

THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Effects of Gender on the Performance of Microenterprises in Pakistan

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Abstract:

In Pakistan, there has been a surge in women entrepreneurship, either as a sole proprietorship or joint partnership mostly with male family members. Using non-randomized data, in this paper we compare the impact of owner's gender on the performance of the enterprise in Pakistan. Our results show an intricate association between the gender of the owner and the performance of the enterprise. While there is no significant difference in the performance with respect to profitability of the business, however, female owned enterprises have shown more employment growth as compared to male owned enterprises. Results of OLS regression on the basis of gender show that common factors that affect the performance of the enterprises have assorted effects for male-owned and female-owned enterprises. For female entrepreneurs, education is the most significant factor in their business success.

Keywords: *Microenterprises in Pakistan, Entrepreneurship, Gender, SMEs in Pakistan*

1. Introduction

The role of women in the world economic development is very significant and is focus of development literature since very long. Jiggins (1989) observes that women, along with leading 30 percent of the world rural households, provide 80 percent of the farm labour and also crop 60 percent of the food required by the rural households. Chirwa(2008) observed that womengenerate almost 30% of all the household income through farm and nonfarm cottage industry, petty trading and by providing casual labor. In Pakistan, women across the country are contributing US\$37.55 billion or 23.3% of the GDP.¹ However, lately, focus has been shifted towards the participation of the women in the overall economic development. As Lele (1986) highlighted, recent debates are about the opportunities that women get in order to participate in the productive process or they fall prey to the gender biasness and become primary victim of exploitation. Chirwa (2008) observed that there are several studies on the role of the women in economic development but, mostly, the focus is on the agricultural sector.

The cottage industries and small enterprises plays a vital role in Pakistan. The informal industry contributes to 33.5% of the country's GDP (Schneider & Williams, 2013), 32.9% of the non-agri workforce are self-employed workers or owners of informal enterprises and nearly 73% have primary employment in the informal sector enterprises (Williams, 2015). However, the role of women in SMEs has become significant over time in Pakistan. The focus of the developmental policies toward women lately, has contributed to the development of and women entrepreneurs. Pakistan Ministry of Labor and Manpower (2009) has provided details of gender-wise labour force at national level. The total labour force for the country is 52.5% among which female is 21.8% with the average annual growth of 6.5%. This gender participation becomes more unequal in rural areas where females make 28.3% in 56.4% of aggregate labour force employed, with 7.3% of average annual growth.²

The paper is structured in the following pattern: Section Two enlists our objective and corresponding hypothesis which is followed by literature review by briefly highlighting key empirical findings on the effects of the gender of the owners on the performance of their enterprises. Methodology, data sources and our empirical model, in order to test the owner's gender relationship with the performance of the enterprise, is explained in Section Four. Section Five contains discussion of the results, while Section Six ends our study with our conclusion and policy implications.

¹http://healthbridge.ca/images/uploads/library/Pakistan_summary_report_final.pdf

²http://www.aup.edu.pk/sj_pdf/contribution%20of%20pakistani%20women%20in%20agriculture.pdf

2. Objectives and Research Questions

This study aims to analyse the performance of the non-farm microindustries which are operated by women, by comparing with the performance of the non-farm microindustries which are operated by men. This study seeks to address

1. the factors that explain the role of the owner's gender and the performance of business.
2. whether the business constraints are the same for both male and female owned enterprises, and if there any differential effect of the constraints on male and female owned enterprises

Therefore our study tests the following hypothesis.

1. Female owned micro enterprises underperform than their male counterparts.
2. Constraints are different for female and male owned enterprises

3. Literature Review

Marginalisation of the women in economic activities is a commonly observed phenomenon. Particularly in less educated societies like Pakistan, most of the women face gender discrimination. They are hitched for access to equal economic opportunities, in freedom of choice and decisions and in control over capital and labor. Moreover, they are marginalised by gender based differentiation of managerial and technical skills (Eosocco *et al.*, 1991). Moser (1989) outlined three roles of women in a society: productive, reproductive and community management. However, their role is kept confined only to home making, in the name of culture, religion or social differentiation. Aborand Bickpe (2006:105) conducting a study on African microenterprises, are found evident that rate of female owned enterprises to obtain debt financing is less than their counterpart male owned enterprises, reason being gender discriminated access to the financing facilities. McCormick *et al.* (1997:1102) in a study of garments manufacturing sector find an overwhelming amount of women entrepreneurs in small scale manufacturing, working as under pressure sub-contractors for large scale contractors. Women are found almost absent from the large scale mass production garment industry. In custom tailoring, which is a small scale home based industry, the average number of both women and men owned businesses is more balanced. Von Massow (1999) argues that stereotype approach of the societies towards women have pushed women into low status and low income business activities eventually leading to a large number of women operating in risk averse segments of the industry like petty trading and home based service sectors where low capital is required to supply commodities and services for low income urban communities.

