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# Gender and Performance of Micro and Small Enterprises in Malawi\*

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## **Abstract**

The growing importance of micro and small enterprises in growth, poverty reduction and livelihood strategies in developing economies where paid job opportunities are limited cannot be understated. One interesting development is that women are increasingly venturing into ownership of micro and small enterprises either on their own or in partnership with male entrepreneurs. This study assesses the performance of enterprises owned by females relative to those owned by males using national survey data in Malawi. The results show that the relationship between gender and business performance is complex. While there are no significant differences in profit margins, female-owned enterprises tend to grow rapidly in terms of employment than male-owned enterprises but female-owned enterprises are likely to reveal decreases or no change in the growth of sales than male-owned enterprises. Gender based results also show that while there are common factors that affect the performance of female-owned and male-owned enterprises, there are also differential effects particularly in the revealed growth in sales in which education is a critical factor for the success of female-owned enterprises.

## **1. Introduction**

The role of women in economic development cannot be understated. Jiggins (1989) notes that about 30 percent of rural households in the world are headed by women, and women contribute about 80 percent of agricultural labour, produce almost 60 percent of the food that is consumed by rural households and generate more than a third of all household incomes mainly through small scale agro-industry, trading, craft work and casual labour. In Malawi, about 59 percent of female proprietors indicated that their enterprises contributed 50 percent or more towards household incomes (Daniels and Ngwira, 1993). However, concern about women's participation in the process of economic development is relatively new. As Lele (1986) points out the frequently debated questions are whether women have adequate opportunities to participate in the productive processes or they are beasts of burden who are the primary victims of exploitation. There have been several studies on the role of women in economic

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development although this has tended to focus on the agricultural sector.

The micro and small enterprises (MSEs) sector plays an important role in Malawi.<sup>1</sup> In 1992 it was estimated that there were 587,283 MSEs generating about 1.07 million self and paid employment opportunities compared to 557,848 MSEs generating 1.01 million employment opportunities in 2000 (ECI & NSO, 2000). However, the role of women in micro and small enterprises (MSEs) has significantly improved over time in Malawi. At independence, the economy was dominated by the Europeans and Asians specialising in manufacturing and commerce, respectively. In the post-independence era a lot of policy changes have occurred and have contributed to the development of local and women entrepreneurship. Since 1981 Malawi has been moving towards the market economy through the adoption of World Bank/International Monetary Fund structural adjustment programs. In a study of small and agro-business enterprises in 1987, only 7 percent of the sampled enterprise were owned and operated by women (Malawi/USAID, 1987). However, the increasing importance of women in business enterprises was revealed in later studies. In the 1992 survey of micro, small and medium scale enterprises about 45.5 percent of proprietors in Malawi were women (Daniels and Ngwira, 1993). A recent GEMINI study further reveals that 34 percent of MSEs were owned by women, 35 percent by men and 30 percent by married couples (ECI & NSO, 2000). Due to its potential in poverty reduction, the MSEs sector is receiving increased focus in development policies as stipulated in the Malawi Poverty Reduction Strategy Paper, in which it is singled out as one of the sectors that has the potential for achieving pro-poor growth in which women are to play a significant role (GOM, 2002).

However, the relative performance of micro and small enterprises operated by women and men has not been studied in Malawi. This study attempts to fill this gap through a quantitative analysis of the determinants of performance of non-farm micro and small enterprises by gender. The specific objectives of the study are:

- a) to analyse the effects of gender on the performance of micro and small scale enterprises;
- b) to analyse the socio-economic determinants of the performance of micro and

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<sup>1</sup> The official definition of micro and small enterprises (MSEs) is based on employment and annual turnover (GOM, 1999). Micro enterprises have employment up to 4 persons and turnover up to MK0.120 million while small enterprises have employment of between 6 and 20 persons and a turnover of between MK0.120 million and MK4 million. Medium enterprises have employment of between 21 – 100 employees and a turnover of greater than MK4 million up to MK10 million. The data used in this study defines MSEs as those businesses that employ 50 or less employees including working owners (ECI & NSO, 2000).

small scale enterprises operated by women relative to those operated by men.

## **2. Gender and Business Performance: Literature Review**

Traditionally, the reproductive role of women has been widely emphasised and women were not thought to be breadwinners. The marginalization of women in economic activities is well documented. Moser (1989) argues that women perform three roles in society: reproductive, productive and community management roles. However, for a long time only the reproductive role has been emphasised for women as home makers compared to the productive role which has been dominated by men. More recently, it has been recognised that women in rural areas are very much engaged in the subsistence economy producing much of the household food requirements. With the growing population and pressure on land resources the subsistence economy does not suffice to produce household requirements and this has led to changes in the division of labour between men and women. Women are becoming actively involved in other branches of the economy such as industry and commerce in order to generate incomes to support their households.

There are two main approaches that promote the productive roles of women in an economy: the women in development (WID) and the gender in development (GAD) approaches. The WID approach recognises that women are active participants in the development process who through both their productive and reproductive roles provide a critical but often unacknowledged contribution to economic development and growth. Moser (1993) notes that despite the change in the WID approach from one of equity to one of efficiency, the underlying rationale is that any development process would proceed better if women were fully incorporated in the process, and therefore focuses on women in isolation, promoting measures such as access to credit and employment as a way of integrating women in the development process.

GAD provides an alternative approach and it maintains that women should not be treated in isolation of men, but within a context of the social relationship between men and women (gender) in which women have been systematically subordinated. The GAD approach posits that the focus of women in isolation ignores the real problem - their subordination to men. It therefore focuses on gender relations when designing measures to help women in the development process. The GAD approach endeavours to remove obstacles that impinge on women's accessibility to productive resources such as credit

and employment opportunities (Moser, 1993).

There are several different strands of literature relevant to the thesis of how gender affects participation in entrepreneurship activities and economic development. The argument which emerges in the literature is that women have been marginalized in society and motherhood has been assumed their important role (Moser, 1989). This marginalization has been in the form of unequal opportunities in economic activities and inequalities in access to the productive resources. Jiggins (1989) and Joeke (1999) argue that despite women's contribution to household food security and household viability, patriarchal family and social structures deny women real property rights in land; limit women's access to and control over the proceeds of their own labour and constrain their decision making role. The other gender difference in entrepreneurship and business performance result from differences in human capital. The formal education systems tend to have biases against women, and this leads to gender differences in human capital leading to differences in managerial and technical skills.

Others argue that there is unfair division of labour in the household. Gender differences in access to and control over resources also exacerbate inequities in performance of micro and small enterprises (von Masson, 1999). Loscocco et al. (1999) observe that women relative to men have less access to financial capital; and because of past credit discrimination, women's lower earning power and their traditional dependence on men, women are likely to have fewer resources to invest in business activities. The different socialisation, training and other experience of men and women may therefore lead to different outcomes in business performance (Loscocco et al., 1991). For example, women's domestic responsibilities may lead to marginal success in business because they spend disproportionate time on domestic chores than on business activities.

