



**Determinants of Expansion of Micro
and Small Firms and State of
Entrepreneurship in Pakistan**

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CONTENTS

	<i>Page</i>
Abstract	v
1. Introduction	1
2. Literature Review	2
2.1. Entrepreneur/Employee Characteristics	3
2.2. Firm Characteristics	4
2.3. Financial Arrangements	6
2.4. Contextual Factors	7
2.5. Growth of Firms in Pakistan	10
3. Methodology	11
3.1. Sampling Framework	11
3.2. Questionnaire Design	12
3.3. Pre-testing and Revision of the Questionnaire	15
3.4. Data Collection Procedure	15
3.5. Estimation Methodology	17
4. Firm's Characteristics: Key Insights	20
5. Growth Patterns: Stylised Facts	34
6. Empirical Results and Discussion	37
7. Summary and Conclusions	40
Appendices	45
References	47

List of Tables

Table 1. Sample Distribution	16
Table 2. Definition of Variables	19
Table 3. Transition Matrix (Movement of Firms from One Category to another Category with Reference to Starting Year)	20

	<i>Page</i>
Table 4. Profile of Owner, Employee and Ownership Status	22
Table 5. Business Environment	23
Table 6. Use of Technology	24
Table 7. Contract Enforcement	25
Table 8. Financing Arrangement: Formal and Informal	27
Table 9. Business Documentation	28
Table 10. Type of Business Premises and Acquiring Business Premises	29
Table 11. Business Failure and Exit	30
Table 12. Innovation Introduced by Firms	31
Table 13. Factors Inhibit Ability to Innovate across Firm Type and Growth Pattern	32
Table 14. What Kind of Risk?	33
Table 15. Growth Patterns Across Firm Type and Sector	34
Table 16. Characteristics and Growth Pattern	35
Table 17. Innovation and Growth Pattern	36
Table 18. Risk and Growth Pattern	37
Table 19. Empirical Results	40

List of Figures

Figure 1. Sector Composition in Sample	16
Figure 2. Type of Firm	20
Figure 3. Formally Registered	29
Figure 4. Factors Inhibit Ability to Innovate	32
Figure 5. Generally Willing to Take Risk to Improve the firm s Performance (Yes %)	33

ABSTRACT

This study empirically investigates the determinants of the expansion micro and small firms. To develop stylised facts regarding the overall state of entrepreneurship and explore the determinants of expansion a purpose-specific questionnaire was designed to gather information on various aspects of entrepreneurship. Using the questionnaire over 300 retail firms across different sectors have been surveyed in Rawalpindi, a populous city of Pakistan. Based on the responses received, the stylised facts on the state of entrepreneurship have been developed. Results from regression analysis suggests that initials conditions including, firms' age, size of the firm at the beginning, experience of the entrepreneurs, informal finance (committee finance) and innovation are significant determinants of expansion of the firms. Except for size at the beginning, which negatively influences expansion, rest of the above referred variables exercise positive influence on expansion of the firms. Use of technology to make sales, literacy levels of the entrepreneurs and their risk behaviour do not significantly influence expansion.

1. INTRODUCTION

Small firms in Pakistan, typically stay small. The role of small businesses in the developmental process of an economy, especially a developing economy, needs no emphasis. The contribution of smaller firms in employment generation, resource mobilisation at the local level, forward and backward linkages with large scale industries and rural development speak of their importance to an economy.¹ Very few small firms expand especially in developing economies.² This raises the question what are the obstacles to the growth of the small firms? Though the literature identifies various economic and non-economic impediments to the growth of small firms, however the entrepreneurship literature on Pakistan is rather scant. Moreover the obstacles to the expansion of the firms may differ from country to country given the across country variation in institutional environment and host of other factors. To undertake an appropriate policy initiative for encouraging the growth of smaller firms we need to identify country-specific obstacles to growth of such firms. The literature mostly studies all small firms as a single category; however the conditions under which the micro firms (with strength of 1–4 persons) operate may be much different than the environment in which rest of the small firms operate.

This study investigates the determinants of expansion of the micro and small firms in Pakistan. The study also establishes stylised facts regarding the overall state of entrepreneurship in Pakistan with respect to micro and small firms. If we establish for example that 90 percent of the entrepreneurs do not delegate cash handling to their employees. This information on its own convey why firms small firms do not expand—the entrepreneur himself cannot be ever-present during the entire business hours and at all outlets. Thus the stylised facts, on their own, inform policy making.

To develop the stylised facts and to gather the data required for exploring the determinants of the expansion of micro and small firms, a survey of retail firms has been undertaken in Rawalpindi, a populous city of Pakistan. A purpose specific questionnaire was developed to conduct the survey. For small firms a

Acknowledgements: The authors are grateful to the Pakistan Strategy Support Program (PSSP), (which is funded by IFPRI/USAID) for funding this study. The authors have benefited from the comments of the two anonymous referees on the proposal of this study and the comments of the members of the research advisory council (RAC) at the time of presentation of the proposal. Special thanks are owed to David Orden for offering comments on different occasions that has helped improve the study. Thanks are also owed to participants of the seminars at Lahore and Islamabad including; Syed Nawab Haider Naqvi, Stephen Davies, Ali Imran and Shehryar among others, on the occasion of the presentation of interim report of this study. The authors have also benefited from the valuable comments made on the proposal by the seminar participants at the IFPRI headquarters where the proposal of the study was presented. Special thanks are owed to Kosec and Yashodhen of IFPRI for their valuable comments on the proposal and especially on the questionnaire. Thanks are also owed to the members of the Rawalpindi Chambers of Commerce and Industry (RCCI) and Pakistan Bureau of Statistics (PBS). The authors are grateful to Syed Abdul Majid for managing the survey and the supervisors and enumerators for the conduct of the survey.

¹See for example Carter and Jones-Evans (2006).

²See for example Cressy (2006).

study based on Focus Group Discussions is available [Haque (2007)] and we have taken guidance from this in developing the questionnaire.³

The reason for focussing on micro and small firms alone is that the environment which the two categories of firms face is quite different from the one in which the medium and large enterprises function. For example, almost all the micro and the small firms operate as sole proprietorship whereas it is not uncommon to find medium-sized firms operating under a corporate structure while most of the large firms typically do have a corporate structure. Yet another difference among different-sized categories is in the source of financing. While it is difficult to find a large-sized firm which is not making use of external finance just the opposite might be true for the micro and small firms. These kinds of differences make it difficult to appropriately explore the sources of growth of different sized firms in a single study, because to gather the right kind of information a size-specific questionnaire is more valuable. Hence our exclusive focus on micro and small enterprises. The World Bank enterprise surveys conducted in 2002 and 2007 have surveyed small, medium and large sized firms across more than 150 countries using primarily a single questionnaire. Unlike the World Bank's enterprise survey the survey that we undertook distinguishes between the micro and small firms. This distinction will help develop policy focus on micro firms. Moreover our survey seeks information from entrepreneurs on a number of issues not addressed in the 'enterprise survey' e.g. the non-delegation of cash handling to employees by the entrepreneurs and the use of 'committee finance' the closest analogue of which in the western world is the 'credit union'.

The study is organised as follows: Section 2 reviews relevant literature on the subject. Section 3 provides detailed discussion on questionnaire. Section 4 explains the data sources and methodology used in the study. Stylised facts from survey results are presented in Section 5, regression estimates are presented and discussed in Section 6 while last section concludes the discussion with key findings.

2. LITERATURE REVIEW

What explains the growth of small firms? A bulk of literature is available that analyse this question both theoretically and empirically. Evidence, especially from developing countries, shows that typically small firms never expand barring few exceptions that experience rapid and substantial growth [Cressy (2006); Nichter and Goldmark (2009)]. Growth patterns of small firms in Pakistan reveal that few small firms expand [Kemal (1993)]. However, some small firms are successfully expanding in Pakistan e.g. Shaheen Chemist, Thezeeb Bakery and Nirala Sweets. This raises the questions: Why do some firms expand rapidly while others stagnate? What constrains the growth of the small firms?

³The principal investigator of the proposed study assisted the author of 'Entrepreneurship in Pakistan' in the conduct of Focus Group Discussions conducted in 2007 and thus had a first-hand experience of such FCDs see Haque (2007)

To investigate these important questions, we explore literature on numerous factors associated with the growth of small firms. The factors associated with expansion of small firms identified in literature may be grouped into factors internal and external to firms [Doern (2009)]. Internal factors typically include ownership structure, skill composition of the workers and quality and quantity of capital while external factors comprise institutions including economic, financial and political, governmental policies, and infrastructure; soft as well as hard (i.e. physical). Broadly, we divide these factors into four groups:

- (i) Entrepreneur/employee characteristics.
- (ii) Firm characteristics.
- (iii) Financial arrangements.
- (iv) Contextual factors.

2.1. Entrepreneur/Employee Characteristics

Various individual entrepreneurial characteristics that play a significant role in expansion of small firms include education, work experience and gender dimension. The level of education and experience determine the stock of human capital. Studies suggest that a theoretical framework based on the human capital theory [Becker (1962)] is appropriate to study the impact of entrepreneur's knowledge and capabilities on firm's growth. Becker (1962) argues that education and experience constitute human capital which determines the productivity of an individual. Investment in the education increases the ability of individuals and makes them more productive and more efficient [Jamison and Lau (1982); Lockheed, Jamison, and Lau (1980)]. Empirical evidence also suggests that human capital has a positive impact on a firm's growth [Chelagat and Ruto (2014); Cooper, Gimeno-Gascon, and Woo (1994); Díaz-Chao, Sainz-González, and Torrent-Sellens (2015); Lafuente and Rabetino (2011); Roper (1999); Storey (1994)].

Formal education provides entrepreneurs with a greater capacity to learn about new production processes and product design, offer specific technical knowledge conducive to firm expansion and increase owner's flexibility [Nichter and Goldmark (2009)]. Empirical evidence also suggests that firms with better educated owners and managers are more efficient [Afriz, Hussain, and Khan (2014); Burki and Terrell (1998); Tan and Batra (1995)]. Entrepreneurs and workers of small firms have relatively low level of education in developing countries. According to World Bank, the rate of completing primary education remains at only 69 percent in Sub-Saharan Africa, 87 percent in South Asia and 91 percent in the Middle East and North Africa in 2010. Various studies also have shown that micro and small firms tend to have less-educated owners and workers than do larger firms [Orlando and Pollack (2000); Söderbom and Teal (2001)]. Oi

(1983) argues that larger firm, being more innovative and more capital intensive employ more qualified and specialised workers.

The impact of the level of education on firm's growth is non-linear. Various studies show that primary education does not have a significant contribution in firm's growth while secondary schooling does impact firms' growth. For example, studies conducted in Sub-Saharan Africa show that entrepreneurs completing secondary school own more rapidly growing firms in Kenya and Zimbabwe while entrepreneurs possessed with only primary education do not [McPherson (1991); Mead and Liedholm (1998); Parker (1997)]. These findings confirm that the impact of education is nonlinear and a noteworthy contribution of education comes only if the firms are owned by entrepreneurs with education above certain threshold level of education. [Nichter and Goldmark (2009)].

Work experience may also contribute to expansion of micro and small firms by expanding the capabilities of firm's owner and employees through the acquisition of skills and knowledge [Nichter and Goldmark (2009)]. Reuber and Fischer (1997) argue that firms that are managed by experienced team perform better. Parker (1997) finds that Kenyan entrepreneurs with at least 7 years of work experience expanded their firms more rapidly than those without such experience. Knowledge complemented by experience increases the probability that firm will adopt mechanisms to tap export markets [Mateev and Anastasov (2010)]. Storey (1994) argues that education and training of owners and employees is the key to the success of a business as the intellectual strengths of the workforce allows the entrepreneurs to face the clients more confidently.

Work experience enhances social capital in the shape of trust and networking of owner and workers especially in retail sector. Trust and networking boost the sale of firms—an indicator of firm's expansion. Kantis (2004) shows that among Latin American and East Asian entrepreneurs, social relationship were found to be the key benefits of work experience, helpful in identifying business opportunities, obtaining financing and other sources and alleviating management challenges. Studies suggest that entrepreneurial and employees' experience, especially in the relevant sector has significant positive impact on firms' growth [Bosma, Van Praag, Thurik, and De Wit (2004); Lafuente and Rabetino (2011); Schutjens and Wever (2000)].

2.2. Firm Characteristics

Numerous firm characteristics are linked with growth of the micro and small firms. These include; firm's age, formality/informality, ownership structure and location. The age-growth relation among small firms is robust. Studies show that younger and small firms tend to grow faster as compared to old and larger firms [Evans (1987); Mead and Liedholm (1998)]. Various studies have found an inverse relationship between firm's age and growth

suggesting that older firms grow less rapidly than younger firms [Almus (2000); Davidsson, Kirchoff, Hatemi-J, and Gustavsson (2002); Wijewardena and Tibbits (1999)]. Kantis (2004) shows that major expansion of dynamic enterprises occurs during their third year of their operation. Jovanovic (1982) argues that firm expands quickly at first stage through learning and innovation and then the growth tapers off as the firm approaches its optimal size. Some studies for developing countries suggest that firms actually suffer productivity losses as they become older [Burki and Terrell (1998)]. To explain the tapering off phenomena Nichter and Goldmark (2009) argue that firms may fail to invest sufficiently in existing or emerging technology, leaving them with relatively outmoded equipment and hindering productivity levels relative to those of younger firms.

Informality, referring to unregistered firms dealing in production/sale of legal goods and services, is very common in developing countries. Informal firms are defined as small and unregistered private unincorporated firms [Williams, Shahid, and Martínez (2015)]. Williams, *et al.* (2015) argue that lower degrees of informality are linked with educated, women, and older entrepreneurs. Nichter and Goldmark (2009) argue that informality reduces the chances of growth in many ways. Informal firms do not expand beyond a certain size to avoid government regulation and taxation. Such firms may not trade with large formal buyers—international or government buyers, as they require documentation that informal firms typically lack. Informal firms also face greater difficulties in obtaining formal credit and assistance from law enforcement agencies and courts. For these reasons informal small firms tend to grow more slowly than do their formal counterparts. Sleuwaegen and Goedhuys (2002) have found that formal status has a positive impact on the growth of firms even after controlling for the size, age and efficiency of firms. Capp, Elstrodt, and Jones Jr. (2005) argue that informal businesses tend to subscale, sub-invest, are sub-skilled and tend to produce substandard products and services. On the other hand, Sleuwaegen and Goedhuys (2002) argue that formal firms are more efficient for two reasons: these enjoy a larger range of production factors and have a broader range of choices when it comes to inputs.

Certain types of ownership/legal structures of the firms have been identified as a major constraint on expansion of firms. Caves (2007) argues that multinational firms enjoying strong organisational abilities and technological strengths are able to innovate and thereby expand. Lack of innovation constrains the expansion of the firms and certain types of ownership structures are not conducive to innovation.

In developing countries, inherited businesses or family businesses have a major share in micro and small firms. Family businesses play an important role in creating employment, generating innovative technology, incubating and financing new businesses [Zahra (2005)]. Family businesses are a key source of funding new startups that create employment and promote economic and

technological progress. The ownership structure of the family business ensures an effective alignment between the goals of the firm and its owners.