Losocco *et al.* (1991) found male owned enterprises performing better than female owned enterprises listing socialisation, training and other experiences as deciding factors of the comparative performance. Merretl and Gruidl (2000) in a study of US-based small scale enterprises find that obstacles towards business success were more for the female running businesses in rural areas than those businesses run by female in urban regions. While summarising the literature on the gender of the entrepreneur and performance of the business, Zinger (2005) stated that firms owned by women have weak performance than the male owned enterprise. Several other studies also support the claim that in terms of sales volume, asset accumulation, profitability and survival, female owned enterprises have shown inferior performance as compared with male owned enterprises. (Losocco *et al.*, 1991; Roomiet *et al.*, 2013; McPherson, 1996; Shahid, Williams and Martinez, 2016; Mead & Liedholm, 1998; Imuyu, 2002). There are several factors contributing to the poor performance of the female owned enterprises, like solitariness to credit from the formal financial system, lack of capital, poor technical and managerial skills, lack of access to the markets and raw materials, procurement problems, unsupportive legal systems, provision of finances to men and flawed policies by the government limited institutions (Berger, 1989; Jiggins, 1989; Daniels & Ngwira, 1993).

4. Data and Methodology

4.1. Specification of the Model and Description of the Variables

In the empirical studies, apart from gender as a significant factor, the other factor that effects performance of the enterprises is categorised mainly into four. These categories are quality of the human capital, characteristics of the household, family attributes and the characteristics of the enterprise (McPherson, 1996; Roomi, 2013, Losocco *et al.*, 1991). Following the above mention studies and modifying the model use by Chirwa (2008), we define our econometric models in order to analyse the effect of gender of the owner on the performance of the venture and investigate whether the factors effecting the performance of both the male and female owned enterprises are different or not.

An earlier large data set study in Malawi (FXI & NSO, 2000) and several studies in Pakistan Ahmad *et al.* (2011), Aslam *et al.* (2013) analysed data by using frequencies, cross-tabs and bivariate comparisons, but significance of the results is not tested. Using these statistical approaches, complexity of the relation among variables is not considered. Profit margin and employment growth are considered as performance indicators and three models are estimated for each of them: an overall model which incorporates the gender variable and two separate models for female owned businesses and a model for male owned businesses. Hypothesis of comparative performance is judged in the overall model for whether the performance of the female owned enterprises is worse than the performance of their male counterparts. Regressions based on the subsample of female-owned and male-owned enterprises tests whether the effects of the predictor factors have different performance of male and female owned enterprises. Using Chirwa (2008) as our reference model, the model based on the ordinary least square (OLS) regression is stated as follows:

$$Y_i = \beta_0 + \beta_1 GEN + \beta_2 HDCH + \beta_3 ECH + \beta_4 CVA + \epsilon$$

where Y_i is the vector for the performance of the enterprises i.e. profitability and employment growth, GEN is the variable expressing the owner's gender, $HDCH$ is a vector of household characteristics, including age, education, marital status, family members etc., ECH is a vector of enterprise characteristics, industry sector of the enterprise, location of the business and CVA is a vector of the constraint variables such as availability of formal credit, marketing problems, number of hours given to the business and the working hours during the years.

Two dependent variables are used in the analysis as the indicators of the performance: profit margin and employment growth. The study carried out by Chirwa (2008) in Malawi used profit margin as an indicator of the performance. Though profit ratio is an important factor but we believe that the total amount of the profit determines the overall profitability. Only profit to sales ratio cannot explain the volume of enterprise. We use average profit margin as one of the indicators of the performance of the enterprise. In our study, the profit margin is the annualised ratio of net profits to total sales. Since cottage industries in Pakistan do not follow any book keeping standards or transaction records, the ratio of the profit is calculated as an estimation of the net profit from a sale of PKR 1,000 and is assumed to be constant. For each month, information on high, average and low sales months with corresponding average monthly sales values were obtained to compute annual sales, profit to sale ratio per PKR 1,000 is used to obtain profit margin, averaged over twelve months to calculate average profit per month. The second dependent variable, employment growth, is calculated according to McPherson (1996) method, where employment growth is the ratio of current employment and the initial employment logarithm differential to the age of business. We define employees as the external employees and the family members other than the owner and the spouse.