In most African societies, like in any other developing country, women contribute significantly to family labour in the subsistence economy with women doing most of the cultivation, although there have been variations across countries (Boserup, 1986). Chen (1989) also asserts that in India women's contribution to the production, processing, and preservation of food is substantial as wage labourers, producers and managers. During the colonial and post-independence periods, the participation of women in non-farm activities was very negligible. But following variations in colonial and cultural activities, women are actively shifting to non-farm business activities in other countries. For instance, in West Africa women were active in trade of cash and food crops, crafts and

commerce while in East and Southern Africa women were confined most entirely to the peasant agricultural sector (Gaidzanwa, 1993).

Several factors are associated with the shift of women from the peasant agricultural sector to industry and service sectors in Africa. First, the growing population in Africa has meant that the land resource which has dominantly been owned by males cannot generate adequate incomes for the households. Secondly, Gaidzanwa (1993) argues that changes in entrepreneurial patterns have occurred as a result of economic recessions in Africa. For instance, the recessions of 1970s and 1980s have eroded the living standards of the poorest as well as the middle class. Inflation and devaluations of African currencies on world markets has had the effect of pushing the population particularly women into intensified income-generating activities, both legal and illegal. Thirdly, donor agencies and non-governmental organisations have created women's awareness in their contribution to economic development, and women have appreciated the idea that they can be self-reliant if they engage in income-generating activities. In some cases, modernisation has led to the loosening of the traditional values which confined women to household work.

With limited education and skills, and few formal employment opportunities, poor women in developing countries often turn to self employment as a means of supporting themselves and their families. Despite increased efforts in women's participation in non-farm activities; others argue that most women are involved in retail of petty commodities such as knitwear, pots and foodstuffs (Gaidzanwa, 1993; Jiggins, 1989; Berger, 1989; Daniels and Ngwira 1993; Nyanda et al., 1995). McCormick et al. (1997) find that women entrepreneurs were over-represented in mini-manufacturing enterprises, underrepresented in contract workshops and totally absent in mass production in the garment industry but more balanced in custom tailoring. In addition, women tend to be employed in small, home-based low-capitalised enterprises that supply goods and commodities for low income consumer communities particularly in urban areas. The proportion of women operating non-traditional businesses in manufacturing and service sectors such as running consulting, legal, management services is small and these businesses have been dominated by men.

With respect to performance in terms of profitability, growth and productivity there exists very little empirical evidence on the success of women operated enterprises. However, Berger (1989) argues that most of the petty trading activities operated by women do not yield sufficient income to raise women out of poverty. Some empirical

studies tend to support this view. On average, women's micro enterprises are found to have lower sales revenue, fewer assets, smaller profit margins and lower likelihood of survival than men's enterprises (Mead and Liedholm, 1998; Daniels, 1999). Daniels (1999) also finds that although women formed 43 percent of entrepreneurs the percentage contributed to gross domestic product of the total MSE contribution was 30 percent for female proprietors, 50 percent for male proprietors and 20 percent for jointly owned enterprises in Kenya. In addition, the percentage of women entrepreneurs making earning above the minimum wage in Kenya was only 23 percent compared with 26 percent of male-owned entrepreneurs (Daniels, 1999).<sup>2</sup> The relative poor performance of women operated enterprises is attributed to many factors. These factors include inaccessibility to credit from the formal financial system, lack of capital, poor technical and managerial know-how, poor access to markets and raw material procurement problems, unfavourable legal systems, competition from state enterprises, diversion of business capital to men, poor government policies and inadequate institutional framework (Berger, 1989; Jiggins, 1989; Buvinic 1993, Daniels and Ngwira, 1993). In Malawi, Daniels and Ngwira (1993) and ECI and NSO (2000), find that the problems of micro and small scale enterprises are not gender-specific.

Literature suggests four main categories of factors that affect the performance of business enterprises with gender being one of the factors namely; human capital, personal characteristics, family characteristics and business characteristics (Loscocco et al., 1991; Daniels and Mead, 1998; McPherson, 1996). In terms of human capital, literature suggests that the more skills and experience entrepreneurs bring into the enterprise the more successful the business enterprise. Others contend that personal characteristics embody entrepreneurial traits including the degree of risk-taking behaviour and the motivation to achieve the highest levels. Loscocco et al. (1991) argue that small business owners may also benefit from intangible success from family members, although heavy family responsibilities may also have the negative effect of detracting the entrepreneur from the business activity. Business characteristics also play an important role in determining business performance. For example, the industry or the product market in which the enterprise operates may influence business outcomes. Others have argued that women are likely to operate in low risk and low technology industries such as petty trading. The gender division of labour and the gender

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<sup>2</sup> In an earlier study, Daniels and Mead (1998), after adjusting for actual hours worked, find that 73 percent of female-owned enterprises and 51.7 percent of male-operated enterprises generated income

stereotypes tend to push women into low status and low income business activities (von Masson, 1999). The other business characteristics that play an important role in determining performance are size, age and location of the business. Size is associated with economies of scale. McPherson (1996) argues that location of business (where located at home, at a market or industrial or commercial area) has strong influence on survival chances and growth of African MSEs. These various factors that influence performance of enterprises may influence female-owned and male-owned enterprises due to gender biases.

Several empirical studies use regression-based techniques to determine the relative importance of gender and other socio-economic variables in explaining the performance of micro and small enterprises. Loscocco et al. (1991) find evidence of gender differences in the factors influencing business outcomes; and that female-owned enterprises generate less profits than male-owned enterprises. Rosa et al. (1996) note that the relationship between gender and small business performance is complex, but found that gender appeared to be an important factor even after controlling for other factors. McPherson (1996) explores determinants of employment growth among micro and small enterprises and finds that female proprietors grow at lower rates than male-owned enterprises and the coefficients were statistically significant in three of the five countries. McPherson (1996) also finds that age, size and location of enterprises are negatively related to firm growth. Daniels and Mead (1998) find that net profits per person per months for female-owned enterprises were significantly lower than net profits from male counterparts or mixed ownership enterprises. Their results also show that age, paid workers and education were positively and significantly associated with profits while unpaid workers and working proprietors were negatively associated with net profits.

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below the minimum wage.



### **3. Data Sources and Model Specifications**

#### **3.1 Data Sources**

Data used in this study comes from a national survey of micro and small enterprises in Malawi conducted in 2000 (ECI and NSO, 2000). Data was collected using the Growth and Equity through Micro Enterprises Investments and Institutions (GEMINI) methodology.<sup>3</sup> The survey covered enterprises with fewer than 50 employees including working proprietors but excluded businesses with multiple branches even when any one encountered branch qualifying on the employment criterion. The Malawi GEMINI questionnaire collected information, *inter alia*, relating to entrepreneur characteristics (age, gender, race, marital status, education, entrepreneurship training), enterprise characteristics (type of ownership, type of industry or sector, age of business, initial and current employment levels, sales and profits, qualitative measures of sales growth), major constraints and problems, source of start-up capital, access to credit facilities, major markets and location of business enterprise. Although the data also covers farm or agricultural enterprises, this study uses only data for non-farm business enterprises. A usable sample of 3,074 non-farm MSEs used in this study was generated from the survey data. In terms of gender of ownership, 35.9 percent of the sample MSEs are female-owned, 47.5 percent are male-owned and 16.6 percent have mixed-gender ownership (15.9 percent being spouse-owned).

