases for manufacturing firms compared to non-manufacturing. Probability of informal and NBFIS financing decreases for manufacturing firms compared to non-manufacturing. The reason is that if firm can obtain formal finance than there must be minimum chances to obtain informal finance. Overall results show that SMEs in the sample follow pecking order theory.

Conclusion

Present study consider firms demographics as determinants of financing patterns. Data is acquired form World Bank enterprise survey and is analyzed using SUR model. It is concluded that older firms use more internal finance. Fixed assets results reveal that firm age is least important. Large size firms finance working capital and fixed asset through bank loans and their preference for informal financing decreases when firm size increases. Similarly, firms located in rural area use more internal and less bank resources Firm's location and industry significantly determine financing patterns of working capital and fixed asset.

References

- Abor, J. (2008). Determinants of the capital structure of Ghanaian firms: African Economic Research Consortium Nairobi.
- Aswath, D. (2001). Corporate finance: theory and practice. *International Edition, Willey, New York.*
- Ayyagari, M., Kunt, A., & Maksimovic, V. (2011). Small vs. young firms across the world: contribution to employment, job creation, and growth.

- Beck, T., Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different? *Journal of financial economics*, 89(3), 467-487.
- Berger, A. N., & Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of banking & finance*, 22(6), 613-673.
- Canton, E., Grilo, I., Monteagudo, J., & Van, P. (2013). Perceived credit constraints in the European Union. *Small business economics*, 41(3), 701-715.
- Cassar, G., & Holmes, S. (2003). Capital structure and financing of SMEs: Australian evidence. *Accounting & Finance*, 43(2), 123-147.
- Chang, C., Chen, X., & Liao, G. (2014). What are the reliably important determinants of capital structure in China? *Pacific-Basin Finance Journal*, 30, 87-113.
- Daskalakis, N., & Psillaki, M. (2008). Do country or firm factors explain capital structure? Evidence from SMEs in France and Greece. *Applied financial economics*, 18(2), 87-97.
- Degryse, H., de, P., & Peter. (2012). The impact of firm and industry characteristics on small firms' capital structure. *Small business economics*, 38(4), 431-447.
- Erdogan, A. I. (2015). Determinants of working capital and investment financing patterns of SMEs: Evidence from Turkey. *Journal of Applied Finance and Banking*, 5(3), 81.
- Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies*, 15(1), 1-33.
- Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. *Brookings papers on economic activity*, 1988(1), 141-206.
- Ghanem, H. (2013). *Role of micro and small enterprises in Egypt's economic transition*: JSTOR.
- Hall, G. C., Hutchinson, P. J., & Michaelas, N. (2004). Determinants of the capital structures of European SMEs. *Journal of Business Finance & Accounting*, 31(5- 6), 711-728.
- Keskin. (2010). The importance of SMEs in developing economies.
- Kraus, A., & Litzenberger, R. H. (1973). A state- preference model of optimal financial leverage. *The journal of finance*, 28(4), 911-922.

- Kumar, & Francisco, M. (2007). Enterprise Size, Financing Patterns and Credit Constraints in Brazil: Analysis of Data from the Investment Climate Assessment Survey.
- Kumar, S., & Rao, P. (2016). Financing patterns of SMEs in India during 2006 to 2013—an empirical analysis. *Journal of Small Business & Entrepreneurship*, 28(2), 97-131.
- Kuntchev, V., Meza, J., & Yang, J. (2013). What have we learned from the enterprise surveys regarding access to credit by SMEs?
- Le, P. N. M. (2012). What Determines the Access to Credit by SMEs?: A Case Study in Vietnam. *Journal of management research*, 4(4), 90.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.
- Muneer, S., Ahmad, R. A. & Ali, A. (2017). Impact of Financial Management Practices on SMEs Profitability with Moderating Role of Agency Cost. *Information Management and Business Review*, 9(1), 23-30
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221.
- Nguyen, N., & Luu, N. T. H. (2013). Determinants of Financing Pattern and Access to Formal-Informal Credit: The Case of Small and Medium Sized Enterprises in Viet Nam. *Journal of management research*, 5(2), 240-259.
- Nouman, M., & Ullah, K. (2014). Constraints in the application of partnerships in Islamic banks: The present contributions and future directions. *Business & Economic Reivew*, 6(2).
- Wu, J., Song, J., & Zeng, C. (2008). An empirical evidence of small business financing in China. *Management Research News*, 31(12), 959-975.