The first category of the independent variables is "gender", our main variable of the models. Three dummy variables are created in order to analyse gender, male ownership, female ownership and the reference category dummy mix ownership. Of the several studies of marginalisation (be it because of gender, unequal access to capital or because of social structure), almost all of them claim that female owned businesses are more likely to perform worse than the male-owned businesses: female owned enterprises generate less revenues, earn low profits and achieve low rate of business growth. (Kimuyu, 2002; McPherson 1996; Daniels & Mead 1998). Having mixed ownership as a base category for the comparison of performance of different gender owned enterprises, we expect female-owned enterprises to perform below par, in terms of profit and employment growth.

The second category of explicatory variables captures household characteristics. The entrepreneur's characteristics may have negative and positive impacts on the business. The living style, social class and marital status may influence one's behavior when it comes to critical decision making under pressure. The ability to take risk and ability to sustain in negative business situations for a longer period of time can be associated with age, marital status and number of family members (Loscocco *et al.*, 1991). Characteristics considered in the model are age, marital status, education, business skills, training and business experience. The age of the entrepreneur is a continuous variable measured in years. A binary decision variable represents the marital status of the owner with 1 equating to "married" and zero otherwise. Five dummy variables are created to annex effects of education on the performance: uneducated as a reference category, primary education, middle school, high school and education above matric. Business skills training is represented in one binary decision variable: 1 for trained or skilled whether informal or formal and 0 otherwise. Continuous variable of number years of experience represents the business experience and as a business experience squared (Chirwa, 2008) in order to annex the non-linear relationship between performance and the experience. Education is expected to have positive relationship with the performance of the business, since it is believed that higher level of education is more likely to have higher level of success for the entrepreneur in economic activities.

The literature also emphasizes on the significance of the enterprise characteristics in influencing the performance of micro-industries (McPherson, 1996; Zinger *et al.*, 2005). To measure the diversification of the entrepreneur's portfolio, number of businesses operated by the owner is included. The number of businesses operated may have both positive and negative effects on performance. Diversification helps in spreading the risks, which leads to better performance in the long run but it can be tricky too. Inappropriate allocation of the resources can be disastrous for the whole portfolio of the businesses. Location is one of the most important factor in the success of the small businesses. Enterprises operating at urban areas tend to generate more revenues and show greater growth than those running in rural areas. Two dummy variables are created for businesses operating in urban and rural areas while keeping small towns in the reference category. Apart from rural and urban areas, positioning of the business in both the areas is also very important. Four dummies are included to cater the effect of the positioning of the business: home based as the reference category, traditional market, commercial area and the road side cart. The enterprises which operate in the commercial centers nurture more rapidly as compared to home-based enterprises, since they have access to high income consumers. In a study of small enterprises in the UK, Mukhtar (1998) finds that female-owned enterprises tend to operate largely in the services, wholesaling, retailing and manufacturing sectors. Three dummy variables are created to represent the sector of the industry: petty trading as the base category, manufacturing, services and food cart as the comparing categories. Microenterprises sell their products directly to the consumers but it has been observed that they also operate as contractors by providing their services to the medium scale enterprises and to the institutional organisations.

Finally, few control variables are introduced in the model. These include number of hours given to the business by the entrepreneur and the problems faced in the operation of their businesses. Mead (1994) notes that SMEs face different

problems regarding access to finance at start-up, survival and growth stages. The inputs at start-up phase and problems of access to the marketing emerge as growth constraints. Gender theories also contend that female entrepreneurs experience different constraints in business activities compared to male entrepreneurs. The impact of business problems on the business operations is captured by four dummy variables representing finance problems, marketing problems, input problems and other business problems.

4.2. Data

The study uses primary data gathered in a survey conducted from Nov 2013 to February 2014, in the Sargodha division of Pakistan. The major objective of the study is to capture the motives behind launching the business, factors of profitability and employment growth and the factors of winding up the business. The data were drawn from a random sample of 400 microenterprises. The sample was drawn from the areas selected randomly. Each household identified for questionnaire interviews was visited. The survey covered enterprises with fewer than 10 employees including owners, but excluded businesses with more than three branches. Although the data also covered impacts of microfinance on cottage industry, this study uses only data for the ownership of the non-agricultural business enterprises. A sample of 374 non-agri small enterprises valid for the study was extracted from the survey data.