#### **3.2 Model Specification**

The study uses econometric techniques to analyse the effect of gender on business performance and to analyse whether different factors influence the performance of female-owned enterprises relative to male-owned enterprises.<sup>4</sup> We use three performance indicators: the profit margin, growth in employment and the qualitative growth in sales. This will involve two econometric modelling techniques, ordinary least

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<sup>3</sup> For details of sample design and sampling, see ECI & NSO (2000).

<sup>4</sup> ECI & NSO (2000) analyses the data mainly using statistical methods, frequencies, cross-tabulation and bivariate comparisons, without testing for the statistical significance of the resulting differences. One problem with the statistical approach is that it assumes away the complexity of the relationships between the variables.

squares and multinomial logit regression methods. For each performance indicator, three models are estimated: a general model with the gender variable, a model for female-owned enterprises only and a model for male-owned enterprises only. The regression model based on the ordinary least square method is specified as follows:

$$P_i = \beta_0 + \beta_1 SEX + \alpha ECH + \phi BCH + \gamma CVA + \mu_i \quad (1)$$

where for enterprise  $P_i$  is the performance indicator (profitability and employment growth) for enterprise  $i$ ,  $SEX$  is the gender of the owner of the enterprise;  $ECH$  is a vector of entrepreneur characteristics including age, education, entrepreneurial skills training and business experience;  $BCH$  is a vector of business characteristics including diversification, location of the business, main markets for the products and sector; and  $CVA$  is a vector of control variables such access to credit, membership to business associations, stratum of the enterprise (urban, small town or rural) and hours the business is open in the year; and  $\mu_i$  is the error term.

The growth in sales is measured qualitatively based on the revealed experiences of the entrepreneurs on whether they had experienced increase, decrease or no change in sales in the past five years. This relationship between growth of sales is modelled as a multinomial choice model with three choices (1, 0, -1) representing (increase, no change, decrease) and we explore the probability that gender of ownership and other factors are likely slow down growth of enterprises, with those that experienced increase in sales as a base category. The multinomial logit model is specified as follows:

$$QGRS_i = \beta_0 + \beta_1 SEX + \alpha ECH + \phi BCH + \lambda BPRO + \gamma CVA + \mu_i \quad (2)$$

where  $QGRS_i$  is the qualitative growth in sales (increase, decrease or no change);  $BPROB$  is the vector of business problems experienced by entrepreneurs; all the other variables are as defined in equation (1).

### **3.3 Description and Measurement of Variables**

#### *Dependent Variables*

Three dependent variables are used in the analysis: profit margin, employment growth and qualitative sales growth. The first dependent variable, the profit margin, is the annualised ratio of net profits to total sales. Since data on expenses and sales were collected with reference to 'last week', the method used to calculate annualised expenses and sales assumed that the ratio of expenses last week to sales last week was constant. For each month, information on high, average and low sales months with corresponding average monthly sales values were obtained to compute annual sales and the constant expenses-sales ratio was used to generate annual expenses.<sup>5</sup> The second dependent variable, employment growth, is calculated using the McPherson (1996) method in which growth in employment is defined as the ratio of the difference in the logarithms of the current employment and the initial employment to the age of business.<sup>6</sup> The third dependent variable, the growth in sales, is a qualitative choice variable derived from a question on the changes in sales in the past five years. The entrepreneurs that experienced large and small increases in sales were coded 1, those that had experienced no change in sales were coded 0, and those that experienced large or small decrease in sales were coded -1. However, one limitation about this measure of growth is that the question largely captured nominal sales as no particular emphasis was placed on real sales.

#### *Independent Variables*

The first category of independent variables relate to the gender of proprietors. The gender of the owner of the enterprise is the central variable in our models. Three dummy variables are created representing female-owned, male-owned and mixed-owned enterprises. Various theories of gender whether based on marginalization, unequal access to physical and human capital and socialisation postulate that female-owned

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<sup>5</sup> See ECI & NSO (2000) for details on the method used to calculate sales and profits.

<sup>6</sup> Employees in this study include working owners, paid workers, unpaid workers and trainees, full and part-time workers.

enterprises are likely to perform worse than male-owned enterprises. The mixed gender owned enterprises is the base category. We therefore expect female-owned enterprises to perform much lower than male-owned enterprises using the three measures of the performance. Regressions based on the sub-sample of female-owned and male-owned enterprises tests whether there are gender differences in the factors that affect the performance of enterprises by gender.

The second category of explanatory variables captures entrepreneur characteristics. Five entrepreneur characteristics are included in the model including age, marital status, education, business skills training and business experience. Age of entrepreneur is measured in years. Marital status is represented by a dummy equal to 1 if the entrepreneur is married. Loscocco et al. (1999) argue that family situations, such as marital status, may have both positive and negative impact on the business success. Education of the entrepreneurs, business skills training and business experience capture the human capital elements embodied in entrepreneurship. Education is represented by six dummies: no education (base category), some primary education, completed primary education, completed junior secondary education, completed senior secondary and completed higher education. Business skills training is represented by three dummies including no business training (base category), informal business training (learning from relatives and friends) and formal business skills training. The business experience of the entrepreneur is capture by number of years of business and business experience squared is included to capture the non-linear relationship between performance and experience. The human capital theory postulates that the more educated and more experienced individuals are the higher the degree of success in economic activities and we expect positive relationship between human capital variables and business performance.

The third category of factors that may affect performance relates to business characteristics. Literature also suggests the importance of business characteristics in determining the performance of MSEs. We include number of businesses operated by the entrepreneur as a measure of diversification, the location of the MSE, the major market MSEs' products and the industry sector in which the enterprises operate in regression for all the three performance indicators. The number of businesses operated may have both positive and negative effects on performance. On one hand diversification may be used to pool the risk and this may lead to improved performance; but on the other hand the allocation of labour by the entrepreneur may lead to crisis management

that may negatively affect the performance. Five location dummies are included in the model: home or near home as base category, traditional market place, mobile market, roadside or path, and commercial or industrial area. McPherson (1996) find evidence that MSEs located in commercial areas grow more rapidly than home-based industries, a result attributed to access to high income customers. MSEs sell their products either to direct consumers or other small, medium and large enterprises and institutional organisation. Institutional buyers may provide a reliable market and more contractual binding orders that may be used as a platform for growth. We construct two dummies representing the institutional market as base category and the consumer market.

The fourth category of independent variables is with respect to business problems faced by entrepreneurs in the operation of their businesses. Mead (1994) notes that MSEs face different problems at start-up, survival and growth stages with problems of access to working capital and markets being particularly important at start-up phase and problems of access to raw materials and machines emerging as growth constraints. Gender theories also contend that female entrepreneurs experience different constraints in business activities compared to male entrepreneurs; hence we expect differential impact of business problems by gender of ownership. The impact of business problems on the expansion of business activities is captured by the inclusion of the nature of problems in the multinomial logit model of qualitative changes in sales. Six dummy variables are included representing enterprises reporting no major problem as the base category, finance problems, competition problems, marketing problems, input or supplies problems and other business problems.

Finally, several control variables are included in all the three models and include access to credit, membership to a business association, the stratum in which the MSE operates and the number of hours the business operates in a year. Access to credit is captured by a dummy variable on whether credit was obtained to finance the activities of the business. Membership to a business association represents social capital and the importance of networks in business activities and we expect enterprises in a network to perform better than those that work independently. The stratum in which the enterprise operates is represented by three dummy variables: rural MSEs (base category), urban MSEs and small town MSEs. We expect urban MSEs to perform better than small town MSEs which we expect to perform better than rural MSEs due to the high business and large market in the urban areas. We also include the number of hours that the business opens in a year in order to control for variations in working hours of the enterprises.