On the other hand, few studies have shown that family owned firms constrain change and that such firms tend to follow conservative strategies that limit their growth and profitability. Owner of the family owned businesses favour their own children and other family member – they fail to fully integrate and retain competent employees and other blood relatives [Zahra (2005)]. Ward (1997) states that “*most family businesses simply don’t grow*”. Danco (1980) also states that “*family businesses fail because they allow themselves to be destroyed, slowly but surely, by the action – or more accurately, inaction – of their owner-managers*”. Ward (1997) highlights that family-business owners themselves acknowledge various challenges to firm’s long run growth including: (i) maturing business life cycles and increasing competition; (ii) limited capital to fund both family needs and business growth needs; (iii) weak next-generation business leadership; (iv) entrepreneurial leaderships’ inflexibility and resistance to change; (v) conflicts among successor siblings; and (vi) disparate family goals, values and needs. A contrary view taken by demonstrated empirically by Backman and Palmberg (2015) is that family ownership does not affect firms’ expansion. The authors further show that if corporate governance structure and regional context are controlled for, family firms show higher employment growth than non-family firm in rural areas.

2.3. Financial Arrangements

Availability of sufficient funds is without doubt crucial to the expansion of the firms. There is more or less a consensus in relevant literature that small firms are more credit-constrained relative to larger firms and that small firms tend to rely more on internal savings rather external finance. Nichter and Goldmark (2009) argue that various reasons, ranging from a lack of collateral to bias against small firms, constrain the access of small firms finance. Similarly, Beck, Demirgüç-Kunt, and Maksimovic (2005) argue that constraints on access and cost of finance are associated with lower growth of small firms relative to large firms. Various empirical studies support this hypothesis [Becchetti and Trovato (2002); Carpenter and Petersen (2002); Sarno (2008)].

Becchetti and Trovato (2002) find that rejection of loan request by a bank is an important restraint on firms’ growth. Chen, Babb, and Schrader (1985) argue that commercial bank and other financial institutions are reluctant to provide loan to small firms due to their lower repayment capacity. Rajan and Zingales (2003) argue that the lack of well developed financial markets may limit the external financing options for small entrepreneurs. Schiffer and Weder (2001) find that credit is mentioned more frequently by smaller firms as a constraint on growth. The finding is based on a study of 10,000 firms across 80 countries.

Bigsten, *et al.* (2003) find that small firms relatively infrequently apply for and receive formal bank loans; therefore these firms typically rely on other types of credits such as trade credits, overdrafts and informal loans. Microfinance institutions are useful and relatively easy source of financing for small firms. However, the outreach of these institutions is typically more limited than that of traders, who frequently provide working capital in cash or kind, especially in developing countries [Swinnen (2005)]. Hossain (1988) argues that the extent to which small firms could access finance is the extent to which these enterprises can save and accumulate internal capital for further investment. Limited access to finance makes entrepreneurs start firms at small scale primarily through using own savings. Hernández-Trillo, Pagán, and Paxton (2005) confirm that micro firms in Mexico mostly use their own resources and savings (61 percent) or those of their family/relatives and friends (14 percent) to start their businesses. The finding is based on data from 14000 firms. Using survey data from Northwestern Myanmar, Bah and Cooper (2015) find that access to finance is the major constraint to entrepreneurial activity. This study shows that the most binding constraints are related to financing constraints, especially lack of access to informal credit - a firm that views access to informal credit as a major constraint is 9.6 percent less likely to invest and grow. Aterido, Hallward-Driemeier, and Pagés (2011), on the other hand, have found that access to finance has no significant effect on growth of micro and small firms. They argue that with a huge talent available among entrepreneurs of micro firms, access to finance may not be the binding constraint that the entrepreneurs face in expanding their businesses.

2.4. Contextual Factors

Various contextual factors play a significant role in shaping the growth paradigm of the micro and small firms. These factors include: (i) innovation strategies; (ii) marketing styles; (iii) risk management and (iv) use of technology.⁴

2.4.1. Innovation Strategies

Endogenous growth theory suggests that a firm's innovation activity is central to its technological progress and productivity growth hence firm's expansion. To survive in a context characterised by Schumpeterian competition, simply producing a given set of goods with given set of inputs and technologies in not

⁴Apart from these factors, the overall state of economy also directly influences the business expansion opportunities. For example, during high growth period, businesses expand rapidly due to high demand. Various studies have shown that inflation, high interest rates and the depreciation of local currency are the three greatest obstacles hindering the growth of small firms [Robson and Obeng (2008); Schiffer and Weder (2001)]. The regulatory and institutional environment in developing countries frequently hampers the growth of small enterprises [Bank (2006)].

enough for a firm. To be successful over a longer period of time, firms must develop the ability to innovate and then to profit from that innovation [Nelson (1991)]. Thus continuous innovation is the key source of long term firm success [Rosenbusch, Brinckmann, and Bausch (2011)]. Schumpeter (1934) defined innovation as the driving force behind development. Innovation is defined as the “implementation of a new or significantly improved product (goods or services), process, a new market technique, or a new organisational method in business practices, work place organisation or external relations” [OECD/Eurostat (2005)]. Five manifestation of innovation are proposed in this definition: (i) creation of new products or qualitative improvements in existing products; (ii) use of a new industrial process; (iii) new market openings; (iv) development of new raw-material sources or developing other new inputs and (v) new forms of industrial organisations. Literature shows that innovative firms grow faster, have higher productivity and are more profitable than their less innovative counterparts [Hewitt-Dundas (2006)]. Storey (1994) suggests that the introduction of new products has a positive impact on the performance of small firms. Freel and Robson (2004) have shown a positive relationship between product innovation and employment growth in small firms. Atalay, Anafarta, and Sarvan (2013) have found that technological innovation (product and process innovation) has significant and positive impact on firm performance. Coad, Segarra, and Teruel (2016) investigate the impact of innovation on firm expansion for firm of different ages using an extensive Spanish Community Innovation Survey sample for the period 2004-2012. This study finds that young firm faces larger performance benefits from R&D at the upper quintiles of the growth rate distribution but faces larger decline at the lower quintiles implying that R&D investment by the young firms appears to significantly riskier than that of more mature firm.

2.4.2. Marketing Style

Product marketing is an important determinant of firms’ business performance. Marketing is the key link between a firm and its customers that deliver two-way information flows [Day (1994)]. Success of small businesses is dependent not only on products and markets, but also on the effective marketing of those products in markets [Smith (1989)]. Marketing develops key assets of firms such as customer relationships, market research, channels or partners. Marketing speeds up acceptance of new products which in turn increases sales and profits and market values [Sarkees (2011)]. Generally, small firms have fewer resources for marketing and typically spend modestly on marketing expenditure and utilise few of the available marketing techniques [Stokes (1995)]. Evidence suggests that owners/managers of small firm rarely rely on formal training to improve the quality of marketing [Hankinson (1991)]. Generally, the marketing practices of small firms are informal, intuitive and focused on selling only [Mc Cartan-Quinn and Carson (2003)]. The use of standard marketing practice is rarely found in the small firm [Stokes (1995)]. Hence the high failure

rate of small firms is to an extent attributed to weaknesses in marketing [Mc Cartan-Quinn and Carson (2003)].

2.4.3. *Entrepreneur's Risk Behaviour and Risk Management*

Risk is defined as any issue that can impact the objectives of a business entity, be it financial service or commercial. Risk constitutes any event that may alter the expected outcome of operating the venture and it implies that there is uncertainty of what the outcome may be. Risk management is a central part of any organisational strategic management. It is a process whereby firms methodically address the risks associated to their business to maintain sustained growth or profits. Heldman (2010) argues that risk management deals with various risk such as: (i) identification and documenting risks; (ii) analysing and prioritising risks; (iii) performing risk planning; (iv) monitoring risk plans and applying controls and (v) performing risk audits and reviews. Entrepreneurship and risk complement each other rather with respect to business ventures, entrepreneurship is often defined as the act of bearing risk [Begley and Boyd (1988)]. Given this context, how entrepreneurs deal with risk and what their attitude towards risk is, determines the performance of their businesses. Literature shows that risk taking behaviour of entrepreneurs has a positive impact on performance of the firms [Cressy (2006)]. Literature also shows that risk taking is not always rewarded by a positive premium. For example, if entrepreneurs are overconfident about own-abilities or engage in less counterfactual thinking, the premium might be negative [Koellinger, Minniti, and Schade (2007)]. Rauch, Wiklund, Lumpkin, and Frese (2009) find a weak positive effect of risk taking on firm performance and Zhao, Seibert, and Lumpkin (2010) find no significant effect of risk taking in their Meta analysis. Baum et al. argues that the conflicts results regarding the effects of assuming risk could be due to the different external factors that firms may face [Baum, Locke, and Smith (2001)]. In a non-hostile environment risk taking is associated with better firm performance, because the environment is not too uncertain. In other words the level of risk in the first place is less [Lumpkin and Dess (2001)]. On the other hand, assuming risk has a negative impact on firm performance if business environment is unstable and unsupportive to business [Boermans and Willebrands (2012); Kraus, Rigtering, Hughes, and Hosman (2012)].

2.4.4. *Use of Technology and Delegation of Day-to-day Operations*

It is argued that use of technology and delegation of day-to-day operations significantly increases the business volume. Firms that adopt modern technological tools in their business are more likely to cause the business to grow faster than businesses without modern technological tools [Nkonoki (2011)]. Delegation of day-to-day operation and decentralisation work patterns are essential for the expansion of firms [Chandler (2003); Penrose (1995)]. The

business owners who delegate day-to-day operation exhibit higher growth than business owners who do not [Bresnahan, Brynjolfsson, and Hitt (2002)].

2.5. Growth of Firms in Pakistan

Like many developing countries, more than 90 percent firms in Pakistan fall under the category of micro or small firms (less than 10 employees)⁵. Small firms are facing demand side as well as supply side constraints. The demand side constraints, includes low level of financial literacy, unskilled human resources, lack of business planning while on the supply side non-aggressive lending by the banks seems to be the principal constraint.

A number of studies have examined different constraints to the growth of small firms in Pakistan. The constraints identified in these studies include insufficient managerial/entrepreneurial skill [Aftab and Rahim (1986); Roomi and Hussain (1998)], inability to adopt new technology or lack of technology [Hassan, Khan, and Saeed (1998); Roomi and Hussain (1998)], low productivity or non-competitiveness [Bari, Cheema, and Haque (2005)], lack of finance [Roomi and Hussain (1998)], adverse governmental policies [Roomi and Hussain (1998)], lack of social and physical infrastructure [Bari, *et al.* (2005); Kemal (1993, 2000); Khan (1997); Roomi and Hussain (1998)], and lack of small-large linkages [Aftab (1991)]. Ahmed and Hamid (2011) investigate the determinants of firm growth especially finance in Pakistan using the Investment Climate Assessment Survey 2007 by World Bank. This study shows that finance is a binding constraint to firm growth in Pakistan apart from human capital and size. Afraz, *et al.* (2014) using Investment Climate Assessment Survey 2007 data, find that innovation and product diversification, infrastructure and finance are the key factors hindering growth of small firms in Pakistan. Informality is very common characteristics of the small firms in Pakistan [Williams and Shahid (2014); Williams, *et al.* (2015)]. These studies show that 62 percent of firms operate wholly informal; 31 percent largely informal and only 7 percent are largely formal firms in a sample of 300 firms in the city of Lahore in Pakistan. None of firm operated wholly formal enterprises. Findings of the studies reveal that entrepreneurs operating on a wholly informal basis are more likely to be low-income, younger entrepreneurs with lower educational levels.

However the scope of these studies is very limited in terms sector covered, region and use of the data. For example [Aftab and Rahim (1986)] focus only on the engineering sector of the Punjab. This study argues that while the large scale sector, over the years, has been the recipient of governmental support the small enterprises remained neglected. This neglect on the part of the government has constrained the growth of the small firms. Kemal (1993) examines the constraints to the growth of the small firms in the manufacturing sector only. The focus of the study is the intensity and productivity of capital and labour.

⁵The Economic Census Report 2005 available at www.statpak.gov.pk.

Bari, *et al.* (2005) examine the constraints faced by the small firms in retail and manufacturing sector of Lahore, Karachi and Gujranwala. The study is based on vary small sample of 54 firms only. One study, 'Entrepreneurship in Pakistan' [Haque (2007)] identifies lack of innovation, rent seeking, corruption, lack of research, lack of knowledge and skills, poor legal framework and inability/lack of interest of the entrepreneurs to tap formal external financing as the constraints to entrepreneurship. The identification of the constraints is based on Focus Group Discussions (FCDs) conducted in four cities⁶ of Punjab. Therefore it may not be easy to generalise the results to Pakistan. Besides the FCD as a research methodology has its limitations as the responses could be subjective. Moreover the response of one participant may be influenced by the response of others.

3. METHODOLOGY

3.1. Sampling Framework

This study is based on primary data at firm level. The data has been collected by conducting survey in Rawalpindi, Pakistan in September 2013.⁷ The Rawalpindi city is the fourth largest city in Pakistan with the total area of approximately 154 square kilometers. The per capita Gross National Income (GNI) of the city is \$1380. The core objective of this study is to find the determinants of expansion of micro and small firms in Pakistan. It is typical to classify the firms into different size categories based on the strength of their workforce. Following the World Bank classification, we define a firm with less than nineteen employees as a small firm. This definition has been previously used well in Pakistan [Khan (2005)]. On the other hand, Nasir and Iqbal (2009) defined a firm with less than ten employees as a small firm based on Labour Force Survey of Pakistan. Keeping this in view, the selection of firms is based on two broad features. First, the maximum size of the firm in terms of employees is restricted to 19. The firms are sub-classified as: micro (<5 persons), small (5 to 10 persons) and medium (11-19 persons). Second, the minimum age of the firm is fixed at five years i.e. established in January 2008 or before⁸ to ensure that firm has enough time to grow.

Sample selection is very important for the robustness of the results. Six major markets of the Rawalpindi city were selected for the survey after a thorough discussion with Pakistan Bureau of Statistics (PBS) and the Rawalpindi Chamber of Commerce and Industry (RCCI). These markets include (i) Saddar Bazar, (ii) Raja Bazar, (iii) Commercial Market, (iv) Tench Market, (v) Muslim Town and (vi) Tariq Abad. These markets cover major areas of Rawalpindi city such as

⁶The Focus Group Discussions were held in Lahore Sialkot, Gujranwala and Sargodha.

⁷The survey is financed by IFPRI under the second annual PSSP Competitive Grants Program.

⁸Please note here that survey was planned in June 2013 and carried out in September 2013.

Cantonment, Saddar, Satellite Town, and Muslim Town. As we do not know the actual population size (number of firms operating in these markets), it is difficult to develop stratified sampling framework. Following the literature, we use convenience sampling given the limitation of population count to collect data. The first firm qualifying the criteria was picked randomly in a given market. The selection is restricted to only retailers in each market that meet the above stated criteria. The respondents chosen for the study were mainly owners of the firms or from amongst the top management of the firm.