5. Results and Discussion

Table 1 describes the basic information of the variables that are used to estimate the effect of gender of the owners on the performance of the microenterprises. Table 1 suggests that the firms owned by females tend to charge high profit margin (58.62%) than the 55.3 % and 53.8% of male owned and mixed owned enterprises respectively, although these differences are not substantial. Value of average profit of PKR 14,460 shows that though female owned enterprises have high rate of profits, but these enterprises are ranked lowest in terms of amount of average profits generated per month, as compared with their counterparts. Mixed owned firms generate profit of PKR19,050 which is slightly higher than that of male owned enterprises levelled at PKR18,280. Female owned enterprises tend to high growth rate in terms of employment of 0.216 while mixed gender owned firms have lowest rate of employment of 0.59. This is to some extent contradictory with the results of the average profit per month, where females owned enterprises are the lowest and mixed owned enterprises are the highest. Since Pakistani society is stereotype towards gender, female owners may need to hire more employees to perform specific function which results in high employment growth rate as compared with others. While mixed owned firms have an advantage of both the partners working as employees for the business, their external employment growth rate of 0.048 is lower than the other two categories.

Variable	Gender of owners			
	All Mes	Female	Male	Mixed
Dependent variables				
Profit margin (%)	55.907	58.620	55.300	53.800
	[25.961]	[123.88]	[27.49]	[125.671]
Average Profit per month	57263.3	44460.0	58280.0	69050.0
	[16753.23]	[15649.25]	[25751.204]	[26009.35]
Employment growth	0.135	0.216	0.130	0.059
	[0.44]	[0.63]	[0.30]	[0.20]
Independent variables				
Gender				
Female-owned (1, 0)	0.326	-	-	-
Male-owned (1, 0)	0.391	-	-	-
Mixed-owned (1, 0)	0.282	-	-	-
Entrepreneur characteristics				
Age in years	33.438	34.027	31.803	34.483
	[11.62]	[11.25]	[11.77]	[11.58]
Married (1, 0)	0.800	0.652	0.777	0.972
No education (1, 0)	0.481	0.688	0.434	0.322
Primary education (1, 0)	0.267	0.218	0.253	0.330
Middle School (1, 0)	0.111	0.096	0.108	0.130
High School (1, 0)	0.131	0.038	0.171	0.184
Above high school (1, 0)	0.024	0.024	0.018	0.031
Business training (1, 0)	0.326	0.121	0.532	0.324
Business experience (years)	6.224	5.236	7.228	6.207
	[7.66]	[6.69]	[8.38]	[7.15]
Business experience squared	98.833	72.061	122.385	89.520

	Gender of owners			
	[269.7]	[212.3]	[316.2]	[227.3]
Enterprise characteristics				
Ownership of multiple MS I s (1.0)	0.205	0.073	0.221	0.320
Urban (1.0)	0.537	0.572	0.616	0.424
Rural (1.0)	0.194	0.165	0.173	0.244
Small town (1.0)	0.245	0.193	0.211	0.332
Home based (1, 0)	0.184	0.188	0.162	0.202
Traditional market (1.0)	0.066	0.050	0.098	0.049
Roadside (1.0)	0.211	0.081	0.352	0.200
Commercial centers (1,0)	0.119	0.063	0.155	0.138
Manufacturing	0.280	0.301	0.210	0.327
Petty Trading	0.275	0.218	0.290	0.319
Services	0.237	0.273	0.260	0.177
Food Cart	0.270	0.367	0.240	0.203
Control variables				
Credit access	0.207	0.335	0.172	0.115
Finance Problem	0.305	0.452	0.286	0.178
Marketing Problems	0.535	0.651	0.454	0.501
Input Problem	0.271	0.255	0.280	0.276
Business hours	248.817	237.550	249.200	259.700
	[111.1]	[118.2]	[91.74]	[140.9]
Number of enterprises	460	150	180	130

Table 1: Descriptive Statistics of the variables

The gender difference could also be observed in other categories of independent variables. Two third of the female owners lack in terms of education, training and skills. Most of them were found to leave schools without completing primary education. Marginal number of the female owners tend to acquire training whether formal or informal and lack basic business skills accordingly. 97% of the mixed owners are found to be married couples working as partners in business also. Female entrepreneurs are less likely to diversify or expand their business. Only 7.3% females are found to have more than one enterprise, compared to their male counterparts (22.1%). Most of the proportion of women entrepreneurs tend to choose home-based enterprises, while male owned enterprises tend to operate in commercial and high consumer based markets. Table 1 also shows that the female owners predominantly like to operate in the food processing business and manufacturing. Finding females attracted to this sector in a Pakistani society is a strange observation. Since the bespoke garments industry is included in the manufacturing sector in our data set, finding significant proportion of females in manufacturing business is not an odd observation. For instance, 27.4 % of the female owners are in the food business compared with male proportion of 23.4%, while 20.3% of the mixed enterprises operate in the food related business. Females of the rural areas are less likely to own non-farm enterprises. Statistics show that only 16.5 % female are running their enterprises in the rural areas.