Table 1 presents the descriptive statistics of the variables that we use in the regression models. The average profit margin is 56.8 percent and female-owned enterprises generate more profits (57.7 percent) than male-owned enterprises (56.6 percent) while mixed-gender owned enterprises generate the lowest profits (55.6 percent) although these differences are marginal. Similarly, female-owned enterprises tend to grow faster in terms of employment (11.6 percent per year) than male-owned enterprises (6.5 percent per year) and mixed-gender owned enterprises (6.9 percent per year).

Table 1 Descriptive Statistics of Variables in the Model\*

Variables	All MSEs	Gender of Owners		
		Female	Male	Mixed
<i>Dependent Variables</i>				
Profit margin (%)	56.813 [25.96]	57.738 [23.88]	56.572 [27.49]	55.593 [25.67]
Employment growth	0.084 [0.44]	0.116 [0.63]	0.065 [0.30]	0.069 [0.20]
Sales growth (1=increase, 2=decrease,3=no change)	1.700	1.745	1.700	1.599
<i>Independent Variables</i>				
<i>Gender</i>				
Female-owned (1, 0)	0.359	-	-	-
Male-owned (1, 0)	0.475	-	-	-
Mixed-owned (1, 0)	0.166	-	-	-
<i>Entrepreneur Characteristics</i>				
Age in years	33.046 [11.62]	34.027 [11.25]	31.803 [11.77]	34.483 [11.58]
Married (1, 0)	0.764	0.652	0.777	0.972
Some primary education (1, 0)	0.460	0.438	0.489	0.422
Completed primary education (1, 0)	0.236	0.218	0.253	0.230
Completed junior secondary education (1, 0)	0.112	0.109	0.108	0.130
Completed senior secondary education (1, 0)	0.069	0.058	0.071	0.084
Higher education (1, 0)	0.022	0.024	0.018	0.031
Informal business skills training (1, 0)	0.135	0.079	0.185	0.114
Formal business skills training (1, 0)	0.142	0.084	0.164	0.200
Business experience (years)	6.342 [7.66]	5.236 [6.69]	7.228 [8.38]	6.207 [7.15]
Business experience squared	98.833 [269.7]	72.061 [212.3]	122.385 [316.2]	89.520 [227.3]
<i>Business Characteristics</i>				
Ownership of multiple MSEs (1, 0)	0.138	0.171	0.084	0.222
Traditional market place (1, 0)	0.140	0.081	0.162	0.202
Mobile market (1, 0)	0.073	0.050	0.098	0.049
Roadside/path market (1, 0)	0.268	0.188	0.352	0.200
Commercial/industrial (1, 0)	0.119	0.063	0.155	0.138
Consumer market (1, 0)	0.984	0.992	0.982	0.974
Mfg: food processing (1, 0)	0.079	0.136	0.039	0.073
Mfg: beer brewing/spirit distilling (1, 0)	0.066	0.140	0.002	0.086
Mfg: textiles and leather products (1, 0)	0.071	0.043	0.102	0.041
Mfg: wood and pottery products (1, 0)	0.046	0.021	0.072	0.024
Mfg: other manufactures (1, 0)	0.024	0.010	0.038	0.016
Retail: fish and forest-based products (1, 0)	0.071	0.069	0.066	0.088
Retail: food, beverages and tobacco (1, 0)	0.092	0.134	0.075	0.049

Retail: garments and footwear (1, 0)	0.079	0.024	0.130	0.055
Retail: general merchandise/grocery (1, 0)	0.231	0.149	0.264	0.314
Bars, restaurants and hotels (1, 0)	0.039	0.034	0.023	0.094
Services (1, 0)	0.076	0.034	0.116	0.049
<i>Business Problems</i>				
Finance (1, 0)	0.282	0.269	0.281	0.314
Competition (1, 0)	0.080	0.102	0.064	0.077
Marketing (1, 0)	0.197	0.175	0.208	0.214
Inputs/supplies (1, 0)	0.245	0.276	0.234	0.208
Other problems (1, 0)	0.152	0.120	0.179	0.141
<i>Control Variables</i>				
Credit access (1, 0)	0.105	0.149	0.077	0.094
Business association (1, 0)	0.029	0.028	0.027	0.037
Urban (1, 0)	0.568	0.572	0.616	0.424
Small town (1, 0)	0.225	0.193	0.211	0.332
Hours business is open	246.74	237.55	249.20	259.70
	[111.1]	[118.2]	[91.74]	[140.9]
<i>Number of Enterprises</i>	3074	1104	1460	509

Note: \* Figures in parentheses represents dummy variables equal to 1 for the reference category, otherwise equal to zero and the means are proportions for the reference category. Figures in brackets are standard deviations for continuous variables.

There are gender differences in entrepreneur characteristics, business characteristics, business problems and other variables. For instance, most female entrepreneurs lack business skills training (informal and formal) and have less business experience than male entrepreneurs while differences in education are marginal. The descriptive statistics also show that a higher proportion of female entrepreneurs (17.1 percent) own more than one enterprise compared with only 8.4 percent of male entrepreneurs. In terms of location of business, female-owned MSEs are home-based than male owned MSEs that tend to locate in high demand environments. Female entrepreneurs also tend to operate more in food processing, beer brewing, retail of food and beverages and in bars and restaurants than their male counterparts. For instance, 13.6 percent of female entrepreneurs are in food processing industry compared with only 3.9 percent of male entrepreneurs; while 13.0 percent of male entrepreneurs operate in retail of garments and footwear compared to only 2.4 percent of female entrepreneurs.

There are also gender differences in the nature of business problems experienced by MSEs, with a higher proportion of female entrepreneurs experiencing competition problems and input/supplies problems than male entrepreneurs. Loscocco et al. (1991) note that the concentration of women in highly competitive low-growth industries explains their relative lack of success in MSEs. Gender biases are also revealed in access to credit with 14.9 percent of female entrepreneurs compared to only 7.7 percent of male entrepreneurs having accessed credit to support their business operations. The reason for this positive bias in access to credit is that most micro finance institutions that

operate in urban, peri-urban and rural areas tend to lend to women.

## **4. Empirical Results**

Table 2 presents ordinary least squares estimates of factors that influence profit margins and growth in employment for all MSEs in the sample. With respect to profitability, the gender of ownership is not statistically significant although male-owned enterprises tend to perform better than female-owned enterprises. The only entrepreneur characteristic statistically significant at the 1 percent level that affects profitability is education. Although the coefficients of the education dummies are positive as expected, profitability is statistically significantly higher for entrepreneurs with higher education (7.9 percent above those without education) followed by those that completed junior secondary education (4.1 percent above those with no education). Among the business characteristics, operation of multiple enterprises, locations of the business and industry in which the MSEs operate have significant influence on profitability. The coefficient of the ownership of multiple enterprises is negative and statistically significant at the 10 percent level. The negative relationship reflects the inefficiency in time allocation among the various enterprises that may lead to managerial inefficiencies.