3.2. Questionnaire Design

A structured questionnaire was designed by the authors to gather the data. The questionnaire collects the information on various indicators including formal planning before stepping into a business, profile of the entrepreneurs, delegation of cash handling to employees, contract enforcement on the part of the firm and her suppliers, demand for finance of the firm and its supply to them, ability of the firm to raise finance, state of documentation on part of the firm, availability of human capital to the firm, issues regarding acquisition of business premises for operations of the firm, business environment the firm has to face and the operations of the firm. The questionnaire is organised into the following eleven sections:⁹ (i) Identification (Identification of relevant firm); (ii) Field operation (field information such as results of visit, inspection by team leader); (iii) Firm's profile; (iv) Owner profile; (v) Employee profile; (vi) Doing business (starting a business, business expansion, acquiring business premises, business environment, documentation); (vii) Finance (formal and informal financing); (viii) Delegation of Cash Handling to Employees and use of Technology; (ix) Innovation; (x) Contract Enforcement, Marketing, Consolidation and Business Failure; (xi) Microfinance and (xii) Risk Management. We explain below the rationale for asking question on these aspects:

3.2.1. Profiles of Firm, Owner and Employee

Sections iii to iv covers the profile of firm, owner and employee respectively. These sections provide salient information regarding the available human capital, entrepreneurial skills and structure of enterprises. The literature on the positive impact of human capital on growth of firms is well established. The questionnaire seeks to assess the quality of human capital available to the firm. To this end the questionnaire inquires about the education (years of schooling) and experience of the entrepreneurs and their employees.

3.2.2. Doing Business

This section covers extensive information regarding starting a business, business expansion, acquiring business premises, business environment, and

⁹Questionnaire is available on request.

state of documentation. The expansion of a firm would depend upon whether or not there is a demand for the product the firm is dealing in. An accurate assessment of the market conditions and prospects before initiating the business would thus help in expansion of firms. The questionnaire asks the entrepreneurs did they prepare a feasibility of some sort before initiating the business? The projection of the viability of the business with some degree of accuracy would depend upon the ability of those who prepared the feasibility; entrepreneurs themselves or specialised agencies. *Apriori* the feasibilities prepared by specialised agencies are likely to be better. However if the entrepreneurs themselves are experienced they are also likely to prepare good feasibilities.

The inability to obtain a suitable business location will constrain the growth of a firm however finding a suitable business location could be difficult. The questionnaire asks the firms to convey difficulties, if any, in securing business premises of their choice to indicate what kind of difficulty they might have faced, e.g. high rents of the business premises, insufficient commercial space, commerce-discouraging zoning regulations including outright bans on commercial activities in certain geographic areas. Difficulties experienced by the entrepreneurs in hiring employees obviously constrain the expansion of the firms. The questionnaire inquires from the entrepreneurs, have you faced any difficulty in hiring employees. The proportion of firms which indicate that they have faced difficulties in hiring, are then asked what kind of difficulty they have faced in hiring e.g. non availability of skilled persons, high turnover, doubt about financial integrity of the person interviewed and the cost of rehiring (in terms of number of days) etc.

3.2.3. Finance

Finance, without doubt is the life line of the business. There is a limit to equity capital that the owners can access and variety of factors may constrain a firm to borrow. These factors which can be broadly classified into demand side and supply side factors. The questionnaire includes questions on both the aspects. Demand side factors include factors like the size of business, the level of documentation that the firms follow, religious inclination of the firms and ability of the entrepreneurs to understand the lending procedures and interact with the lenders, which could largely be a function of the literacy level of the entrepreneurs. The potential supply side constraints on lending include; the level of interest rates, the collaterals required, the time and procedures involved in lending and rent seeking or outright corruption on part of the concerned individual bankers.

3.2.4. Delegation of Cash Handling to Employees and Use of Technology

One of the major constraints to the growth of the small firms, especially the micro firms could be the failure of the entrepreneurs to delegate the handling

of cash to employees. Typically, the entrepreneurs cannot trust the employees with cash handling and therefore they prefer to handle cash either themselves or delegate it only to their family members or to a highly trusted key employee. As there is limit to the personal presence of the entrepreneur at the business place throughout the business hours or at different outlets therefore the failure to delegate cash handling to employees puts upper limit on the business hours or number of outlets of a firm. However the firms, in developed countries as well as in Pakistan, which have grown successfully have resolved this problem by using technology i.e. computers and cash machines etc. Apparently very few micro and small few firms in Pakistan seem to use computers or cash machines to make sales. This study investigates whether or not the non-use of technology to make sales constrains the expansion of the firms. The failure to use technology could in turn be due to variety of reasons including; failures to understand the use of technology, low literacy levels of the entrepreneurs, the capital expenditure involved in purchasing the machines required and the entrepreneurs continued preference for handling cash themselves due to the habit developed over ages. Questions regarding these aspects are included in the survey questionnaire. We believe that this aspect i.e. the non-delegation of cash handling to employees has not been investigated in any of the studies which have examined the obstacles to the growth of small firms.

3.2.5. Innovation

Firms may develop a new product to reap monopoly profits or a new process which would increase efficiency or adopt new strategies and practices to increase sales. The questionnaire inquires whether or not the firms innovate and if they do innovate, they are asked to reflect upon the manner of innovation. Using the responses on different aspects of innovation, we develop an index of innovation to examine its impact upon the expansion of the firms.

3.2.6. Contract Enforcement, Marketing, Consolidation and Business Failure

Two types of lack of contract enforcement may constraint the growth of firms. These are (i) contract enforcement on part of the firm to its customers and (ii) contract enforcement on part of the supplier of the firm. If the firm fails to deliver the expected quality or even if the customer is not satisfied with the quality, the standard practice in developed countries is to allow the customer to return the product, with full cash refund, without asking questions. In Pakistan the firms mostly allow, if at all, only the exchange of the product with another of the same kind and very few entertain 'returns'. We examine whether the failure to accept 'returns' constrains the expansion of the firms. Similarly the suppliers of the firms may fail to fulfil contracts in terms of delivering the; product timely and the agreed quality. Accordingly, questions regarding these aspects have been included in the questionnaire.

3.2.6. Microfinance

It is well documented that availability of finance especially microfinance is essential for the development of small and medium enterprises. We have asked various questions to gauge the importance of microfinance in expansion of micro and small firms in Pakistan.

3.2.7. Risk Management

It is generally believed that higher the risk higher the return. A firm that ventures into unexplored markets/products runs the risk of failure but if the exploration proves to be a success the potential of returns is also large due to the absence of competitors. A firm that enters into a new product market or with uncertain business prospects is assuming risk. A firm which continues to invest in new venture after failures in some ventures is essentially a risk taker. The questionnaire puts various questions to the entrepreneurs to gauge whether they are risk-takers. We have used these responses to examine as to how the risk behaviour of entrepreneurs' influences the expansion of the firms.

3.3. Pre-testing and Revision of the Questionnaire

Using draft of the questionnaire, a pilot test was conducted with 10 firms whose responses were excluded from the study. The questionnaire was revised using the feedback from the pilot study. Before finalising the questionnaire and after pre-testing, it was discussed with the members of Rawalpindi Chamber of Commerce and Industry (RCCI) for further suggestions. The development of the questionnaire also benefitted from presentation of the proposal of this study at the seminar organised by the PSSP in December 2012 and a presentation made by the lead author in the Brown Bag seminar series at the IFPRI Headquarters in April 2013.

3.4. Data Collection Procedure

The survey was conducted in September 2013, through personal interviews with the respondents. To conduct the survey two teams were designed, each having 5 members and monitored by a supervisor. Both teams were jointly managed by a team leader responsible for all survey related activities. To ensure the quality of data, spot check and field visit were undertaken by the principal investigator and co-investigator. The enumerators also took photos of the business premises and owner of the firm for record. Each team member submitted the filled-in questionnaires to field supervisor daily. The filled-in questionnaires were first reviewed by the supervisor and then by the team leader. Incomplete questionnaires were rejected.

The enumerators, field supervisors and team leader participated in a two-day training exercise conducted by the principle investigator, co-investigator and

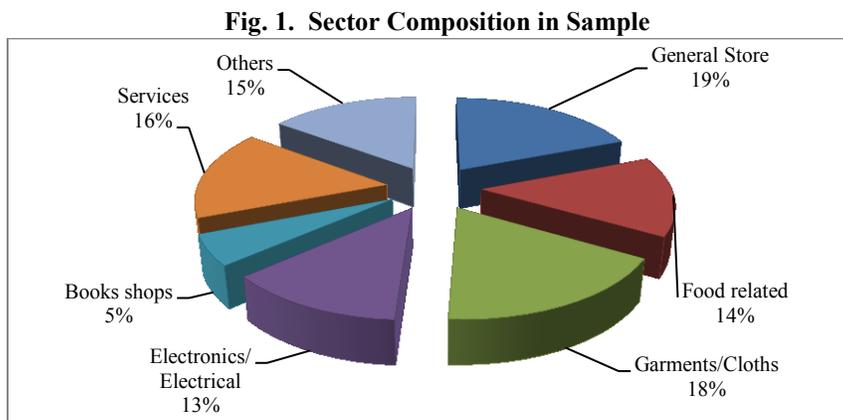
a survey specialist. During training they familiarised themselves with the goals and objectives of the research, data collection tools as well as logistic and interview conditions. The questionnaire was translated into the national language i.e. *URDU* for smooth conduct of the survey.

The data cleaning process started as soon as questionnaire came from the field. A program was designed for data entry and analysis by the data analyst. After cleaning, the data was digitised. The survey covers 355 micro and small sized retailers in the markets referred above. After data cleaning, 25 firms have been dropped from the sample because of failure to meet the above mentioned criteria. As Saddar, Raja Bazar and TENCH are the main commercial hubs of Rawalpindi, we have covered relatively more firms (respondents) in these three markets. Table 1 provides the distribution of the sample across these markets.

Table 1
Sample Distribution

Market	Sample Size	Share (%)
Saddar	68	20.6
Raja Bazar	60	18.2
TENCH	82	24.9
Tariq Abad	37	11.2
Commercial	49	14.9
Muslim Town	34	10.3
Total	330	100

We covered different sectors (retailers) to capture variations across sectors. These included include general grocery stores, food related businesses including restaurants etc. garments, electronics/electrical, personal services and others including financial services etc. Figure 1 shows the distribution of different sectors in the sample.



3.5. Estimation Methodology

To develop stylised facts, frequency analysis has been carried out using the survey data. As mentioned earlier, keeping in view the domestic condition and for deeper analysis, we construct three categories based on employment size: a firm with less than five persons (includes employees and employer) as a micro firm while a firm with five to less than ten employees is defined as small and a firm with ten to less than nineteen is treated as a medium firm. This analysis helps to determine the close relationship between key factors like human capital, finance, innovation and technology with the growth pattern of firms.

For multivariate investigation, we conducted a cross section analysis of the firms using the following model:

$$Y_i = \alpha_i + \beta X + \varepsilon \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

Where Y_i represents expansion/growth of firm i and X represent the matrix of variables that may influence the expansion of a firm. The dependent variable is defined as a percent change in the number of employees i.e. $Y = [(Emp_e - Emp_s)/Emp_s]$. Where Emp_e represents current employment (owner plus employees) and Emp_s represents employment at the beginning.¹⁰ The choice of explanatory variables is based on relevant literature discussed in section2 which includes initial condition of the firm, entrepreneurial strength, financing arrangements, use of technology, innovative skills and risk behaviour.

The first set of control variables estimating the impact of the initial conditions on growth of firms. The initial conditions are captured using three indicators including (i) firm age; (ii) ownership structure and (iii) size at the beginning. Literature suggests that younger and small firms tend to grow fast relative to larger and aging [Evans (1987); Mead and Liedholm (1998)]. Studies have also found an inverse relationship between firm's age and growth suggesting that aging firms grow less rapidly than younger firms [Almus (2000); Davidsson, *et al.* (2002); Wijewardena and Tibbits (1999)]. Ownership structure supposedly plays a significant role in expansion of firms. The available literature portrays mixed results regarding ownership structure. Some studies suggest that inherited business/family business grow faster as these play an important role in creating employment, generating innovative technology, incubating and financing new businesses [Backman and Palmberg (2015); Zahra (2005)] while other suggested that family owned firms become resistant to change and follow conservative strategies that limit their growth and profitability [Danco (1980); Ward (1997)]. The firm size at the beginning has inverse relation with firm expansion. It is argued that small firms tend to grow faster as compared to larger firms [Evans (1987); Mead and Liedholm (1998)].

¹⁰We have also used average annual growth rate in the employment of a firm as an alternate proxy to test the robustness of the results.

The second set of control variables estimates the potential of owner in firm expansion. Owner potential is captured using two indicators viz. education and experience. Literature suggests that the impact of education on firm's expansion is non-linear [McPherson (1991); Mead and Liedholm (1998); Parker (1997)]. The firm with more highly educated owners tend to grow more quickly [Nichter and Goldmark (2009)]. Similarly, entrepreneurial' experience, especially in the same sector has significant positive impact on firms' growth [Bosma, *et al.* (2004); Lafuente and Rabetino (2011); Schutjens and Wever (2000)]. We also test for the impact of owner experience by intersecting it with ownership structure i.e. new establish firm or inherited firm to gauge the importance of experience in developing new business.

The third set of variables estimates the impact of innovative behaviour, risk attitude and use of technology on firms' expansion. Literature suggests that risk taking behaviour of entrepreneurs has a positive impact on performance of the firms [Cressy (2006)]. However some studies find only a weaker positive effect of risk taking on firms' growth [Rauch, *et al.* (2009)] while others find no significant effect of risk taking on growth [Zhao, *et al.* (2010)]. A large body of literature considers innovation as a key driver of growth. Innovation is the key source of long term firm success [Coad, *et al.* (2016); Rosenbusch, *et al.* (2011)]. Atalay, *et al.* (2013)] have found that technological innovation (product and process innovation) has significant and positive impact on firm performance. It is argued that use of technology significantly increases the business volume [Nkonoki (2011)].

The fourth set of variables measures financing arrangement of the firm. Lack of access to finance has been identified as one of the major constraints to the growth of small firms [Becchetti and Trovato (2002); Carpenter and Petersen (2002); Sarno (2008)]. On the other hand Aterido, *et al.* (2011) have found that access to finance has no significant effect on micro and small firm's growth. There are two type of financial arrangement i.e. form and informal. We have used OLS and Fixed Effects estimation techniques to estimate the model. The use of the Fixed Effects helps to account for unobservable characteristics of the firms, which may affect expansion. Market and sector specific fixed effects are used. As the core objective of this study is to investigate the determinants of growth/expansion of small firms, this study do not tackle the issue of causality among growth and its explanatory variables. However, further research is required to find the valid instruments to address causality issue. Moreover, this does not limit the usefulness of empirical results based on OLS and fixed effect estimation.

Table 2 below provides the definition of each variable along with its range.