Data from our control variable clearly depicts that there is a gender biases in terms of access to finance. 33.5% of the females have financed their enterprises from formal external sources, while only 17.2% of the male owned enterprises have been financed by lending organisations. Presence of this bias is because of the prevalence of microfinance institutions and special initiatives by government to financially empower women. Abore and Bickpe (2006) found that the financial services in Ghana are focused on women. Significant difference among gender is found in the problems faced by the owners. An overwhelming number of female enterprises find it difficult to access finance and market their business and products, with an average of 45.2% and 65.1% respectively.

5.1. Empirical Results: Impact of Owners Gender and Enterprise Performance

Table 2 represents the ordinary least square regression estimates of the factors that may influence the profitability of the enterprise and its employment growth, for all the sample of microenterprises. 53% ($R^2 = 0.571$) of the variation in the profitability and 17% ($R^2 = 0.172$) of the variation in the employment growth can be attributed to our linear model. The *P*value indicates that the model is significant at 1% of the profitability, while for employment growth model is significant at 5%. Each explanatory variable may explain some of the variance in the profitability by chance. The adjusted R^2 value disciplines the addition of the peripheral predictors in the model and value of 0.471 shows that the variation in the profitability may be attributed to our model. The regression results of the gender variable would test our proposition that female owned enterprises lack in performance as compared to male owned and mixed owned enterprises. From our results, it could be observed that gender of the owner is nevertheless a differentiating factor in the profitability of the business but is not statistically significant. Female owned enterprise profitability lie at the bottom of the comparison, with mixed owned ones

found to be the best performers. The insignificance of the gender on the profitability is in contrast with the other studies of Asia and Africa (Berge, Oppedal, 2016; Roomi, 2013; Kimuyu, 2002).

Variables	Profit margin		Emp growth	
	Coefficient	t-ratio	Coefficient	t-ratio
Female-owned	-20243.00	0.56	0.0231	2.04**
Male-owned	-98563.00	2.64	0.0110	1.15
<i>Entrepreneur Characteristics</i>				
Age in years	676.16	2.06	0.0017	0.51
Married	147.69	0.48	0.0243	0.76
Primary education	1530.00	0.73	-0.0015	0.28
Middle School	3043.50	1.14	-0.0073	0.10
High School	7050.00	0.75*	-0.0230	1.34
Above high school	15340.00	1.19**	0.0156	0.62
Business training	7650.00	1.24	-0.0020	-0.12
Business experience (years)	3204.00	0.31	0.0234	-1.62*
<i>Enterprise Characteristics</i>				
Ownership of multiple MSEs	-3350.00	-1.17†	0.1790	0.52†
Urban	15340.00	3.51*	0.0916	0.15†
Small town	6750.00	5.37†	0.0129	1.49
Traditional market	4060.00	3.02†	-0.0153	-0.22
Roadside	12530.00	1.61**	-0.0768	-0.23
Commercial centers	8740.00	-0.18†	-0.0115	-0.42
Manufacturing	12693.21	5.41**	0.0034	0.51**
Services	26440.70	8.93**	0.1118	2.31†
Food Cart	18337.21	5.93**	0.0011	0.70
<i>Control Variables</i>				
Credit access	15043.00	0.82	0.1105	0.51**
Hours business is open	-130.00	-0.56	0.0023	0.65
Finance problems	-10450.00	-4.10	-0.0976	-0.70
Marketing problems	-7032.26	-1.01	0.0051	0.87
Input problems	-2320.48	-159	0.0356	1.13
R ²	0.573		0.172	
Adjusted R ²	0.471		0.128	
P	0.000		0.001	

Table 2: OLS Estimates of factors determining Profitability and Employment Growth: Full Sample

Education is the only entrepreneurial characteristic significant at 1% of the profitability. While all five dummy variables of education level of the owners are positive, statistically significant dummies are for higher education. High school dummy is significant at 5% and owners having education above high school have a 1% significant profit of PKR 15,340 more than the profit of those entrepreneurs with no education. Entrepreneurs with high school education are second highest with profit of PKR 7,050 as compared to the profit of uneducated owners. Education as an important factor in our data set is in contrast with the developmental beliefs.