Table 2 Ordinary Least Squares Estimates on Determinants of Profit Margins and Employment Growth: All MSEs

Variables	Profit Margin		Employment Growth	
	coef.	t-stat	coef.	t-stat
<i>Gender</i>				
Female-owned	1.1678	0.86	0.0471	2.04**
Male-owned	2.2285	1.64	0.0157	1.15
<i>Entrepreneur Characteristics</i>				
Age in years	0.0515	1.06	0.0007	0.51
Married	0.3996	0.38	0.0143	0.76
Some primary education	1.3610	0.88	-0.0021	-0.08
Completed primary education	1.5610	0.93	0.0075	0.28
Completed junior secondary education	4.0617	2.14**	0.0033	0.10
Completed senior secondary education	1.7602	0.75	0.0670	1.34
Higher education	7.9491	2.19**	0.0296	0.62
Informal business skills training	2.4987	1.64	-0.0020	-0.12
Formal business skills training	1.9205	1.31	-0.0297	-1.62
Business experience	-0.1797	-1.22	-0.0149	-4.69*
Business experience squared	-0.0005	-0.12	0.0003	4.63*
<i>Business Characteristics</i>				
Ownership of multiple MSEs	-2.3826	-1.79†	0.0149	0.52
Traditional market place	3.1906	2.02**	-0.0053	-0.22
Mobile market	0.5808	0.30	-0.0694	-3.31*
Roadside/path market	4.4351	3.61*	-0.0068	-0.23
Commercial/industrial	-0.1994	-0.12	-0.0115	-0.42
Consumer market	-2.4828	-0.66	0.0144	0.50
Mfg: food processing	-0.3013	-0.18	0.0494	1.99†
Mfg: beer brewing/spirit distilling	-0.4350	-0.22	-0.0138	-0.65
Mfg: textiles and leather products	-18.188	-8.08*	0.0183	0.79
Mfg: wood and pottery products	-23.777	-8.77*	0.0658	1.66†
Mfg: other manufactures	-16.767	-4.62*	0.0081	0.32
Retail: fish and forest-based products	-1.1681	-0.57	0.1045	1.38
Retail: food, beverages and tobacco	4.8415	3.10*	0.0419	0.94
Retail: garments and footwear	6.6680	3.58*	0.0432	1.47
Retail: general merchandise/grocery	1.8951	1.29	0.0262	1.31
Bars, restaurants and hotels	-17.099	-5.07*	0.0548	1.13
Services	-24.271	-10.17*	0.0574	1.79†
<i>Control Variables</i>				
Credit access	1.1753	0.82	0.1118	2.31**
Business association	4.2701	1.46	0.0193	0.52
Urban	7.5394	5.51*	0.0056	0.15
Small town	5.1327	3.37*	0.0429	1.49
Hours business is open	-0.0019	-0.36	0.0001	0.70
Constant	52.070	10.76*	0.0051	0.06
R-squared	0.187		0.033	
F-statistic	18.07		3.20	
Prob > F	0.00		0.00	
N	3074		3074	

Notes: The t-statistics are based heteroskedastic-consistent standard errors.

\* Statistically significant at the 1 percent level.

\*\* Statistically significant at the 5 percent level.

† Statistically significant at the 10 percent level.

MSEs that operate in a traditional market place and by the road side or foot path tend to generate more profits than home-based MSEs with the coefficients being statistically

significant at the 1 percent and the 5 percent levels, respectively. The reasons for the importance of these locations is that they are places of high demand and the transaction costs (such as transportation) are minimized compared to mobile markets or commercial areas. Profitability also tend to be statistically significantly (at the 1 percent level) higher for MSEs operating in industrial sectors such as retail of food and beverages and retail of garments and footwear while profitability is lower in the manufacture of textiles and leather products, wood and pottery products and other manufactured products, bars and restaurants and services. There is evidence that MSEs that are located in high income strata (urban and small towns) generate more profits than those in rural areas, and the coefficients are statistically significant at the 1 percent level. The profit margin is 7.5 percent in urban areas and 5.1 percent in small towns higher than the profitability generated by MSEs in rural enterprises.

With respect to growth in employment, we find evidence that after controlling for other factors that influence growth female-owned MSEs tend to grow at a faster rate than male-owned MSEs. The coefficient of female-owned enterprises is statistically significant at the 5 percent level and shows that female-owned MSEs grow at 4.7 percent faster than MSEs with mixed gender. The coefficient of male-owned MSEs is positive and its value below that of female-owned MSEs but it is statistically insignificant. These results contrasts with the negative employment growth associated with female ownership in other Southern African countries (McPherson, 1996). The only entrepreneur characteristic that is statistically significant at the 1 percent level is business experience. We find a curve linear (U-shaped) relationship between employment growth and business experience. Thus, MSEs of new entrepreneurs tend to contract or have retarded growth and growth reaches a minimum with 25 years of experience and thereafter a positive relationship is observed as entrepreneurs gain more experience.

In terms of business characteristics only mobile market location, manufacturing in food processing, manufacture of wood and pottery products and service industries are statistically significant variables at least at the 10 percent level. MSEs that are mobile experience reduction in growth in employment compared to home-based industries, possibly reflecting the transaction costs of mobility and potential high waste of supplies. MSEs in the manufacturing of food products and wood and pottery products and those that operate in the service sector tend to grow at a faster rate (at least at 4.9 percent higher) than the base category (retail of farm products). The important role that access to credit can play in business expansion is revealed by the positive and statistically

significant relationship between credit and employment growth. The results show that MSEs that had access to credit grow at 11.2 percent more than those that did not have access to credit. Since a higher proportion of female-owned MSEs had access to credit, it is not surprising that we find a significant relationship between female ownership of MSEs and growth in employment.

Table 3 presents results from multinomial logit model on factors that retard sales growth as qualitatively revealed by entrepreneurs. The base category is the revealed increase in sales value. The value of the coefficient shows the magnitude of the effects on the probability of an event occurring given the explanatory variable.<sup>7</sup> The results show that female-owned enterprises are likely to experience decrease in sales, although both types of ownership are likely to experience no change in sales although the female-owned MSEs perform worse than male-owned MSEs. In terms of entrepreneur characteristics, the probability that sales will fall is positively associated with age of entrepreneur – reflecting the lower productivity. Age of entrepreneur is not statistically significant among MSEs that did not experience any change in sales. The level of education plays an important role in determining revealed sales growth, particularly higher levels of education from competing primary school to higher education reduce the likelihood that the MSEs will experience decrease in sales or no growth in sales; and the coefficients are particularly high for higher education.

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<sup>7</sup> The anti-log of the slope coefficient less one, all multiplied by 100 gives the percent change in the odds (in favour of sales decrease or no change in sales) for a unit change in the explanatory variables.