Table 2
Definition of Variables

Variables	Definition
Firm age	Age is measured as total number of years since establishment of the firm. As a restriction minimum age is five years. Continuous (number of years)
New establish firm	How the entrepreneur joined the business? Started a new business or inherited it. Captured as Dummy variable [1 if stated new business; 0 if inherited]
Size at beginning	Employment size at the start of business. Continuous: (number of employees including owner).
Education	Education is defined as the individual's highest educational attainment. Categorical: Following dummies are used: <ol style="list-style-type: none"> 1. No Education/Primary [class 0 to class 5] (1 if yes, otherwise 0) 2. Matric [class 6 to class 10] (1 if yes, otherwise 0) 3. Above Matric [class 11 and above] (1 if yes, otherwise 0) No education/Primary is used a reference category
Experience	Experience is defined as owner's age category. Categorical: Following dummies are used: <ol style="list-style-type: none"> 1. Young Owner/Entrepreneur (age <=30) (1 if yes, otherwise 0) 2. Mid-Career Owner (age between 31 & 40) (1 if yes, otherwise 0) 3. Experienced Owner (age >40) (1 if yes, otherwise 0) Young Owner/Entrepreneur is used as a reference category
Interaction of New establish firm and Experience	<ol style="list-style-type: none"> 1. New establish firm* Experience (Mid) = New establish firm* Mid-Career Owner (age between 31-40) (1 if New establish firm = 1 and age between 31 - 40=1, otherwise 0) 2. New establish firm* Experience (High) = New establish firm* Experienced Owner (1 if New establish firm = 1 and Experienced Owner =1 otherwise 0)
Risk	Risk taker: Entrepreneur is generally willing to take risk in business perspective. Dummy (1 if yes, otherwise 0)
Innovation	Did your company introduced any of the following during the last five-year period <ol style="list-style-type: none"> 1. New or significantly improved goods (excluding the simple resale of new goods purchased from others and changes of a solely aesthetic nature) 2. New or significantly improved services 3. New or significantly improved methods of manufacturing or producing goods or services 4. New or significantly improved logistics, delivery, or distribution methods for your inputs, goods, or services 5. New or significantly improved support activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing Innovation Index: To construct index, following weights are assigned to answer on each option 0 = if no innovation 0.5 = if either new or improved 1 = if both new and improved For each category score ranging from 0 to 1. After summing all five option the score ranging from 0 to 5. (0 implies no innovation in any category and 5 implies both type of innovation i.e. new and improved in all five categories Innovation: Categorical Following dummies are used: <ol style="list-style-type: none"> 1. No innovation [innovation index 0/0.5] (1 if yes otherwise 0) 2. Low innovation [innovation index>0.5 &<1.5] (1 if yes otherwise 0) 3. Moderate innovation [innovation index>1.5 &<2.5] (1 if yes otherwise 0) 4. High Innovation [innovation index>2.5 &<3.5] (1 if yes otherwise 0) 5. Very High Innovation [innovation index>3.5] (1 if yes otherwise 0) No innovation is used a reference category
Use of Technology	Do you make use of computers/cash registers to make sales? Dummy (1 if yes otherwise 0)
Formal Loan	Did you ever tried to obtain loan from a formal source? Dummy (1 if yes otherwise 0)
Informal loan	Use of committee as source of business expansion (informal loan) Dummy (1 if yes otherwise 0)

4. FIRM'S CHARACTERISTICS: KEY INSIGHTS

In this section we discuss different characteristics of the firms that emerge from the survey results. A total of 355 retail firms were surveyed in Rawalpindi city. Out of the firms surveyed 25 had a life of less than 5 years; therefore these have been excluded from the analysis. The number of firms surveyed in each market is given in Table 1. Among the firms surveyed 75 percent of the firms started business as micro firms however currently (i.e. at the time of survey: Sept 2013) 66 percent were functioning as micro firms. This may imply that some have graduated into small and medium firm. However the possibility that some have failed and gone out of business cannot be ruled out (Figure 2).

Fig. 2. Type of Firm

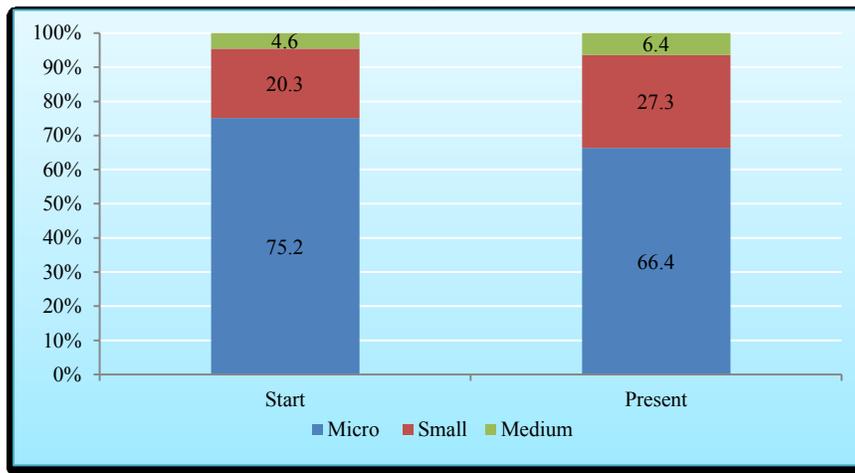


Table 3 indicates that 79.4 percent micro firm retained their status as a 'micro' while 18.6 percent graduated into small and only 2 percent graduated into medium firm. On the other hand, 28.4 percent of the small firms turned into 'micro' showing negative trend, while 59.7 percent retained their 'small' status, only few firms graduated into medium firms (11.9 percent).

Table 3

Transition Matrix (Movement of Firms from One Category to another Category with Reference to Starting Year)

Transition Matrix		Presently		
		Micro	Small	Medium
At Start	Micro	79.4	18.6	2.0
	Small	28.4	59.7	11.9
	Medium	20.0	26.7	53.3

The average age of the entrepreneur/owner, at the aggregate level, is 41 years while average experience as an entrepreneur is 16 years. 17 percent of the entrepreneurs are relatively young i.e. below the age of 30. Another 36 percent are between 31-40 years while 47 percent of the owners are more than 40 years old. Around 27 percent of the entrepreneurs have studied up to grade 12, another 47 percent have studied up to 6-10 grades, 7 percent have gone to school only till grade 5 or lesser and 8.5 percent of the entrepreneurs have no education at all. Average age of the employees is 27.5 years while the average experience of the employees is 7.1 years (Table 4).

Large majority of the firms (84 percent) are sole proprietorship, 15 percent are partnerships and only slightly less than 1 percent are organised as companies. At the disaggregate level, as expected, the largest percentage of sole proprietorships are among the micro firms (88 percent). The corresponding figures for small and medium firms stand at 76 and 77 percent respectively. Close to one fourth of the small and medium firms are organised as partnerships (23 percent). For micro firms the corresponding number is only 11 percent (table 4). A total of 43 percent said that they need skilled employees. Regarding the availability of required labour, 73 percent said that they can easily find labour according to their needs (table 4).

Contrary to the popular perception, only 32 percent of the businesses are inherited while the balance 68 percent of the entrepreneurs contend that they established the business themselves. Around 86 percent of the entrepreneurs had used personal money to start the business. In case of micro firms this percentage is as high as 90 percent. Majority of the entrepreneurs (76 percent) entered into a traditional business while the balance 24 percent worked upon a new idea. 36 percent prepared a formal feasibility while entering into business. To finance business, 87 percent of the firms use personal money, 11 percent borrow from family and only two percent borrow from bank. At the disaggregate level the percentages are more or less similar (Table 5).

To expand business the entrepreneurs must carry the desire to expand. Therefore we asked the entrepreneurs; have you ever thought of expanding your business. The answers are revealing. The percentage of firms that never thought of expansion stands at 34 percent. In case of medium sized firms this percentage goes up to 40 percent. Among those who thought of expanding their business, 52 percent thought about increasing business volume at existing premises while another 39 percent thought of opening new outlets. The percentage of micro, small and medium sized firms that plan to expand by opening new outlets are 31, 52 and 67 percent respectively (Table 5).

Table 4

Profile of Owner, Employee and Ownership Status

Type	Total Sample	Micro	Small	Medium
Average age	41.3	41.2	40.8	44.7
Ownership Structure				
Young (age <=30)	17.0	16.0	17.8	23.8
Mid-Career (age: 31-40 years)	36.1	37.9	35.6	19.1
Older (age>40 years)	47.0	46.1	46.7	57.1
Average experience	16.3	16.9	14.1	19.9
Educational Level				
No education	8.5	8.7	7.8	9.5
Primary (Grade1-5)	7.0	7.8	4.4	9.5
Matriculation (Grade 6-10)	46.7	49.3	43.3	33.3
Intermediate (Grade 11-12)	21.5	21.0	20.0	33.3
Bachelor (Grade13-14)	12.1	9.6	17.8	14.3
Master and others (Grade 16 & above)	4.2	3.7	6.7	0.0
Employees' profile				
Average Age	27.5	27.7	27.1	27.0
Average Experience	7.1	7.5	6.2	6.3
Type of Ownership				
Individual	84.2	88.1	76.7	76.2
Partnership	15.2	11.4	22.2	23.8
Cooperative	0.6	0.5	1.1	0.0
Required level education for employees				
No education	31.2	27.9	37.8	38.1
At least Primary	24.2	23.3	26.7	23.8
At least Matric	27.3	27.9	25.6	28.6
Intermediate & above	17.3	21.0	10.0	9.5
Skill Requirement for Employee				
Skilled	43.3	44.7	46.6	14.3
Unskilled	37.7	43.3	27.3	23.8
Both	19.0	12.0	26.1	61.9
Availability of Labour				
Yes	73.3	72.6	72.2	85.7
No	26.7	27.4	27.8	14.3

Table 5

Business Environment

Type	Total Sample	Micro	Small	Medium
How you joined the business?				
Inherited	31.7	31.1	35.2	23.8
Start new business	68.3	69.0	64.8	76.2
Started a traditional business or developed a new idea?				
Traditional business	75.8	74.9	79.3	71.4
New idea	24.2	25.1	20.7	28.6
Prepared a formal feasibility before starting the business?				
Yes	64.2	67.6	53.3	76.2
No	35.8	32.4	46.7	23.8
Source of finance to start business				
Personal money	86.3	90.0	85.7	87.3
Borrowed from family/friends	11.4	8.9	9.5	10.6
Borrowed from bank	2.3	1.1	4.8	2.1
Did you ever thought about business expansion?				
Yes	65.5	66.8	63.6	60.0
No	34.5	33.2	36.4	40.0
What type of expansion				
Volume	52.2	58.5	41.1	33.3
Outlets	38.9	31.1	51.8	66.7
New business	4.9	5.9	3.6	0.0
Others	3.9	4.4	3.6	0.0

Insistence of the entrepreneurs to handle cash themselves rather than delegating this task to employees could be a major constraint to expansion of the business. An entrepreneur who does not delegate cash handling cannot open new outlets because he cannot be present at two outlets at one point in time. For the same reason he cannot operate his business for extended hours or have too many customers for him to handle simultaneously. 58 percent of the entrepreneurs do not allow employees to handle cash. Only 28.5 percent of the entrepreneurs use cash machines/computers to make sales. Out of those who are not using cash machines, 61 percent do not know that cash machines can be used to mitigate the misappropriation of cash by the cash handler. Moreover among those who are not using cash machines 53 percent do not know how to operate machines while another 19 percent cannot simply switch to machines because they are too used to handling the cash themselves (Table 6).

Table 6
Use of Technology

Type	Total Sample	Micro	Small	Medium
Do you use computer/cash machine to make sales?				
Yes	28.5	26.0	34.4	28.6
No	71.5	74.0	65.6	71.4
Do you allow employees to handle cash?				
Yes	41.6	42.4	41.1	35.0
No	58.4	57.6	58.9	65.0
Do you know computers/cash machine can be used to mitigate the misappropriation of cash by employees				
Yes	38.5	36.2	39.8	57.1
No	61.5	63.8	60.2	42.9
Why you are not using cash register/ computers?				
Cannot understand how to use	53.3	55.6	48.3	46.7
Machines are expensive	6.3	7.2	5.0	0.0
Self trust only with cash handling	18.8	17.2	21.7	26.7
Other	21.6	20.0	25.0	26.7

Contract enforcement is rather weak. Only 60 percent of the entrepreneurs explicitly guarantee that the product being sold will perform as expected. Among those who guarantee the performance of the product to a certain desired level, 73 percent offer to replace the product with a new one, another 20 percent offer to only repair the product and a mere 4 percent offer to return cash if the product does not work as expected or the customer changes his mind (the practice of not returning cash could be a major constraint to expansion of business). To our surprise, most of the entrepreneurs (more than 90 percent) are satisfied in dealing with their suppliers (Table 7).

Table 7
Contract Enforcement

Type	Total Sample	Micro	Small	Medium
Do you or your supplier explicitly guarantee the performance of the product?				
Yes	59.5	56.0	67.8	60.0
No	40.5	44.0	32.2	40.0
Do you or your supplier implicitly guarantee the performance of the product?				
Yes	53.4	48.8	62.9	60.0
No	46.6	51.2	37.1	40.0
What kind of guarantee/warranty do you offer?				
Replacement with new item	72.9	68.3	83.1	71.4
Repair only	19.6	23.0	11.9	21.4
Return of product with full refund in specified time limit	4.5	5.6	3.4	0.0
Other	3.0	3.2	1.7	7.1
Does contract with the customers specifies some penalty if the firm fails to deliver timely?				
Yes	17.0	15.7	17.1	30.0
No	83.0	84.3	83.0	70.0
If no penalty is specified, do you go for some self-imposed penalty?				
Yes	16.3	15.6	15.9	26.3
No	83.7	84.4	84.1	73.7
Do you accept returns, within a certain period, if the customer is not satisfied?				
Yes	68.2	66.5	72.7	66.7
No	31.8	33.5	27.3	33.3
Do you accept returns, within a certain period, if the customer changes his mind?				
Yes	68.8	65.7	76.4	68.4
No	31.2	34.3	23.6	31.6
Does your supplier deliver as per agreed time?				
Yes	90.0	87.2	94.3	100.0
No	10.0	12.8	5.7	0.0
Does you supplier deliver the agreed quality?				
Yes	92.3	90.7	94.4	100.0
No	7.7	9.4	5.6	0.0

Lack of finance is another possible constraint to establishment and expansion of the business. If the financing is a constraint one needs to find out whether constraint lies on the demand side (entrepreneurs) or on the supply side

(financial market). Our survey informs that that as many as 88 percent of the entrepreneurs never tried to obtain a loan from a formal source. Out of those who did not try to obtain a loan 66 percent said they did not try because they 'did not need a loan' for business (Table 8). On the other hand 53 percent of the entrepreneurs use finance from informal source and as many as 63 percent make use of committees¹¹ (Table 8). Among those who did try to obtain formal financing, only 26 percent had requested capital financing while the balance 74 percent had sought working capital finance.