For the enterprise characteristics, we found several variable like location, portfolio and the sector of the industry have a significant impact on the profitability. The coefficient of the portfolio is estimated as negative and is statistically significant at 10%. This inverse relationship solidifies our fear that risky and inappropriate allocation of resources may lead to negative impact on the managerial efficiencies, resulting in a below par performance of the business. Owners having multiple enterprises tend to earn PKR 3,350 less profit than those who own fewer number of enterprises. Enterprises which operate in the urban centers tend to generate more profit than those operating in the small towns while small town enterprises tend to earn more than the enterprises operating in the rural areas. Location dummy variables are significant at 1% and 10% respectively. These locations are very important in terms of sales volumes. Urban centers tend to attract more customers resulting in increased demand. Among the positioning dummy variables, all three dummy variables of traditional market place, road side and commercial centers are significant at 10%, 5%, 10% respectively, and tend to generate more profit than the reference category home based enterprises. Road side enterprises earn highest among the rest. Profitability inclines to be positive for the sector of industry dummy variables. All the three dummies have positive coefficients significant at 5%. Profits from services sectors supersedes the rest by PKR10,500 followed by food cart (PKR6,800) and manufacturing (PKR 5,000), compared to the reference category of petty trading.

In Table 1, estimates show that there is an evidence of growth in the employment for female owned enterprises. After controlling for the other concerning variables, we find a positive coefficient of female enterprises for growth in employment, significant at 5%. The result is contrary to our hypothesis that female owned enterprises tend to display sleazy performance. However, as we explained earlier that in a conservative and stereotyped society, these results are not surprising. Females prefer to operate in a more gender comfortable environment, hence require more staff to work in external environment in order to ensure smooth business operations. These results are consistent with the findings that female owned enterprises in Malawi have positive growth in employment (Chirwa, 2008). In our data set, female owned enterprises experience 2.3% more growth than the mixed owned enterprises, while male owned enterprises generate 1.1% more employment as compared to our base category of female enterprises although the coefficient of male owned business is not significant. We can say that our results of employment growth on the basis of gender ownership do not support our argument that women tend to be more risk avoider investors than their male counterparts and also more than the reference category of mixed owners. For entrepreneur's characteristics, business experience has a positive coefficient of 0.023 significant at 1%. Owners with experience of more than 15 years tend to achieve more growth than the others. Education has shown a negative coefficient though not significant, which may explain that more education helps the owners to multitask by themselves.

In terms of enterprise characteristics, portfolio of the entrepreneur has shown a positive effect on the growth in the employment. The coefficient is significant at 10%. More number of business units will result in more employment. Manufacturing and services sector have shown positive effect on the employment growth. Manufacturing tends to increase the number of employees at a significant level of 5%, while services generates employment growth significant at 10%. Petty traders have shown negative growth in employment but is not found significant. For the location dummies, as expected and explained earlier, urban centers attract more demand and the enterprises operating in those areas tend to hire more employees. Their positive effect on the employment growth is significant at 10%. Operating in the urban centers does not guaranty business success since several other factors are involved like business over-heads, commercial costs and transaction costs. However, the enterprises operating these centers attract substantial number of customers and in order to meet this demand, they are forced to employ more staff. Access to finance may contribute in increasing income by means of increase in investments, income generating activities and in a potential expansion of the sources of income. Access to formal financial services can increase households' ability to accumulate assets and upgrade their income generating activities, thus enhancing their risks bearing capabilities (Dercon *et al.*, 2006). The results are consistent with literature that firms with access to finance tend to grow quicker than others. In our data set, firms with access tend to have employment growth of 11%, significant at 5%, as compared to the businesses without access to credit. Since a high number of female owners have better access, these results are consistent with the above findings and a positive relationship between female ownership and the growth in employment is not unforeseen.

5.2. Impact of the Variables on the Gender Based Sub Sample

According to current studies, when different categories of ownership of the microenterprises are exposed to some different variables and constraints, they provide diverse results. We propose that when constraints are applied to the overall data set, we will have different results as compared with the application of the same constraints on the sub categories of our data set. We use gender based ordinary least square regression analysis to test our proposition that various variables have different effects on male owned and female owned microenterprises. Table 3 expresses the results on the performance of the enterprises on the basis of gender of ownership.