Table 3 Multinomial Logit Estimates of Factors Retarding Sales Growth: All MSEs

Variables	Decrease in Sales		No Change in Sales	
	coefficient	t-statistics	coefficient	t-statistics
<i>Gender</i>				
Female-owned	0.2978	1.93 <sup>†</sup>	0.3558	2.35 <sup>**</sup>
Male-owned	0.2332	1.60	0.2679	1.85 <sup>†</sup>
<i>Entrepreneur Characteristics</i>				
Age in years	0.0133	2.73 <sup>*</sup>	0.0053	1.07
Married	0.1881	1.57	-0.0607	-0.55
Some primary education	-0.1674	-1.01	-0.2652	-1.64
Completed primary education	-0.3929	-2.14 <sup>**</sup>	-0.3803	-2.15 <sup>**</sup>
Completed junior secondary education	-0.3712	-1.71 <sup>†</sup>	-0.3580	-1.75 <sup>†</sup>
Completed senior secondary education	-0.3888	-1.51	-0.5322	-2.17 <sup>**</sup>
Higher education	-0.7016	-1.82 <sup>†</sup>	-0.9431	-2.43 <sup>**</sup>
Informal business skills training	0.2154	1.37	0.0578	0.38
Formal business skills training	0.2647	1.67 <sup>†</sup>	0.2044	1.33
Business experience	0.0081	0.52	-0.0212	-1.35
Business experience squared	0.0003	0.69	0.0006	1.36
<i>Business Characteristics</i>				
Ownership of multiple MSEs	-0.4701	-3.07 <sup>*</sup>	-0.2528	-1.83 <sup>†</sup>
Traditional market place	-0.0272	-0.16	0.0122	0.07
Mobile market	-0.4877	-2.29 <sup>**</sup>	0.0563	0.29
Roadside/path market	-0.0592	-0.45	0.0199	0.16
Commercial/industrial	-0.2511	-1.44	-0.3607	-2.11 <sup>**</sup>
Consumer market	0.1820	0.50	0.3452	0.83
Mfg: food processing	0.0060	0.03	-0.1759	-0.85
Mfg: beer brewing/spirit distilling	0.0736	0.30	0.0591	0.25
Mfg: textiles and leather products	0.0779	0.32	0.0452	0.20
Mfg: wood and pottery products	-0.2257	-0.79	0.1058	0.42
Mfg: other manufactures	-0.1376	-0.41	-0.0248	-0.08
Retail: fish and forest-based products	0.0110	0.05	0.0102	0.05
Retail: food, beverages and tobacco	-0.2596	-1.21	-0.3879	-1.97 <sup>**</sup>
Retail: garments and footwear	0.3297	1.52	-0.2780	-1.25
Retail: general merchandise/grocery	0.0647	0.37	-0.1601	-0.98
Bars, restaurants and hotels	0.1162	0.37	-0.3100	-1.08
Services	-0.0976	-0.42	-0.3900	-1.71 <sup>†</sup>
<i>Business Problems</i>				
Finance	1.7838	4.37 <sup>*</sup>	0.9534	3.89 <sup>*</sup>
Competition	1.9158	4.46 <sup>*</sup>	0.6585	2.31 <sup>**</sup>
Marketing	2.0788	5.06 <sup>*</sup>	0.8831	3.49 <sup>*</sup>
Inputs/supplies	1.9138	4.69 <sup>*</sup>	0.6328	2.53 <sup>**</sup>
Other problems	1.5254	3.64 <sup>*</sup>	0.6612	2.55 <sup>**</sup>
<i>Control Variables</i>				
Credit access	0.2029	1.39	0.0681	0.45
Business association	0.0707	0.25	0.0881	0.31
Urban	0.0667	0.46	0.1599	1.18
Small town	-0.0530	-0.35	-0.0026	-0.02
Hours business is open	-0.0022	-4.22 <sup>*</sup>	0.00002	0.04
Constant	-2.9222	-4.89 <sup>*</sup>	-1.8623	-3.30 <sup>*</sup>
Wald Chi-squared	213.5			
Prob > Chi-squared	0.00			
Log Likelihood	-2998.3			
N	3074			

Notes: The t-statistics are based heteroskedastic-consistent standard errors.

\* Statistically significant at the 1 percent level.

\*\* Statistically significant at the 5 percent level.

† Statistically significant at the 10 percent level.

In terms of business characteristics, the results show that ownership of multiple enterprises may be good for sales growth, and the coefficient is statistically significant at

the 5 percent and the 10 percent levels among MSEs that experienced decrease and no change in sales, respectively. Contrary to the evidence in the employment growth model, operating a mobile MSE reduces the probability of experiencing decrease in sales while locating in a commercial area reduces the likelihood of experiencing no change in sales. The industrial sectors that have significant impact on sales growth are retail of food and beverages and services. The coefficients of these variables are only statistically significant among MSEs that experienced no change and reduce the likelihood of no growth in sales. All the business problems increase the likelihood of a decrease or no growth in sales and the coefficients are statistically significant at least at the 5 percent level. With respect to decrease in sales marketing, competition and input/supplies problems while with respect to no change in sales finance and marketing are the most important business problems retarding growth. Finally, MSEs that open for more hours per annum are unlikely to experience a decrease in sales and the coefficient is statistically significant at the 1 percent level.

We turn to the results from gender-based regressions to test whether different factors affect female- and male-owned MSEs differently. Table 4 presents gender-based results on profit and employment growth performance using the ordinary least squares method. In the profit margin models factors that are statistically significant in both female-owned and male-owned MSEs are type of industry including manufacture of textiles and leather products, manufacture of wood and wood products, bars and restaurants, and services; and whether the MSEs are in the urban areas or small towns. All the industry sector dummy variables that are significant are negatively associated with profit margins while urbanisation has positive influence on profit margins. Completing junior secondary education and higher education are positively associated with profitability and only statistically significant in the female-owned MSE model. Ownership of multiple enterprises is statistically significant at the 5 percent level in the female-owned MSE model and has a negative influence on profitability. Business location factors are only statistically significant among male-owned MSEs, in which locating at a traditional market place and road side or paths tend to boost enterprise profitability. Female-owned enterprises operating in the retail of food and beverages, retail of garments and footwear, and retail of general merchandises generate more profits than the base category of retail of farm produce. Profit margins among female-owned MSEs are highest in retail of garments and footwear, 18.2 percent higher than the base category followed by retail of food and beverages (7.3 percent) while male-owned enterprises in other

manufacturing tend to generate less profit than the base category.

Table 4 Ordinary Least Squares Estimates on Determinants of Profit Margins and Employment Growth: Female- and Male-owned MSEs