The rather low percentage of entrepreneurs making an attempt to obtain loan from a formal source does not essentially imply that finance is not a constraint because the non-use of formal sources of finance could also be due inability of the entrepreneurs to use formal sources. To gauge the entrepreneurs' ability to access formal sources of finance we asked the entrepreneurs whether they have a bank account. As many as 37 percent of the entrepreneurs of the firms did not even have had a bank account, let alone approaching the bank for financing. At disaggregate level 44 percent of the micro firms did not have bank account. This percentage for small and medium firms is smaller at 24 and 19 percent respectively. Out of those who had a bank account only 10 percent of the entrepreneurs of micro firms had a separate account for the business while this figure is 38 and 52 percent for the small and medium sized firms respectively (Table 8).

Out of those who use committees as many as 56 percent use committees as a source of investing in business or meeting business expenditures while the balance 44 percent use committees as a source of forced savings. 74 percent of the entrepreneurs have committees with market colleagues. Among those who use committees as a source of business finance, 26 percent use the finance for capital financing only while 66 percent use it for capital as well working capital financing. Among those who make use of committees, 57 percent prefer committees over banks because of the convenience of making deposits, 27 prefer this source for the lump sum receipt of funds that this source allows and another 11 percent prefer these for the customised terms that this source permits.

¹¹Committees are sort of credit unions where members of the committee pool in funds and the members can draw upon the funds. The following illustration explains how committees work. Suppose A,B, C and D are the members of a committee and they decide to pool in Rs.1000 monthly. On the first day of each month all the members deposit Rs.1,000/- with A, the manager of the committee. In the first month A, the manager takes away the 4,000/- collected in the pool. In the second month when Rs.4,000/- are similarly pooled, A invites the remaining three members to his shop and holds a draw, with B,C, D as the potential candidate to draw Rs.4000 from the pool this month. D's name come up in the draw and he is handed over the Rs.4000 pooled in the second month. In the 3rd month B's is the lucky winner of the draw held among B & C and therefore the Rs.4000 pooled in the 3rd month goes to B. In the fourth month the Rs.4000 pooled are handed over to the only member left i.e. C. The Committee terminates once all the four members had drawn upon the entire pool one.

Table 8

Financing Arrangement: Formal and Informal

Type	Total Sample	Micro	Small	Medium
Formal Financing				
Do you have bank account?				
Yes	62.8	55.8	75.6	81.0
No	37.2	44.2	24.4	19.1
Does your firm have a separate bank account?				
Yes	20.8	10.6	38.2	52.4
No	79.2	89.4	61.8	47.6
Did you ever tried to obtain loan from a formal source?				
Yes	12.5	11.5	14.4	14.3
No	87.5	88.5	85.6	85.7
If not, Why?				
Do not require	65.6	63.7	68.0	76.5
High interest rate	11.9	10.9	13.3	17.7
Religious reasons	11.9	14.5	8.0	0.0
Difficult to obtain	8.8	8.3	10.7	5.9
Others	1.8	2.6	0.0	0.0
What was the purpose for which you requested loan?				
Capital financing	26.5	25.8	27.1	33.3
Working capital	73.5	74.2	72.9	66.7
If for Capital Financing, of what kind				
New business	59.6	60.0	58.3	60.0
Expansion of existing Business	40.4	40.0	41.7	40.0
Informal Financing				
Do you use informal finance?				
Yes	52.3	53.9	48.3	52.4
No	47.7	46.1	51.7	47.6
Do you rely on committees as a source of finance?				
Yes	62.9	62.0	66.2	61.1
No	37.1	38.1	33.8	38.9
You rely on committees, as a source of?				
Saving	44.4	50.4	34.0	18.2
Business investment	55.6	49.6	66.0	81.8
With whom you have had a committee?				
Friends/relatives	26.5	25.8	27.1	33.3
Market colleagues	73.5	74.2	72.9	66.7
What type of financing you covers through committees?				
Capital financing	26.2	25.6	25.5	36.4
Working capital	7.9	9.0	6.4	0.0
Both	66.0	65.4	68.1	63.6
Why you prefer committee over formal banking?				
Convenience in deposit	56.7	59.3	45.8	72.7
Customised terms	11.3	5.9	25.0	18.2
Lump sum amount	27.3	31.1	22.9	0.0
Others	4.6	3.7	6.3	9.1

Documentation is another characteristic that determines expansion. We can have an idea about the state of documentation of the firms from the following. 65 percent of the firms maintain some kind of accounting record however only 27 percent of these firms maintain proper books of accounts. 61 percent of the firms have an idea about their sales volume while 54 percent have an idea about their profits. Ironically the flip side of this is that 39 percent do not have an idea about their sales volume and as many as 46 percent do not have a clear idea about their profits (Table 9).

Table 9

Business Documentation

Type	Total Sample	Micro	Small	Medium
Do you maintain books of account?				
Yes	65.3	56.0	82.6	90.5
No	34.7	44.0	17.4	9.5
Do you maintain accounts as per standard accounting method?				
Yes	27.2	25.5	32.2	23.8
No	72.8	74.5	67.8	76.2
Do you an idea of firm's sales revenue?				
Yes	61.4	55.3	71.1	85.0
No	38.6	44.7	28.9	15.0
Do you have an idea of firm's profit?				
Yes	54.2	47.3	67.1	70.0
No	45.8	52.7	32.9	30.0

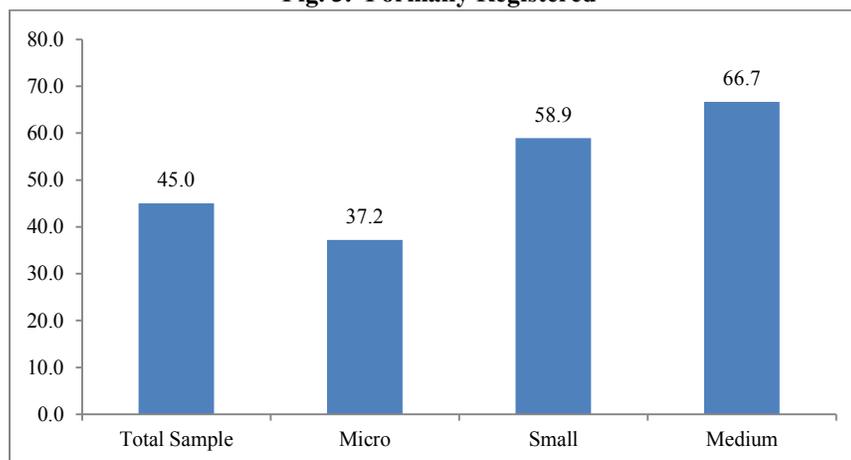
A large majority (77 percent) of the retail firms operate in rented premises, another 18 percent operates from their own house while 5 percent have bought a room or house for business purpose. Most of the firms (80 percent) are able to acquire the premises that they require. Out of those which had difficulty in acquiring the premises of their choice, 53 percent indicated high rent as the major constraint while another 39 percent indicated insufficient space as a major constraint in acquisition of business premises (Table 10).

Table 10

Type of Business Premises and Acquiring Business Premises

Premise	Total Sample	Micro	Small	Medium
Type				
Own house	17.9	16.4	17.8	33.3
House/room/factor rented	77.3	78.5	77.8	61.9
House/room/factor owned	4.9	5.0	4.4	4.8
Are you able to find the place you require?				
Yes	79.9	77.5	84.5	82.4
No	20.1	22.5	15.5	17.7
Impediments in finding the business premise?				
Regulation	3.9	5.1	0.0	0.0
Permission	2.3	1.0	7.7	0.0
Bans	0.8	0.0	0.0	20.0
High rent	80.0	79.8	88.5	40.0
Others	13.1	14.1	3.9	40.0
Reasons for the failure to obtain the required business premises?				
Insufficient places	39.2	35.0	46.7	75.0
Zoning regulation	2.5	1.7	6.7	0.0
High rent	53.2	58.3	40.0	25.0
Others	5.1	5.0	6.7	0.0
Are any NOCs/Permits required to start or operate the business?				
Yes	33.2	24.9	48.9	52.4
No	66.8	75.1	51.1	47.6

On average 45 percent of the firms are registered. For micro firms this percentage is 37 percent. Formal registration of firms is seemingly linked with size – as the firm size increases chances of registration increase (Figure 3).

Fig. 3. Formally Registered

Around 53 percent of the entrepreneurs had faced business failure. Out of those who did face a failure majority (53 percent) said that poor market conditions were the cause of failure, 16 percent thought that lack of finance was the reason for failure while 12 percent considered bad planning being the cause of failure. Those who had faced failure, 93 percent of them said that exit was difficult (Table 11). The high failure rate and difficult exit, constrains expansion.

Table 11

Business Failure and Exit

Type	Total Sample	Micro	Small	Medium
Did you ever face business failure?				
Yes	53.4	51.9	59.6	42.9
No	46.6	48.1	40.5	57.1
If yes, what factors were responsible for failure?				
Bad planning	12.0	13.1	9.8	11.1
Lack of finance	16.2	22.4	5.9	0.0
Poor market conditions	53.3	48.6	58.8	77.8
Lack of advice	2.4	2.8	2.0	0.0
Bad government policy and regulation	6.6	4.7	11.8	0.0
Others.....	9.6	8.4	11.8	11.1
Was exit easy?				
Yes	5.3	6.5	1.7	9.1
No	94.7	93.5	98.3	90.9
If no, what made it difficult to exit?				
Capital Invested	54.4	52.3	58.5	55.6
Finding buyer for owned premises	30.2	31.8	28.3	22.2
Repayment of debts	2.4	2.8	1.9	0.0
Others.....	13.0	13.1	11.3	22.2

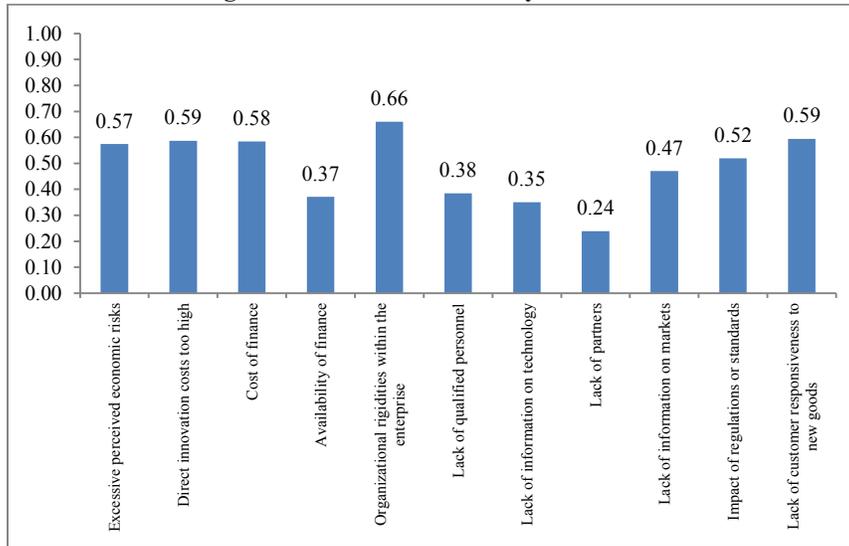
Firms were asked whether they practice innovation and if so of what kind: whether invest in improvement or introducing something new i.e. goods, services, production methods, logistics and support services. For the first three categories (Goods, services and production methods) majority of the entrepreneurs answered they invest in new as well as improved. For the logistics a significant proportion said that they do not practice innovation (Table 12). Similarly for support services majority said that they do not go for innovation on this count. Perhaps the reason is that for logistical support and support services most of the firms rely on outsourcing.

Table 12

Innovation Introduced by Firms

Type	Total Sample	Micro	Small	Medium
New or significantly improved goods				
New only	15.8	11.9	22.2	28.6
Improved only	18.5	22.9	11.1	4.8
New & Improved both	57.5	54.6	63.3	61.9
No	8.2	10.6	3.3	4.8
New or significantly improved services				
New only	9.4	5.1	16.7	23.8
Improved only	23.1	25.7	17.8	19.1
New & Improved both	58.4	56.9	62.2	57.1
No	9.1	12.4	3.3	0.0
New or significantly improved methods of manufacturing or producing goods or services				
New only	10.7	5.6	20.2	23.8
Improved only	17.8	20.4	14.6	4.8
New & Improved both	58.9	57.4	59.6	71.4
No	12.6	16.7	5.6	0.0
New or significantly improved logistics, delivery, or distribution methods for your inputs, goods, or services				
New only	10.4	7.3	15.9	19.1
Improved only	17.4	17.9	15.9	19.1
New & Improved both	31.5	28.4	36.4	42.9
No	40.7	46.3	31.8	19.1
New or significantly improved support activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing				
New only	5.6	4.2	9.1	4.8
Improved only	7.7	7.9	5.7	14.3
New & Improved both	14.9	9.8	26.1	19.1
No	71.8	78.0	59.1	61.9

The entrepreneurs were asked what, if anything, constrains their ability to innovate. The organisational rigidities within the enterprise itself seem to be the primary constraint to innovation, followed by cost of finance and direct costs of innovation. The factors that inhibit innovation affect more or less similarly across different sized firms (Fig. 4 and Table 13).

Fig. 4. Factors Inhibit Ability to Innovate

Note: [Mean score ranging from 0 to 1: (0, no effect); (1, high effect)].

Table 13

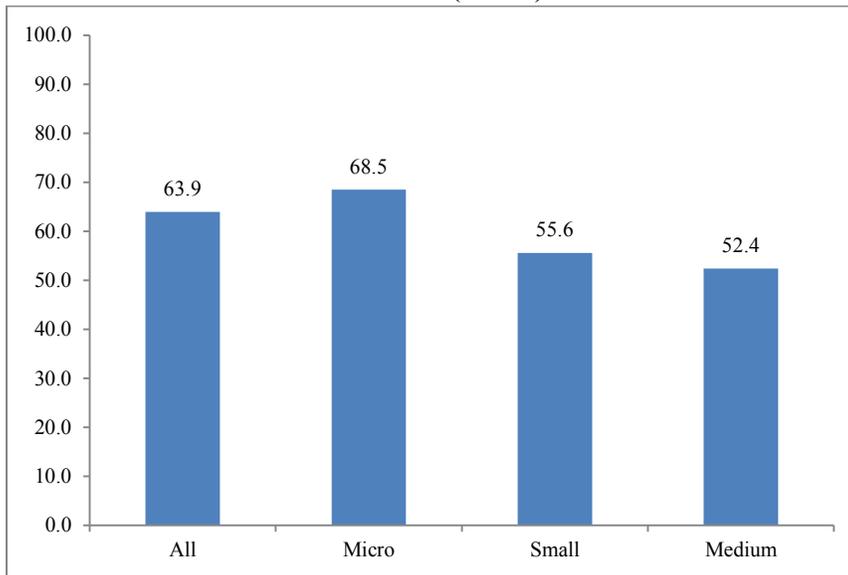
Factors Inhibit Ability to Innovate across Firm Type and Growth Pattern

Type	Type of Firm		
	Micro	Small	Medium
Organisational rigidities within the enterprise	0.68	0.64	0.55
Cost of finance	0.61	0.55	0.51
Direct innovation costs too high	0.59	0.58	0.58
Excessive perceived economic risks	0.57	0.59	0.56
Lack of customer responsiveness to new goods	0.56	0.67	0.57
Impact of regulations or standards	0.50	0.56	0.52
Lack of information on markets	0.48	0.45	0.44
Lack of qualified personnel	0.39	0.39	0.32
Availability of finance	0.38	0.35	0.35
Lack of information on technology	0.35	0.37	0.31
Lack of partners	0.28	0.16	0.15

Note: [Mean score ranging from 0 to 1: (0, no effect); (1, high effect)]

A large majority i.e. 64 percent of the firms are willing to assume risk however equally informative is the other side of the coin –36 percent of the entrepreneurs are reluctant to assume any kind of risk. Among the different sized firms, the entrepreneurs running micro firms are more prone to assume risk relative to others— this is understandable given what is at stake in different sized firms (Figure 5).