Variables	Female Owned		Male owned	
	Coefficient	t-ratio	Coefficient	t-ratio
<i>Entrepreneur Characteristics</i>				
Age in years	1100.16	0.16	1500.00	-0.11
Married	356	0.13	890.00	0.27
Primary School	790.00	0.59	230.00	0.01**
Middle School	4005.50	1.2†	-1345.00	-0.31
High School	7450.00	1.18*	3568.00	1.6†
Higher education	14045.00	2.9**	7050.00	1.7
Business training	6730.00	2.7	8750.00	0.20
Business experience squared	3510.00	0.11	4185.00	-0.45
<i>Enterprise Characteristics</i>				
Ownership of multiple MSEs	-4050.00	2.23	-2261.00	-0.19
Urban	9340.00	3.54*	11270.00	0.47*
Small town	5500.00	3.1**	7560.00	1.5**
Traditional market	3260.00	1.6	6780.00	1.2**
Roadside	7540.00	1.5	4546.00	2.3*
Commercial centers	-2740.00	-0.3	9500.00	0.9

	Female Owned		Male owned	
	Coefficient	t-ratio	Coefficient	t-ratio
Manufacturing	6500.21	-3.41†	11800.00	3.3**
Services	18710.70	6.93†	19040.00	5.12**
Food Cart	13537.21	-2.93†	14050.00	3.43**
<i>Control Variables</i>				
Credit access	16170.00	1.1**	19875.00	-0.5
Business Hours	-500.00	-0.5	1500.00	0.6
Finance problems	-8450.00	-3.10	-4500.00	-1.4
Marketing problems	-4065.26	-2.01	-1230.00	0.14
Input problems	-1200.48	-0.39	-350	0.00

Table 3: OLS Estimates determinants of the Profit Margin on the basis of Gender

In our results, we find education as a significant factor in the profitability of the enterprises. The coefficient is positive for both male and female owner enterprises but female enterprises tend to show more growth associated with education as compared to male owned enterprises. Female owners having education above high school are more likely to earn higher profits compared to the female entrepreneurs not having high school education. This sector is significant at 5% of the male owned business and at 10% for the female owned enterprises. Both of the enterprises tend to achieve higher profits when operated in the services sector. Rest of the sectors are negatively associated with the profitability. The marginal effects of petty trading are higher for female owned enterprises, suggesting that female petty traders perform worse than their male counterparts. Location dummy variables show that male owners operating in urban areas and small town generate high profit as compared to female owned enterprises operating at the same locations. Position dummy variables are significant for the male owned enterprise. Male owners who tend to operate in the traditional market places tend to generate more profit than those at the road sides. Female owned enterprises when operate in the commercial center tend to depict negative association with profit margin, though not significant.

Variables	Female Owned		Male owned	
	Coefficient	t-ratio	Coefficient	t-ratio
<i>Entrepreneur Characteristics</i>				
Age in years	0.009	0.87	-0.003	-1.50
Married	0.043	1.30	0.015	-0.90
No Education	0.072	9.00	0.054	-0.60
Primary school	-0.019	0.90	-0.024	-0.50
Middle School	0.083	1.7†	-0.043	1.20
High School	-0.257	1.70	-0.038	0.90
Above High School	0.132	1.90	0.110	2.10†
Business Training	-0.201	-1.1*	-0.003	0.40
Business experience	0.131	-3.0*	-0.006	-3.3
Business experience squared	0.001	1.63*	0.002	2.8*
<i>Enterprise Characteristics</i>				
Ownership of multiple MSEs	0.021	-0.27	0.213	0.20
Urban	0.231	-0.41†	0.230	1.10†
Small town	0.004	0.30	0.010	2.10
Traditional market place	0.013	-2.87**	-0.081	-1.90
Roadside	0.009	-0.80	-0.024	-0.40
Commercial Center	0.536	0.60**	0.045	-1.10
Manufacturing	0.049	-0.34	0.130	2.40†
Services	0.391	-0.42	0.039	1.30
Food Cart	0.123	-0.91	-0.002	-0.70
<i>Control Variables</i>				
Credit access	0.147	-0.31	0.076	0.70
Business Hours	-0.041	-0.21	-0.051	1.9†
Finance problems	-0.480	-1.40	0.004	-0.10
Marketing problems	-0.001	0.23	0.010	0.13
Input problems	-0.002	0.20	-0.001	-0.41

Table4: OLS Estimates of determinants of Employment growth on the basis of Gender