Variables	Profit Margin				Employment Growth			
	Female-owned		Male-owned		Female-owned		Male-owned	
	coef.	t-stat	coef.	t-stat	coef.	t-stat	coef.	t-stat
<i>Entrepreneur Characteristics</i>								
Age in years	0.186	2.6	-0.005	-0.1	0.004	1.3	-0.002	-1.5
Married	0.488	0.3	1.073	0.7	0.038	1.1	-0.005	-0.2
Some primary education	1.924	0.9	-0.036	0.0	0.044	1.1	-0.043	-0.8
Completed primary education	3.966	1.6	-1.054	-0.3	0.037	0.9	-0.029	-0.5
Completed junior secondary education	5.298	1.8†	2.188	0.6	0.057	1.3	-0.036	-0.6
Completed senior secondary education	2.888	0.7	0.892	0.2	0.230	1.7†	-0.028	-0.5
Higher education	10.96	1.9†	6.813	1.2	0.119	1.3	-0.094	-1.5
Informal business skills training	1.952	0.7	1.557	0.7	-0.029	-0.7	0.005	0.2
Formal business skills training	0.964	0.3	2.088	1.0	-0.101	-2.2**	0.002	0.1
Business experience	-0.022	-0.1	0.051	0.2	-0.026	-3.0*	-0.008	-3.3*
Business experience squared	-0.011	-1.7†	-0.002	-0.4	0.001	2.8*	0.0002	2.8*
<i>Business Characteristics</i>								
Ownership of multiple MSEs	-3.815	-2.0**	-2.261	-0.9	0.008	0.1	0.016	0.3
Traditional market place	1.758	0.6	5.682	2.2**	-0.019	-0.4	0.006	0.2
Mobile market	-0.296	-0.1	1.418	0.5	-0.081	-2.0**	-0.077	-2.9*
Roadside/path market	1.130	0.6	6.346	3.1*	-0.001	0.0	-0.023	-1.0
Commercial/industrial	-1.106	-0.3	0.739	0.3	-0.027	-0.6	-0.015	-0.6
Consumer market	-3.979	-0.6	-0.091	0.0	0.046	0.7	-0.006	-0.2
Mfg: food processing	-0.581	-0.3	-1.962	-0.6	0.028	0.7	0.085	2.1**
Mfg: beer brewing/spirit distilling	-0.243	-0.1	-0.093	0.0	-0.005	-0.2	0.351	1.2
Mfg: textiles and leather products	-14.04	-3.4*	-23.37	-7.2*	-0.009	-0.2	0.013	0.4
Mfg: wood and pottery products	-33.51	-7.1*	-23.20	-6.5*	0.104	1.1	0.054	1.2
Mfg: other manufactures	-9.000	-1.0	-20.16	-4.4*	-0.111	-2.0**	-0.004	-0.1
Retail: fish and forest-based products	0.029	0.0	-3.437	-1.0	0.217	1.2	0.009	0.2
Retail: food, beverages and tobacco	7.275	3.4*	-0.056	0.0	0.031	0.4	0.053	1.0
Retail: garments and footwear	18.20	6.3*	1.302	0.5	0.127	0.8	0.016	0.6
Retail: general merchandise/grocery	4.733	2.0**	-3.442	-1.5	0.048	1.0	0.001	0.0
Bars, restaurants and hotels	-9.532	-1.8†	-21.80	-3.3*	0.066	0.8	0.097	1.0
Services	-21.06	-3.8*	-28.54	-8.9*	0.029	0.5	0.055	1.3
<i>Control Variables</i>								
Credit access	3.918	2.1**	-0.195	-0.1	0.163	1.7†	0.080	1.6
Business association	5.285	1.1	-1.400	-0.3	-0.037	-0.8	0.035	0.7
Urban	6.784	3.4*	11.27	4.7*	-0.002	0.0	-0.009	-0.5
Small town	4.729	2.1**	5.462	2.1**	0.018	0.3	0.036	1.1
Hours business is open	-0.004	-0.5	0.005	0.6	0.000	0.4	0.0001	1.1
Constant	49.27	6.7*	52.22	7.2*	1	-0.8	0.166	1.9†
R-squared	0.171		0.239		0.047		0.047	
F-statistic	8.98		12.85		1.53		1.92	
Prob > F	0.00		0.00		0.03		0.00	
N	1104		1460		1104		1460	

Notes: The t-statistics are based heteroskedastic-consistent standard errors.

\* Statistically significant at the 1 percent level.

\*\* Statistically significant at the 5 percent level.

† Statistically significant at the 10 percent level.

With respect to employment growth, common factors that significantly affect both female-owned and male-owned MSEs include business experience and operating a mobile MSE. The relationship between employment growth and business experience in both cases is U-shaped, with experience initially leading to slow growth rates up to some years and thereafter leading to higher growth rates. If the business location is a mobile

market, both female- and male-owned enterprises tend to have retarded growth rate in employment. Operating in other manufacturing sector is negatively associated with growth in female-owned MSEs but operating in the service sector is positively associated with growth in employment. Operating in the manufacture of food products is associated with high growth rates in employment among male-owned MSEs.

Table 5 presents gender-based results from multinomial logit models. The results generally show differential effects of factors in explaining the revealed sales growth among female-owned and male-owned MSEs. The common factors that affect the probability of decrease in sales among female- and male-owned MSEs include enterprises in retail of fish and forest products; all the business problems; and business hours. Operating an MSEs in retail of fish and forest products sector increase the probability of sales decline for female-owned enterprises but reduces the probability among male-owned enterprises. All business problems increase the probability while business hours decrease the probability of a revealed decrease in sales among both female- and male-owned MSEs. In terms of no change in sales, the only common determinant of performance is finance as a business problem, although its marginal effect is higher among female-owned enterprises.

There are several factors with differential effects. The age of entrepreneur, marital status of entrepreneur and business skills training increase the probability of sales decrease only among male-owned MSEs. On the other hand, all the levels of education reduce the probability of sales decrease only among female-owned MSEs, while education is not statistically significant among male-owned MSEs. Business experience has a U-shaped relationship with the probability of a sales decrease only among female-owned enterprises. We also find that ownership of multiple enterprises and operating a mobile MSEs reduces the probability of a sales decrease only among female-owned MSEs. Many differentials also exist on factors that affect the probability of no change in sales growth among female-owned and male-owned MSEs. Notably, education reduces the probability of no change in sales among female-owned MSEs and has no effect among male-owned MSEs. Locating a business in a commercial market, operating in the textile and leather products manufacturing sector and service sector also reduces the probability of no change in sales among female owned MSEs only.

Table 5 Multinomial Logit Estimates of Factors Retarding Sales Growth: Female- and Male-owned MSEs

Variables	Female-owned MSEs		Male-owned MSEs	
	Decrease in	No Change in	Decrease in	No Change in