Fig. 5. Generally Willing to Take Risk to Improve the Firm's Performance (Yes %)



Among the various types of possible risk, entrepreneurs are more likely to be willing to invest huge money in business with uncertain prospects or open outlets in an area not considered a market till then. Within the different sized firms, the micro firms are likely to invest huge money in businesses with uncertain prospects while small and medium entrepreneurs are more likely to open new outlets in relatively non-business areas till then. This again is understandable because only relatively larger firms (small & medium) are likely to have the money to open new outlets (Table 14).

Table 14
What Kind of Risk?

Type	Type of Firm		
	Micro	Small	Medium
Entered into producing, selling a product introduced for the first time in the country	11.3	18.0	9.1
Opened an outlet in an area not considered a market till then	28.7	46.0	36.4
Invested huge money with uncertain business prospects	47.3	28.0	18.2
Tried new options after failures in one or more businesses	12.7	8.0	36.4

5. GROWTH PATTERNS: STYLISED FACTS

The average growth rate of sample firms is 2.5 percent per annum. Micro firms register only 1.3 percent growth per annum while small firms exhibit 3.8 percent growth per annum. Medium firms show impressive growth (Table 15). The growth of a firm here is measured by the change in number of employees. Out of the 330 firms with an age of 5 years or more, 41 percent, 43 percent and 16 percent of the firms respectively posted positive, zero and negative growth (Table 14). At disaggregate level the growth of firms seems to be positively correlated with the size of the firm—only 27 percent of the micro firms registered positive growth while among the small and medium sized firms the number of firms registering positive growth stands at 64 percent and 76 percent respectively. The number of firms registering no growth and negative growth are highest among micro firms (53 percent and 20 percent respectively). Overall micro firms seem to have a hard time in ensuring survival and then growing (Table 15).

Table 15

Growth Patterns Across Firm Type and Sector

Sample	Average Growth Rate	Growth Pattern (%)		
		Positive Growth	No Growth	Negative Growth
Total Sample	2.5	40.6	43.3	16.1
Growth Pattern by type of firm				
Micro	1.3	27.4	53.0	19.6
Small	3.8	64.4	26.7	8.9
Medium	8.9	76.2	14.3	9.5
Growth Pattern across different sector				
General Store	2.7	42.9	47.6	9.5
Food related	3.4	55.3	31.9	12.8
Garments/Clothes	3.6	41.4	48.3	10.3
Electronics/Electrical	4.5	50.0	38.1	11.9
Books shops	-0.7	0.0	72.2	27.8
Services	1.6	35.9	45.3	18.9
Others	0.2	34.7	34.7	30.6

To have a preliminary idea of the factors possibly contributing to positive, negative or no growth, we have tabulated in table 16 the salient features of the three kinds of firms. Mid-career entrepreneurs aged 31-40 are 11.8 percent in firms registering negative growth. The corresponding figure for firms with positive growth is 40.3 percent. Relatively older entrepreneurs (aged 40 & above) are 19.4 percent in negative-growth firms, the figure is 40.7 percent for firms which registered positive growth. Around 15.5 percent of the negative-

growth firms are sole proprietorship while 19.2 percent are under partnership showing negative growth. A large proportion, i.e. 36.7 percent of the negative-growth firms started the business with a new innovative idea as against only 9.7 percent of the negative-growth firms with conventional business. The story that develops from the above is micro firms find it hard to sustain their business. Further older entrepreneurs carrying on inherited businesses might have failed to adapt their businesses to the changed needs of the time and therefore registered negative growth. Moreover the new idea, with which certain firms began business though successful initially, either exhausted its potential or lost steam gradually and therefore the firms registered negative growth. Finally the partnership structure, which requires certain level of cooperation among partners, might have influenced growth adversely in smaller firms.

Table 16

Characteristics and Growth Pattern

Characteristics	Average Growth Rate	Growth Pattern (%)		
		Positive Growth	No Growth	Negative Growth
Age Profile of Entrepreneur				
Young	3.1	41.1	42.9	16.1
Mid-career	2.3	40.3	47.9	11.8
Older	2.3	40.7	40.0	19.4
Ownership Structure/Pattern				
Sole Proprietorship	2.7	41.0	43.5	15.5
Partnership	1.8	38.5	42.3	19.2
Inherited	1.2	36.5	38.5	25.0
Started new business	3.0	42.0	46.0	12.1
Entered into a conventional business or developed a new idea?				
Conventional business	2.7	42.7	47.6	9.7
New Idea	1.4	32.9	30.4	36.7
Use of Technology				
Use Computer/cash machines to make sales (Yes)	2.1	30.9	61.7	7.5
Allow employees to handle cash (Yes)	2.4	36.0	53.7	10.3
Financing				
Did you ever tried to obtain loan from a formal source?				
Yes	2.2	43.9	19.5	36.6
No	2.5	40.4	46.3	13.2
Do you use informal finance?				
Yes	2.1	32.8	48.5	18.7
No	2.9	49.4	37.2	13.5
Type of Business Premises				
Own house	1.8	42.4	33.9	23.7
House/room/factor rented	2.7	41.6	43.9	14.5
House/room/factor owned	0.9	18.8	68.8	12.5

Firms were asked whether or not they practice different kinds of innovation (Table 17). By and large it seems that firms that firms with exclusive focus on introducing something new are able to expand the most whether the innovation is in offering new goods, new services offered, introducing new methods or introducing new support services. Next in expansion ranking are the firms that focus upon improving the goods, services, production methods and support services. The firms that focus upon both i.e. introducing something new as well as improving the existing come third in the expansion ranking. The forms that practice neither kind of innovation are last one the expansion rankings considered. It is important to that among the firms that do not engage in innovation at all (No innovation firms in Table 17), the largest category of such firms fall either 'no growth' and 'negative growth' firms put together, for all the five kinds of innovation considered. The broader conclusion from the analysis of Table 17 is that innovation has a role to play in expansion of firms. Regarding Table 17 we may caution that we have constructed the table in a manner so that rows sum up to make 100. The objective was to examine the growth pattern of the firms engaging in similar kind of innovation or not innovating at all.

Table 17

Innovation and Growth Pattern

Type	Average Growth Rate	Growth Pattern (%)		
		Positive Growth	No Growth	Negative Growth
New or significantly improved goods				
New only	2.8	51.9	26.9	21.2
Improved only	2.7	42.6	34.4	23.0
New & Improved both	2.4	37.6	52.4	10.1
No Innovation	1.6	33.3	33.3	33.3
New or significantly improved services				
New only	3.4	58.1	25.8	16.1
Improved only	2.8	48.7	26.3	25.0
New & Improved both	2.5	36.5	53.7	9.9
No Innovation	0.3	26.7	40.0	33.3
New or significantly improved methods of manufacturing or producing goods or services				
New only	3.5	65.7	17.1	17.1
Improved only	3.0	43.1	32.8	24.1
New & Improved both	2.4	37.0	51.6	11.5
No Innovation	1.2	31.7	46.3	22.0
New or significantly improved logistics, delivery, or distribution methods for your inputs, goods, or services				
New only	5.4	73.5	11.8	14.7
Improved only	3.6	49.1	36.8	14.0
New & Improved both	2.4	36.9	53.4	9.7
No Innovation	1.2	30.1	47.4	22.6
New or significantly improved support activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing				
New only	2.3	55.6	11.1	33.3
Improved only	5.2	68.0	24.0	8.0
New & Improved both	4.1	35.4	56.3	8.3
No Innovation	1.8	37.5	45.3	17.2

The data presented in table 18 gives a preliminary idea about the relationship between risk and expansion of the firms. The table suggest that firms which are willing to assume risk grow relative less that are not willing to assume risk, however the difference in the growth performance of the two kinds of firms is not large enough to draw a firm conclusion.

Table 18
Risk and Growth Pattern

Sample	Average Growth Rate	Growth Pattern (%)		
		Positive Growth	No Growth	Negative Growth
Generally willing to take risk				
Yes	2.3	37.0	52.1	10.9
No	2.7	47.1	27.7	25.2
Type of Risk				
Entered into producing, selling a product introduced for the first time in the country				
	1.6	40.7	48.2	11.1
Opened an outlet in an area not considered a market till then				
	2.2	38.6	47.1	14.3
Invested huge money with uncertain business prospects				
	2.3	33.3	57.5	9.2
Tried new options after failures in one or more businesses				
	3.4	40.7	51.9	7.4

6. EMPIRICAL RESULTS AND DISCUSSION

We have estimated the impact of various factors on the expansion of firms. Seven different specifications have been estimated.¹² In specification 1, we estimated the impact of initial condition on firms' expansion. The results show that firm's age and newly establishes businesses have positive impact on expansion of the firms. However, size at beginning has a negative impact on firm expansion indicating that larger the size of firm at beginning lesser the chances to grow. In specification 2, we have gauged the impact of entrepreneurial abilities on firms' growth along with initial conditions of the

¹²The results of OLS and with Sector Specific Fixed Effect are reported in Appendix Tables 1 and 2.

firms. The impact of initial conditions remains unchanged. The results also suggest that experience of the entrepreneur positively influences growth of the firms however education of the entrepreneur does not play a significant role in expansion of the firms. The specification combines the impact of entrepreneurs' experience with the mode of starting business. We find that newly established business by experienced entrepreneur positively influences firms' expansion indicating the importance of experience in nurturing and expanding business.¹³

Specification 3, adds risk and innovation to estimate the impact these variables on firms' expansion and specification 4 to the previous specification. We find that innovation positively influences expansion of firms. The variable used for measuring innovation is an index of innovation which has been constructed from responses of the entrepreneurs to innovation related questions. Our questions on innovation are in accord with Manual's following definition of innovation. Innovation is the "implementation of a new or significantly improved product (goods or services), process, a new market technique, or a new organisational method in business practices, work place organisation or external relations". To develop questions, the innovative possibilities open to retail firms were also kept in view. The respondent were asked, 'did you introduce any of the following during the last five years', The choices included; (i) New or improved goods to be sold (ii) New services offered to customers (iii) New or improved methods of producing goods and services (iv) New or improved logistics and (v) New or better support services like accounting etc. The affirmative responses, where these occur, have been aggregated to form an index.

To further investigate the impact of innovation, we have classified innovation into different levels based on score on the innovation index. The results show that higher the level of innovation, more the chances to expand. As the innovation level increases from no innovation to very high innovation, the impact of innovation on expansion of firms increases. For example, impact of; low innovation on firms' growth is 0.137, moderate innovation is 0.336, high innovation is 0.349 and very high innovation is 0.616. This indicates that the impact of very high innovation is more than four times the impact of low innovation on firms' expansion. Risk has no significant impact on firm expansion in our analysis. Specification 6 incorporates the impact of use of technology on firms' growth. Results show that use of technology does not influence expansion of firms. In specification 7, we have introduced the impact of formal and informal financing arrangements along with all other explanatory variables described above.

The most striking result is that expansion of the firms is positively related to committee finance (a kind of informal finance.) despite the fact that

¹³We find similar results when OLS and Sector Specific Fixed Effect are employed.

most entrepreneurs are said to have used to personal money to establish business and a large majority has never approached the bank for financing because they felt that they did not need (bank) finance. Given this backdrop the positive influence of committee finance on expansion of firms is a bit surprising. However the positive influence of the 'Committees as a source of business finance' has to be viewed in the following perspective. Mean literacy level of the entrepreneurs is rather low. A sizeable percentage (37 percent) of the entrepreneurs do not have any kind of interface with the bank i.e. they even do not have a checking account, 87.5 percent of the entrepreneurs never tried to obtain a loan from a bank and majority of these entrepreneurs gave 'not needed' as the reason for not approaching the bank for finance. This prima facie suggests that credit is a demand side constraint. However a deeper look suggests that this may not be the case—53 percent of the entrepreneurs use informal finance, 63 percent make use of 'Committees' and 56 percent of those using Committees use these for financing business. Thus the credit constraint to an extent is seemingly relieved through the 'committee finance'. However given that entrepreneurs not using formal finance themselves say that they did not try to obtain a bank loan can we say that finance constrains entrepreneurship? Looked at in the backdrop of 'formal finance: not needed', availability of finance does not seem to be a constraint. But when looked at in the backdrop that the entrepreneurs think of 'Committee finance' as personal savings rather than finance, the picture becomes clear—since they have access to low cost committee finance (which they consider as personal money), they respond with 'not needed' when asked, why you did not try to obtain loan from a bank. The knowledge that the entrepreneurs perceive 'committee finance' as personal money, rather than finance, also to an extent explains how come 87 percent had used personal money to establish business. The preference for 'committee finance' over formal finance could be because (i) Committee finance is cheaper—the only cost the members bear is the opportunity cost—the interest that the members of the committee forgo by investing in a committee instead of depositing it in a bank (ii) the small entrepreneurs lack the collateral that bank may demand (iii) the entrepreneurs, with their low literacy level does not feel comfortable in interacting with the bank and the literacy level also constrains the entrepreneurs in fulfilling the documentation requirement of the bank (iv) the entrepreneur themselves may not be interested in documenting their business for variety of reasons. Thus the 'Committee finance' is preferred because it is cheaper, is available; without collateral, without the need to document business transactions and without much hassle at the doorstep of the entrepreneur. This has a lesson for the banking industry—If the banks could do what a Committee does, then there is scope for bringing in the committees into the banking fold, thereby increasing the deposit base of the banks enormously.