Table 4 represents the results for OLS regression of gender based variable on the employment growth of the enterprises. The results of the regression are not satisfactory, since it fails to explain the impact of the variables, showing feeble explanatory power and insignificance coefficients. However, results are consistent with our claim that micro enterprises do not necessarily increase employment. The marginal effects are lower in male owned enterprises than in female enterprises. Female owned enterprises have positive association with the employment growth, with enterprises operating at commercial centers being highest employment growth achiever. Mixed owned enterprises tend to have negative impact on employment growth. Male owned enterprises engaged in manufacturing business have slightly high employment growth than the rest, though the results have weak explanatory powers. Access to formal credit is a crucial factor in the growth of employment mostly in female owned enterprises. Male-owned enterprises do not seem to be much affected by the access to formal credit.

6. Conclusion

Microenterprises have a substantial role in the achievement of the dispassionate far-reaching economic growth in a country. Institutional finance for SMEs exhibits significant importance in the developing countries. The informal sector is estimated to be 40–60% of GDP in the developing economies and 10–15% in the developed economies (Schneider & Williams, 2013). In developing countries the contribution of the small business and cottage industry is almost 80% of the total economic activities (Aslam, 2013) and the contribution of SMEs in the world activities varies from 60% to 90% (Abe, Troilo, Juneja, & Narain, 2012).

Using average profits and the employment growth as proxies of the performance of female owned and male owned enterprises, the regression analysis gives mixed results. The evidence on our first hypothesis that female owned enterprises perform worse than male owned enterprises is mixed and is sensitive to the appraisal of the performance of these enterprises. For profitability, our results show that there is no significant variation in the performance of the enterprises on the basis of gender of their ownership. Hence, we can contentedly reject our null hypothesis i.e. female owned enterprises perform below par than their male counterparts. However, we cannot reject our hypothesis that female and male owned enterprises have different employment growth rates. For employment growth, our results show that female owners tend to have higher growth rate as compared to male owned and mix owned micro enterprises. This may be partly due to the social factors and partly because of facility of formal credit to the female owners. Lately, it has been observed that developmental policies have focus on women entrepreneurship, supported by gender based microfinance initiatives.

Our second hypothesis that explanatory variables have different impacts for female and male owned enterprises is supported by our study. Results show varied effects of education on gender. Education is found more significant for the performance of female owned enterprises as compared to male owned enterprises. Completion of high school education is more prominent than the rest of education dummies. Access to formal credit has significant impact on the profitability and employment growth for the female owned enterprises. Credit facility provision is observed to be less productive for male owned enterprises than for the female owned enterprises. The results of credit constraints are consistent with development literature and summons the presence of gender bias in term of microfinance and other formal credit facilities. Apart from education and credit facility location, nature or industry of the business and positioning of the business also suggests that these variables show different outcomes for male owned and female owned enterprises. Overall, the results are more explanatory and significant for the average profit as compared to employment growth as indicators of the performance of the enterprises. The most important problem that affects the performance of both male and female enterprises is related to marketing. Marketing of the business and the products has shown very strong positive association with the performance. Enterprises with better marketing has significant high profitability and employment growth as compared with those enterprises which find marketing a difficult phenomenon.

7. Recommendations

The results in the study require some policy implications. As witnessed in the study, the female enterprises are not bad performers as they are perceived, which means that female entrepreneurship should be promoted as an important contributory factory in the overall development of the economy. Female entrepreneurship should be encouraged on the household level since the study suggests that it is a prominent income generating activity for the households, which could eventually result in better living standard and economic wellbeing (Minnite *et al.*, 2005). Deferral factors suggest that there is a dire need of gender specific interventions which could facilitate female entrepreneurs and could ensure their satisfactory financial performance. Female education is desperately needed to increase human capital in the female segment of the society. Investment in the financial sector designed to cater female owned enterprises is more productive than increasing the access to male entrepreneurs. Microfinance programs should be launched that target financing non-agro economic activities, with an intentional bias towards providing credit to female entrepreneurs.

8. Acknowledgements

The research is partially supported by the National Nature Science Foundation of China (71271103). The primary authors acknowledge the unpaid writing assistance of the third author, Abdullah Naeem Malik. The assistance of Shoaib Ahmed Warraich, former branch manager, Khushali Bank Mandibahuddin, Hasan Nawaz Gondal, Office Holder, Pakistan

Tehrik-i-Insaf, NA 109 and Shazia Mansoor, branch manager, First Women Bank Ltd Sargodha for their provision of data and help during survey. The authors are grateful to the reviewers for their helpful comments and valuable suggestions.

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