	Sales		Sales		Sales		Sales	
	coef.	t-stat	coef.	t-stat	coef.	t-stat	coef.	t-stat
<i>Entrepreneur Characteristics</i>								
Age in years	0.007	0.8	0.005	0.6	0.017	2.2**	-0.0002	-0.03
Married	-0.124	-0.7	-0.274	-1.7†	0.439	2.3**	0.220	1.3
Some primary education	-0.730	-3.0*	-0.572	-2.4**	0.468	1.5	-0.121	-0.4
Completed primary education	-1.095	-3.8*	-0.751	-2.7*	0.432	1.3	0.042	0.1
Completed junior secondary	-1.128	-3.2*	-1.074	-3.1*	0.452	1.2	0.063	0.2
education	-0.863	-1.9†	-0.671	-1.6†	0.412	1.0	-0.362	-0.9
Completed senior secondary	-1.662	-2.3**	-1.228	-2.1**	0.116	0.2	-0.631	-1.0
education	-0.026	-0.1	0.382	1.2	0.378	1.8†	0.021	0.1
Higher education	-0.017	-0.1	0.259	0.9	0.580	2.7*	0.341	1.5
Informal business skills training	0.058	1.7†	-0.052	-1.7†	0.004	0.2	-0.009	-0.4
Formal business skills training	-0.002	-1.9†	0.001	1.5	0.001	0.8	0.0003	0.5
Business experience								
Business experience squared	-0.501	-2.1**	-0.354	-1.7†	-0.259	-1.0	-0.246	-1.0
<i>Business Characteristics</i>	-0.050	-0.2	-0.371	-1.1	0.226	0.9	0.283	1.1
Ownership of multiple MSEs	-1.084	-2.3**	0.136	0.4	0.002	0.0	0.181	0.7
Traditional market place	-0.004	0.0	-0.244	-1.2	0.145	0.7	0.357	1.8†
Mobile market	-0.139	-0.4	-1.226	-2.8*	-0.198	-0.8	0.172	0.7
Roadside/path market	-1.010	-1.1	0.183	0.2	0.597	1.1	0.134	0.3
Commercial/industrial	0.276	1.0	-0.203	-0.8	0.013	0.0	0.043	0.1
Consumer market	0.002	0.0	-0.373	-1.2	0.893	0.7	0.897	0.8
Mfg: food processing	0.255	0.6	-0.779	-1.7†	0.149	0.4	0.197	0.6
Mfg: beer brewing/spirit distilling	-0.040	-0.1	-0.137	-0.3	-0.260	-0.7	0.431	1.2
Mfg: textiles and leather products	-0.034	0.0	0.627	0.8	0.050	0.1	0.232	0.5
Mfg: wood and pottery products	0.799	2.3**	-0.114	-0.3	-0.750	-1.8†	-0.229	-0.7
Mfg: other manufactures	-0.122	-0.4	-0.422	-1.6	-0.397	-1.0	-0.209	-0.6
Retail: fish and forest-based products	0.687	1.4	-0.637	-1.0	0.404	1.3	-0.139	-0.4
Retail: food, beverages and tobacco	0.341	1.2	0.069	0.3	0.010	0.0	-0.278	-1.0
Retail: garments and footwear	-0.136	-0.2	-0.410	-0.9	0.291	0.5	0.166	0.3
Retail: general merchandise/grocery	-0.284	-0.5	-0.984	-1.8†	0.033	0.1	-0.042	-0.1
Bars, restaurants and hotels								
Services	1.409	2.6*	1.276	3.6*	1.998	2.6*	0.839	2.1**
<i>Business Problems</i>	1.817	3.2*	1.012	2.5**	1.748	2.2**	0.250	0.5
Finance	1.985	3.6*	1.086	2.8*	2.136	2.8*	0.649	1.6
Competition	1.541	2.9*	0.942	2.6*	1.989	2.6*	0.242	0.6
Marketing	1.271	2.2**	1.033	2.6*	1.532	2.0**	0.471	1.2
Inputs/supplies								
Other problems	0.248	1.1	-0.048	-0.2	0.074	0.3	0.281	1.2
<i>Control Variables</i>	0.029	0.1	0.296	0.6	-0.136	-0.3	0.008	0.0
Credit access	0.091	0.4	0.144	0.7	0.029	0.1	0.148	0.7
Business association	0.036	0.1	0.048	0.2	-0.297	-1.2	-0.171	-0.7
Urban	-0.003	-3.2*	0.000	0.3	-0.002	-1.9†	0.000	0.2
Small town	-0.344	-0.4	-0.920	-0.7	-4.481	-4.3	-1.871	-2.3**
Hours business is open								
Constant								
Wald Chi-squared	147.8				143.4			
Prob > Chi-squared	0.00				0.00			
Log Likelihood	-1061				-1404			
N	1104				1460			

Notes: The t-statistics are based heteroskedastic-consistent standard errors.

\* Statistically significant at the 1 percent level.

\*\* Statistically significant at the 5 percent level.

† Statistically significant at the 10 percent level.

## 5. Conclusions

The development of micro and small enterprises is seen as one instrument in addressing poverty problems in developing countries, and women are increasingly participating in



the ownership of MSEs in developing countries. In Malawi, 34 percent of MSEs are owned by women compared to 35 percent owned by men and 31 percent owned by mixed gender, implying that women are involved 65 percent of micro and small enterprises. This study has analysed the differential performance of MSEs in terms of profitability, employment growth and revealed qualitative growth in sales by gender of entrepreneurs using data from a national survey. Using data for non-farm micro and small enterprises several econometric models have been estimated; and to investigate the differential effects of factors affecting business performance by gender the sample was split into three gender categories: female-owned, male-owned and mixed gender owned.

There is some evidence that the gender of the entrepreneur plays an important role in the performance of micro and small enterprises in Malawi. Gender is important in two of the three measure of performance used in this study. In terms of profitability performance, we find no evidence of significant differences in the performance of female-owned and male-owned MSEs. Statistically significant gender-based differences in performance are evident in employment growth and revealed qualitative growth in sales. In terms of employment growth, female-owned enterprises grow at a faster rate than male-owned enterprises. This is partly due to the relative access to credit facilities from microfinance institutions that mostly target women entrepreneurs and partly due to the high marginal impact of education. In terms of revealed sales growth, the evidence suggests that women entrepreneurs are likely to experience decrease or no change in sales than male entrepreneurs partly due to differential impact of business problems.

In terms of gender-based differences in factors influencing performance, one interesting result is that the impact of education on performance is more pronounced in female-owned businesses than in male-owned businesses, although male entrepreneurs are slightly better endowed in human capital than female entrepreneurs. Completion of junior secondary education and higher education are positively related to profitability among female-owned enterprises while none of the education variable is statistically significant. Similarly, at least one education category (completion of senior secondary education) is statistically significant among female entrepreneurs in employment growth compared to none among male entrepreneurs. Education is also associated with reduction in the probability of experiencing a decline in sales or no change in sales among female entrepreneurs than among male entrepreneurs. We also find that access to credit is more productive in female-owned enterprises. Female-owned enterprises that

have access to credit tend to perform better in terms of profitability and employment growth than male-owned enterprises. This suggests that gender biases against women's access to capital and finance may impede the growth of MSEs, supporting the proposition of the gender and development theorists. Credit in male-owned enterprises is not used productively, and though not statistically significant reduces the profitability of male-owned MSEs.

The other factors that lead to differential performance of female-owned and male-owned MSEs are economic sectors within which the enterprises operate. Sectors that are gender neutral and in which profit margins are lower include textile and leather manufacturing; wood and pottery products manufacturing; bars, restaurants and hotels; and services. However, female-owned enterprises achieve higher rates of profits than male-owned enterprises in sectors such as retailing of food, beverages and tobacco; retailing of garments and footwear and retailing of general merchandise. We also find no significant differences in the extent to which business problems affect the gender-based performance of MSEs. All the business problems retard the revealed growth in sales, although these problems are more pronounced in the case of female-owned enterprises. The most important problem that affects the probability of revealed decrease in sales for both female-owned and male-owned enterprises relate to marketing, followed by competition in female-owned enterprises and finance in male-owned enterprises. All the five business problems increase the probability of no change in revealed growth in sales for female-owned enterprises while only finance problems increase the probability of no change in revealed sales growth in male-owned MSEs.

The results in this study point to several policy issues. First, interventions in the MSEs sector may require gender specific interventions as different factors affect the performance of female-owned and male-owned enterprises in different degrees. Secondly, the relative importance of education in female-owned enterprises suggests the need to increase human capital investments in women. Thirdly, increasing access to credit facilities to female entrepreneurs is more productive than increasing access to credit to male entrepreneurs. There is need therefore to promote microfinance institutions that target financing of non-farm economic activities, with a deliberate bias towards providing credit to women entrepreneurs.

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