Table 19

Empirical Results

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Initial Conditions							
Firm age	0.012 (0.00)**	0.009 (0.00)*	0.010 (0.01)	0.010 (0.00)*	0.011 (0.00)*	0.010 (0.00)*	0.007 (0.01)
New establish firm	0.154 (0.05)**	0.164 (0.05)**					
Size at beginning	-0.088 (0.01)***	-0.086 (0.01)***	-0.088 (0.01)***	-0.101 (0.01)***	-0.098 (0.01)***	-0.101 (0.01)***	-0.119 (0.02)***
Entrepreneur Strength							
Education (Matric)		0.087 (0.10)	0.077 (0.10)	0.014 (0.12)	0.023 (0.13)	0.013 (0.13)	0.028 (0.11)
Education (Above Matric)		0.138	0.126	0.077	0.085	0.077	0.091
Experience (exp) Mid (30-39)		(0.12) 0.115	(0.12)	(0.14)	(0.13)	(0.15)	(0.22)
Experience: High (age >40years)		(0.09) 0.227 (0.05)***					
New establish firm* Experience (Mid)			0.168 (0.11)	0.152 (0.13)	0.157 (0.13)	0.152 (0.13)	0.085 (0.12)
New establish firm* Experience (High)			0.325 (0.08)**	0.256 (0.09)**	0.271 (0.09)**	0.257 (0.09)**	0.141 (0.04)**
Risk Attitude and Innovation							
Risk				-0.191 (0.10)	-0.186 (0.10)	-0.190 (0.10)	-0.194 (0.17)
Innovation (Index)				0.131 (0.03)***		0.131 (0.03)***	0.156 (0.05)**
Innovation Category							
Low				0.137 (0.07)*			
Moderate				0.336 (0.11)**			
High				0.349 (0.15)*			
Very High				0.616 (0.18)**			
Use of Technology							
Use of Technology						0.003 (0.05)	-0.027 (0.05)
Financing Arrangements							
Formal Loan							0.284 (0.19)
Use of committee (informal)							0.245 (0.11)*
Constant	0.365 (0.07)***	0.195 (0.11)	0.327 (0.13)**	0.178 (0.11)	0.232 (0.12)	0.178 (0.11)	0.060 (0.23)
Observations	328	328	328	316	316	316	182
R-squared	0.142	0.159	0.164	0.214	0.219	0.214	0.263
Number of Markets	6	6	6	6	6	6	6

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

7. SUMMARY AND CONCLUSIONS

The following salient characteristics of the entrepreneurs and the firms, which emerge from our survey, allow us to gain a preliminary insight into the major constraints to the expansion of the small firms.

- The average level of education of the entrepreneur is rather low
- 34 percent of the entrepreneurs had never thought of expanding their business.
- 58 percent of the entrepreneurs do not allow employees to handle cash,
- Only 28.5 percent of the entrepreneurs use cash machines or computers to handle cash.
- 61 percent of the entrepreneurs do not know that cash machines/computers can be used to minimise misappropriation of cash by the employees and 53 percent do not know how to operate cash machines.
- Contract enforcement is weak: Entrepreneurs are reluctant to except returns, especially against paying back cash.
- 87 percent had used personal money to establish business.
- 37 percent of the entrepreneurs do not have a bank account
- Only 12 percent of the entrepreneurs ever tried to obtain loan from a bank.
- Documentation of the firms' operations and is rather low.

The salient findings, when looked at closely yield four major constraints to business. These include; (i) lack of desire to expand, (ii) non-delegation of cash handling to employees, (iii) apparent lack of demand for formal finance, (iv) weak contract enforcement and above all (v) low literacy level of the entrepreneurs. The constraints mentioned from serial i-iv may in fact be rooted in the fifth one i.e. the low literacy level of the entrepreneurs.

The picture that emerges from the salient findings is that a significant percentage of the entrepreneurs have never thought about expanding their business. Such entrepreneurs will obviously make no effort to expand and hence the non-expansion of such firms. Majority of the entrepreneur do not allow employees to handle cash. The non-delegation of cash handling could be a major constraint to the expansion of firms. Neither the owner/entrepreneur can be present on each of his outlets at one point in time nor could the entrepreneur be available at a single outlet round the clock or deal with too many customers simultaneously at a single outlet. It appears that lack of awareness about how technology can be used to minimise misappropriation of cash could be one reason for not delegating cash handling to employees. The non-use of formal finance is also seemingly a major constraint to expansion of the firms. This could be due to demand side as well as supply side constraint. A significant percentage of the entrepreneurs seemingly do not have any kind of interface

with the bank as they even do not have a checking/deposit account with a bank. One cannot expect such entrepreneurs to apply to bank for a business loan. The fact that 87.5 percent of the entrepreneurs never ever tried to obtain formal finance and that majority of these entrepreneurs gave 'not needed' as the reason for not approaching a bank suggests that if at all finance is a constraint, lack of demand is the constraint. However, the statistics on informal finance and the use of 'Committees' as a source of business finance speak otherwise—53 percent of the entrepreneurs use informal finance and 63 percent make use of 'Committees' and 56 percent of those using Committees use these for financing business. Thus it is not the borrowed finance in general but only the formal finance which is 'not needed' by the entrepreneurs. Perhaps if the bank could offer the kind of features that informal lender or the 'Committees' offer the bank loan would perhaps also be very much in demand. The fact that 87 percent of the entrepreneurs had used personal money to finance the establishment of their businesses and that not too many new firms emerge, suggests that more businesses could have emerged but for the lack of finance. Weak contract enforcement is apparently another constraint to business. Imagine the increase in sales if the customer knew that he/she can get full refund, within a certain period, if the product does not perform as expected—with only 5 percent of the entrepreneurs offering full refund if the product does not live up to expectations, the contract enforcement can only be considered weak. The failures of business being not uncommon coupled with difficult exit adds yet another constraint to expansion of firms.

The rather low literacy level of the entrepreneur might be at the root of the problem i.e. more than 50 percent have an education of less than 10 years – 47 percent have 6-10 years of schooling, 7 percent have been to school only till grade 5 and another 8 percent have not gone to school at all. The low level of literacy may constrain the entrepreneur in engaging with a bank for finance and also in the use of technology. (The technology can be used to minimise misappropriation by the employees during the time at which the entrepreneur rests or may devote time to business at another outlet). The low literacy level of the entrepreneurs may also constrain the entrepreneur in understanding the benefits of accepting 'returns' against full refunds. (The option of returning goods against full refund gives confidence to the customer and thus contributes to the growth of the business).

Results from regression analysis suggests that initials conditions including, firms' age, size of the firm at the beginning, experience of the entrepreneurs, committee finance, innovation are significant determinants of expansion of the firms. Except for size at the beginning, which negatively influences expansion, rest of the above referred variables exercise positive influence on expansion of the firms. Use of technology to make sales, literacy levels of the entrepreneurs and their risk behaviour do not significantly influence expansion.

Scores of studies support the result that experience contributes to expansion [Bosma, Van Praag, Thurik, and De Wit (2004); Lafuente and Rabetino (2011); Schutjens and Wever (2000)]. The one most relevant to our case is Kantis (2004) which suggests that among Latin American and East Asian entrepreneurs, social relationship was found to be the key benefits of work experience, helpful in identifying business opportunities, obtaining financing and alleviating management challenges.

In the face of ample evidence, documented under literature review section of this study, that human capital has positive impact on firm's growth, the insignificant impact of education in this study seems surprising. However the evidence that the impact of the level of education on firm's growth is non-linear makes our finding less surprising. Various studies show that primary education does not have a significant contribution in firm's growth while secondary schooling does impact firms' growth. For example, studies conducted in Sub-Saharan Africa show that entrepreneurs completing secondary school own more rapidly growing firms in Kenya and Zimbabwe while entrepreneurs possessed with only primary education do not [McPherson (1991); Mead and Liedholm (1998); Parker (1997)]. Evidence also suggests that noteworthy contribution of education comes only if the firms are owned by entrepreneurs with education above certain threshold level of education. [Nichter and Goldmark (2009)]. In our case at least 15 percent of the entrepreneurs and employees, put together have only primary education or lesser. Majority (around 46 percent) of the entrepreneurs and employees have education in 6–10th grade bracket. This is a large bracket and a sizable number might in fact have education till the 6-8th grade.

The result suggesting positive relationship between firm's age and expansion is apparently not in accord with literature. As various studies suggest an inverse relationship between firm's age and growth indicating that older firms grow less rapidly than younger firms [Almus (2000); Davidsson, Kirchhoff, Hatemi-J, and Gustavsson (2002); Wijewardena and Tibbits (1999)]. However looked at in the backdrop that average age of the firms under study is 15.5 years our firms cannot be considered too old—number of studies show that younger and small firms tend to grow faster as compared to old and larger firms [Evans (1987); Mead and Liedholm (1998)].

The positive impact 'Committee finance' on firms' expansion is supported by relevant literature. There is more or less a consensus in relevant literature that small firms are more credit-constrained relative to larger firms and that small firms tend to rely more on internal savings rather external finance. Nichter and Goldmark (2009) argue that various reasons, ranging from a lack of collateral to bias against small firms, constrain the access of small firms finance. In this context, Bigsten, *et al.* (2003) find that small firms relatively infrequently apply for and receive formal bank loans; therefore these firms typically rely on other types of credits such as trade credits, overdrafts and informal loans.

The positive impact of innovation on growth of firms is amply demonstrated in relevant literature. For example, Storey (1994) suggests that the introduction of new products has a positive impact on the performance of small firms. Freel and Robson (2004) have shown a positive relationship between product innovation and employment growth in small firms. Atalay, Anafarta, and Sarvan (2013) have found that technological innovation (product and process innovation) has significant and positive impact on firm performance.

As mentioned above, this study finds an insignificant impact of risk-taking behaviour of the entrepreneur on the expansion of the firms. Literature also suggests an ambiguous impact of risk-taking behaviour. For example, Cressy (2006) shows that risk taking behaviour of entrepreneurs has a positive impact on performance of the firms. However if entrepreneurs are overconfident about own-abilities or engage in less counterfactual thinking, the premium might be negative [Koellinger, Minniti, and Schade (2007)]. Baum, *et al.* (2011) argues that the conflict in results regarding the effects of assuming risk could be due to the different external factors that firms may face -in a non-hostile environment risk taking is associated with better firm performance, because the environment is not too uncertain, in other words the level of risk is rather low [Lumpkin and Dess (2001)]. On the other hand, assuming risk has a negative impact on firm performance if business environment is unstable and unsupportive to business [Boermans and Willebrands (2012); Kraus, Rigtering, Hughes, and Hosman (2012)].

Finally, against our expectation based, the use of technology (captured by use of cash machines/computers to make sales) does not significantly influence the expansion of the firms. The literature also does not support this result. The relevant literature suggests that use of technology and delegation of day-to-day operations significantly increases the business volume. Firms that adopt modern technological tools in their business are more likely to cause the business to grow faster than businesses without modern technological tools [Nkonoki (2011)]. Delegation of day-to-day operation and decentralisation work patterns are essential for the expansion of firms [Chandler (2003); Penrose (1995)]. The business owners who delegate day-to-day operation exhibit higher growth than business owners who do not [Bresnahan, Brynjolfsson, and Hitt (2002)].

Appendix Table 1

Empirical Results (OLS)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Initial Conditions							
Firm age	0.011 (0.00)**	0.009 (0.00)**	0.009 (0.00)**	0.010 (0.00)**	0.010 (0.00)**	0.009 (0.00)**	0.005 (0.01)
New establish firm	0.180 (0.09)**	0.192 (0.09)**					
Size at beginning	-0.086 (0.01)**	-0.087 (0.01)**	-0.088 (0.01)**	-0.097 (0.01)**	-0.097 (0.01)**	-0.096 (0.01)**	-0.116 (0.02)**
Entrepreneur Strength							
Education (Matric)		0.012 (0.10)	-0.001 (0.09)	-0.057 (0.09)	-0.040 (0.10)	-0.050 (0.10)	-0.075 (0.12)
Education (Above Matric)		0.082 (0.11)	0.067 (0.11)	0.022 (0.11)	0.026 (0.10)	0.030 (0.11)	0.032 (0.14)
Experience (exp) Mid (30-39)		0.108 (0.08)					
Experience: High (age >40years)		0.235 (0.09)**					
New establish firm* Experience (Mid)			0.169 (0.09)*	0.159 (0.09)*	0.171 (0.09)*	0.158 (0.09)*	0.075 (0.12)
New establish firm* Experience (High)			0.346 (0.13)**	0.297 (0.12)**	0.308 (0.13)**	0.294 (0.12)**	0.161 (0.13)
Risk Attitude and Innovation							
Risk				-0.251 (0.10)**	-0.239 (0.10)**	-0.252 (0.10)**	-0.341 (0.16)**
Innovation (Index)				0.119 (0.03)**		0.124 (0.03)**	0.171 (0.05)**
Innovation Category							
Low				0.193 (0.11)*			
Moderate				0.332 (0.13)**			
High				0.336 (0.11)**			
Very High				0.632 (0.19)**			
Use of Technology							
Use of Technology						-0.039 (0.08)	-0.127 (0.10)
Financing Arrangements							
Formal Loan							0.274 (0.19)
Use of committee (informal)							0.197 (0.09)**
Constant	0.347 (0.12)**	0.245 (0.12)**	0.399 (0.10)**	0.296 (0.12)**	0.311 (0.14)**	0.293 (0.12)**	0.266 (0.18)
Observations	328	328	328	316	316	316	182
R-squared	0.145	0.161	0.165	0.214	0.221	0.214	0.258

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 2

Empirical Results (Fixed Effect-Sector Specific)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Initial Conditions						
Firm age	0.009 (0.01)	0.007 (0.01)	0.008 (0.01)	0.009 (0.01)	0.009 (0.01)	0.008 (0.01)	0.004 (0.01)
New establish firm	0.134 (0.10)	0.151 (0.10)					
Size at beginning	-0.091 (0.01)***	-0.092 (0.01)***	-0.094 (0.01)***	-0.101 (0.01)***	-0.103 (0.01)***	-0.101 (0.01)***	-0.124 (0.02)***
	Entrepreneur Strength						
Education (Matric)		-0.001 (0.12)	-0.007 (0.12)	-0.065 (0.09)	-0.053 (0.11)	-0.062 (0.09)	-0.102 (0.09)
Education (Above Matric)		0.105 (0.09)	0.100 (0.09)	0.047 (0.08)	0.052 (0.08)	0.051 (0.08)	0.039 (0.11)
Experience (exp) Mid (30-39)		0.106 (0.07)					
Experience: High (age >40years)		0.197 (0.09)*					
New establish firm* Experience (Mid)			0.156 (0.09)	0.156 (0.08)	0.170 (0.08)*	0.155 (0.08)*	0.060 (0.05)
New establish firm* Experience (High)			0.308 (0.12)**	0.271 (0.11)**	0.283 (0.11)**	0.269 (0.10)**	0.153 (0.12)
	Risk Attitude and Innovation						
Risk				-0.243 (0.08)**	-0.232 (0.07)**	-0.243 (0.08)**	-0.342 (0.15)*
Innovation (Index)				0.107 (0.03)***		0.109 (0.03)***	0.156 (0.07)*
Innovation Category							
Low				0.140 (0.15)			
Moderate				0.270 (0.16)			
High				0.283 (0.16)			
Very High				0.578 (0.10)***			
	Use of Technology						
Use of Technology						-0.019 (0.09)	-0.113 (0.08)
	Financing Arrangements						
Formal Loan							0.282 (0.27)
Use of committee (informal)							0.211 (0.11)*
Constant	0.426 (0.20)*	0.323 (0.15)*	0.438 (0.10)***	0.357 (0.15)*	0.392 (0.24)	0.355 (0.15)*	0.359 (0.21)
Observations	328	328	328	316	316	316	182
R-squared	0.152	0.166	0.173	0.216	0.224	0.217	0.275
Sector	7	7	7	7	7	7	7

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

REFERENCES

- Afraz, N., S. T. Hussain, and U. Khan (2014) Barriers to Growth of Small Firms in Pakistan: A Qualitative Assessment of Selected Light Engineering Industries. *Lahore Journal of Economics* 19(Special Edition), 135–176.
- Aftab, K. (1991) *Rural Industrialisation in Pakistan: Implications for Human Resource Development*.
- Aftab, K. and E. Rahim (1986) The Emergence of a Small-scale Engineering Sector: The Case of Tubewell Production in the Pakistan Punjab. *The Journal of Development Studies* 23:1, 60–76.
- Ahmed, H. and N. Hamid (2011) Financing Constraints: Determinants and Implications for Firm Growth in Pakistan. *Lahore Journal of Economics* 16(Special Edition), 317–346.
- Almus, M. (2000) Testing “Gibrat’s Law” for Young Firms—Empirical Results for West Germany. *Small Business Economics* 15:1, 1–12.
- Atalay, M., N. Anafarta, and F. Sarvan (2013) The Relationship Between Innovation and Firm Performance: An Empirical Evidence from Turkish Automotive Supplier Industry. *Procedia-Social and Behavioural Sciences* 75, 226–235.
- Aterido, R., M. Hallward-Driemeier, and C. Pagés (2011) Big Constraints to Small Firms’ Growth? Business Environment and Employment Growth Across Firms. *Economic Development and Cultural Change* 59:3, 609–647.
- Backman, M. and J. Palmberg (2015) Contextualising Small Family Firms: How Does the Urban–rural Context Affect Firm Employment Growth? *Journal of Family Business Strategy*. doi: <http://dx.doi.org/10.1016/j.jfbs.2015.10.003>
- Bah, E.-h. M. and G. Cooper (2015) Constraints to the Growth of Small Firms in Northwest Myanmar. *Journal of Asian Economics* 39, 108-125. doi: <http://dx.doi.org/10.1016/j.asieco.2015.06.002>
- Bank, W. (2006) Doing Business: Creating Jobs Retrieved from *Doing Business Web Page*: <http://www.doingbusiness.org/Downloads>: The World Bank.
- Bari, F., A. Cheema, and E. Haque (2005) SME Development in Pakistan: Analysing the Constraints to Growth. Asian Development Bank, Pakistan, 123.
- Baum, J. R., E. A. Locke, and K. G. Smith (2001) A Multidimensional Model of Venture Growth. *Academy of Management Journal* 44:2, 292–303.
- Becchetti, L. and G. Trovato (2002) The Determinants of Growth for Small and Medium Sized Firms. The Role of the Availability of External Finance. *Small Business Economics* 19:4, 291–306.
- Beck, T., A. Demirgüç-Kunt, and V. Maksimovic (2005) Financial and Legal Constraints to Growth: Does Firm Size Matter? *The Journal of Finance* 60:1, 137–177.

- Becker, G. S. (1962) Investment in Human Capital: A Theoretical Analysis. *The Journal of Political Economy*, 9–49.
- Begley, T. M. and D. P. Boyd (1988) Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses. *Journal of Business Venturing* 2:1, 79–93.
- Bigsten, A., P. Collier, S. Dercon, M. Fafchamps, B. Gauthier, J. W. Gunning, and M. Söderbom (2003) Credit Constraints in Manufacturing Enterprises in Africa. *Journal of African Economies* 12:1, 104–125.
- Boermans, M. and D. Willebrands (2012) Financial Constraints, Risk Taking and Firm Performance: Recent Evidence from Microfinance Clients in Tanzania: Netherlands Central Bank, Research Department.
- Bosma, N., M. Van Praag, R. Thurik, and G. De Wit (2004) The Value of Human and Social Capital Investments for the Business Performance of Startups. *Small Business Economics* 23:3, 227–236.
- Bresnahan, T. F., Brynjolfsson, E., & Hitt, L. M. (2002). Information Technology, Workplace Reorganisation, and the Demand for Skilled Labour: Firm-Level Evidence. *Quarterly Journal of Economics*, 117(1), 339-376.
- Burki, A. A., & Terrell, D. (1998). Measuring production efficiency of small firms in Pakistan. *World Development*, 26(1), 155-169.
- Capp, J., Elstrodt, H.-P., & Jones Jr, W. B. (2005). Reining in Brazil's informal economy. *Transportation*, 28, 42-40.
- Carpenter, R. E., & Petersen, B. C. (2002). Is the growth of small firms constrained by internal finance? *Review of Economics and statistics*, 84(2), 298-309.
- Carter, S., & Jones-Evans, D. (2006). *Enterprise and Small Business: Principles, Practice and Policy*: FT Prentice Hall.
- Caves, R. E. (2007). *Multinational Enterprise and Economic Analysis*: Cambridge University Press.
- Chandler, A. D. (2003). *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*: Beard Books.
- Chelagat, L. J., & Ruto, M. J. (2014). Determinants of Performance of Small Firms within Four Peri-Urban Centres of Eldoret Town. *European Journal of Business and Management*, 6(26), 148-158.
- Chen, K. S., Babb, E. M., & Schrader, L. F. (1985). Growth of large cooperative and proprietary firms in the US food sector. *Agribusiness*, 1(2), 201-210.
- Coad, A., Segarra, A., & Teruel, M. (2016). Innovation and firm growth: Does firm age play a role? *Research Policy*, 45(2), 387-400. doi: <http://dx.doi.org/10.1016/j.respol.2015.10.015>
- Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of business venturing*, 9(5), 371-395.
- Cressy, R. (2006). Why do most firms die young? *Small Business Economics*, 26(2), 103-116.

- Danco, L. A. (1980). *Inside the Family Business*: Center for Family Business University Press.
- Davidsson, P., Kirchoff, B., Hatemi-J, A., & Gustavsson, H. (2002). Empirical analysis of business growth factors using Swedish data. *Journal of small business management*, 40(4), 332-349.
- Day, G. S. (1994). The capabilities of market-driven organisations. *the Journal of Marketing*, 37-52.
- Díaz-Chao, Á., Sainz-González, J., & Torrent-Sellens, J. (2015). ICT, innovation, and firm productivity: New evidence from small local firms. *Journal of Business Research*, 68(7), 1439-1444. doi: <http://dx.doi.org/10.1016/j.jbusres.2015.01.030>
- Doern, R. (2009). Investigating barriers to SME growth and development in transition environments a critique and suggestions for developing the methodology. *International Small Business Journal*, 27(3), 275-305.
- Evans, D. S. (1987). The relationship between firm growth, size, and age: Estimates for 100 manufacturing industries. *The journal of industrial economics*, 567-581.
- Freel, M. S., & Robson, P. J. A. (2004). Small firm innovation, growth and performance evidence from Scotland and Northern England. *International Small Business Journal*, 22(6), 561-575.
- Hankinson, A. (1991). *Small Business: Management and Performance : Survival for Engineering Firms*: Avebury.
- Haque, N. U. (2007). *Entrepreneurship in Pakistan*: East Asian Bureau of Economic Research.
- Hassan, S. Z., Khan, W. M., & Saeed, K. A. (1998). *Technology Choice by SMEs in Pakistan*: Lahore University of Management Sciences, Small and Medium Enterprise Centre.
- Heldman, K. (2010). *Project Manager's Spotlight on Risk Management*: Wiley.
- Hernández-Trillo, F., Pagán, J. A., & Paxton, J. (2005). Start-up capital, microenterprises and technical efficiency in Mexico. *Review of Development Economics*, 9(3), 434-447.
- Hewitt-Dundas, N. (2006). Resource and capability constraints to innovation in small and large plants. *Small Business Economics*, 26(3), 257-277.
- Hossain, M. (1988). *Credit for alleviation of rural poverty: The Grameen Bank in Bangladesh* (Vol. 65): Intl Food Policy Res Inst.
- Jamison, D. T., & Lau, L. J. (1982). *Farmer education and farm efficiency*: Johns Hopkins University Press.
- Jovanovic, B. (1982). Selection and the Evolution of Industry. *Econometrica: Journal of the Econometric Society*, 649-670.
- Kantis, H. (2004). *Desarrollo emprendedor: América Latina y la experiencia internacional*: IDB.

- Kemal, A. R. (1993). Why do small firms fail to graduate to medium and large firms in Pakistan. *The Pakistan Development Review*, 1249-1257.
- Kemal, A. R. (2000). Financing the Small and Medium Business and Industry in Pakistan. *Journal of the Institute of Bankers Pakistan*, 66, 3-34.
- Khan, B. A. (1997). Credit analysis for small and medium enterprises. *Lahore: Konrad Adenauer Foundation Working Paper Series, Lahore University of Management Sciences*.
- Khan, J. I. (2005). Intra-Model Employment Elasticities (A Case Study of Pakistan's Small-Scale Manufacturing Sector). *The Lahore Journal of Economics*, 10(1), 141-153.
- Koellinger, P., Minniti, M., & Schade, C. (2007). "I think I can, I think I can": Overconfidence and entrepreneurial behaviour. *Journal of economic psychology*, 28(4), 502-527.
- Kraus, S., Rigtering, J. P. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: a quantitative study from the Netherlands. *Review of Managerial Science*, 6(2), 161-182.
- Lafuente, E., & Rabetino, R. (2011). Human capital and growth in Romanian small firms. *Journal of Small Business and Enterprise Development*, 18(1), 74-96.
- Lockheed, M. E., Jamison, T., & Lau, L. J. (1980). Farmer education and farm efficiency: A survey. *Economic development and cultural change*, 37-76.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of business venturing*, 16(5), 429-451.
- Mateev, M., & Anastasov, Y. (2010). Determinants of small and medium sized fast growing enterprises in central and eastern Europe: a panel data analysis. *Financial Theory and Practice*, 34(3), 269-295.
- Mc Cartan-Quinn, D., & Carson, D. (2003). Issues which impact upon marketing in the small firm. *Small Business Economics*, 21(2), 201-213.
- McPherson, M. A. (1991). *Micro and small-scale enterprises in Zimbabwe: Results of a country-wide survey*: Gemini.
- Mead, D. C., & Liedholm, C. (1998). The dynamics of micro and small enterprises in developing countries. *World development*, 26(1), 61-74.
- Nasir, Z. M., & Iqbal, N. (2009). Employers Size Wage Differential: Does Investment in Human Capital Matter? *The Pakistan Development Review*, 509-521.
- Nelson, R. R. (1991). Why do firms differ, and how does it matter? *Strategic Management Journal*, 12(S2), 61-74. doi: 10.1002/smj.4250121006
- Nichter, S., & Goldmark, L. (2009). Small firm growth in developing countries. *World development*, 37(9), 1453-1464.

- Nkonoki, E. (2011). *Factors limiting small business success: An empirical study on small business growth in Tanzania*: LAP LAMBERT Academic Publishing.
- OECD/Eurostat. (2005). *Oslo manual: guidelines for collecting and interpreting innovation data*: Organisation for Economic Co-operation and Development.
- Oi, W. Y. (1983). Heterogeneous firms and the organisation of production. *Economic Inquiry*, 21(2), 147-171.
- Orlando, M. B., & Pollack, M. (2000). *Microenterprises and Poverty: Evidence from Latin America*: Inter-American Development Bank.
- Parker, J. C. (1997). Patterns of business growth: Micro and small enterprises in Kenya.
- Penrose, E. T. (1995). *The Theory of the Growth of the Firm*: Oxford university press.
- Rajan, R. G., & Zingales, L. (2003). The great reversals: the politics of financial development in the twentieth century. *Journal of financial economics*, 69(1), 5-50.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.
- Reuber, A. R., & Fischer, E. (1997). The influence of the management team's international experience on the internationalisation behaviours of SMEs. *Journal of International Business Studies*, 807-825.
- Robson, P. J. A., & Obeng, B. A. (2008). The barriers to growth in Ghana. *Small Business Economics*, 30(4), 385-403.
- Roomi, M. A., & Hussain, S. T. (1998). SMEs in Pakistan: A Survey of their Problems and Prospects. *Lahore: Konrad Adenauer Foundation Working Paper Series, Lahore University of Management Sciences*.
- Roper, S. (1999). Modelling small business growth and profitability. *Small Business Economics*, 13(3), 235-252.
- Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of business venturing*, 26(4), 441-457.
- Sarkees, M. (2011). Understanding the links between technological opportunism, marketing emphasis and firm performance: Implications for B2B. *Industrial marketing management*, 40(5), 785-795.
- Sarno, D. (2008). Capital structure and growth of the firms in the backward regions of the South Italy. *Applied Financial Economics*, 18(10), 821-833.
- Schiffer, M., & Weder, B. (2001). *Firm size and the business environment: Worldwide survey results* (Vol. 43): World Bank Publications.

- Schumpeter, J. A. (1934). *The Theory of Economic Development: An Inquiry Into Profits, Capital, Credit, Interest, and the Business Cycle*: Transaction Books.
- Schutjens, V. A. J. M., & Wever, E. (2000). Determinants of new firm success. *Papers in Regional Science*, 79(2), 135-159.
- Sleuwaegen, L., & Goedhuys, M. (2002). Growth of firms in developing countries, evidence from Cote d'Ivoire. *Journal of Development Economics*, 68(1), 117-135.
- Smith, H. L. (1989). The location and development of advanced technology industry in Oxfordshire in the context of the research environment.
- Söderbom, M., & Teal, F. (2001). *Are African Manufacturing Firms Really Inefficient?: Evidence from Firm-level Panel Data*: UNIDO.
- Stokes, D. (1995). *Small Business Management: An Active-learning Approach*: DP Publications.
- Storey, D. J. (1994). *Understanding the Small Business Sector*: Thomson Learning.
- Swinnen, J. F. M. (2005). When the market comes to you-or not. Washington, D. C. : The World Bank.
- Tan, H. W., & Batra, G. (1995). *Technical efficiency of SMEs : comparative evidence from developing economies*: [Washington, DC].
- Ward, J. L. (1997). Growing the family business: Special challenges and best practices. *Family Business Review*, 10(4), 323-337.
- Wijewardena, H., & Tibbits, G. E. (1999). Factors contributing to the growth of small manufacturing firms: data from Australia. *Journal of small business management*, 37(2), 88.
- Williams, C. C., & Shahid, M. S. (2014). Informal entrepreneurship and institutional theory: explaining the varying degrees of (in) formalisation of entrepreneurs in Pakistan. *Entrepreneurship & Regional Development*(ahead-of-print), 1-25.
- Williams, C. C., Shahid, M. S., & Martínez, A. (2015). Determinants of the Level of Informality of Informal Micro-Enterprises: Some Evidence from the City of Lahore, Pakistan. *World Development*. doi: <http://dx.doi.org/10.1016/j.worlddev.2015.09.003>
- Zahra, S. A. (2005). Entrepreneurial risk taking in family firms. *Family Business Review*, 18(1), 23-40.
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of management*, 36(2), 381-404