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DETERMINANTS OF SELF-EMPLOYMENT IN BOTSWANA

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BOTSWANA INSTITUTE FOR DEVELOPMENT POLICY ANALYSIS



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BIDPA

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ABSTRACT

The global market is rapidly recognizing the importance of entrepreneurship and self-employment, especially in growing the economy, creating jobs and reducing poverty. This paper employs the logit regression model to investigate the determinants of self-employment in Botswana, using the 2009/2010 Botswana Core Welfare Indicator Survey (BCWIS) data. The results reveal that individuals who are male, citizens, educated and living in cities are less likely to be self-employed than their counterparts. On the other hand, the age of the entrepreneur positively influences the likelihood of self-employment, as well as being a widow. Public policy needs to empower females and rural dwellers in terms of skills and entrepreneurship training in order to enhance their success in their self-employment activities. In addition, government should continue with its efforts of providing assistance to the youth for entrepreneurial development in order to reduce unemployment.

Keywords: Botswana, Entrepreneurship, Self-employment

1. INTRODUCTION

Entrepreneurship and self-employment are important drivers of economic growth, employment creation and poverty reduction. Governments and policymakers worldwide have encouraged graduates and non-graduates not to depend on paid employment, but to consider starting their own businesses as a pathway to poverty reduction and job creation. The growing interest in entrepreneurship is mostly stimulated by the fact that developing countries face challenges of competitiveness, unstable economic growth, globalization, and increasing poverty and unemployment (Makgosa and Ongori, 2012). The International Labor Organization (ILO/SMAT, 2000) defines a self-employed person as an independent worker who owns an enterprise or exercises a profession individually. Similarly, Macieira (2009) defines a self-employed person as one who performs an activity, independently or with partners, and earns an income from the production of goods and services related to such an activity. A self-employed individual may choose to have employees or to work in isolation.

According to (Evans and Leighton, 1989), self-employment and entrepreneurship are related and often cannot be differentiated. Anu (2007) defines entrepreneurs as self-employed individuals operating their own businesses, and argues that entrepreneurship and self-employment are essential components of economic development. Global Entrepreneurship Monitor (GEM) defines entrepreneurship as any attempt at new business or venture creation, such as self-employment. It may involve the establishment of a new business or expansion of an already existing business owned by one individual, a group of people or a reputable business (GEM, 2012).

Unemployment and poverty rates in Botswana are high, estimated at 17.6% in 2016 and 19.3% in 2009, respectively (Statistics Botswana, 2016a and 2016b). According to the \$1 a day poverty line and the human poverty index, poverty in Botswana is also high as compared to other upper middle income countries such as Brazil, Costa Rica, Malaysia, Turkey and Uruguay (Ulriksen, 2012). As a means for reducing the high unemployment rate in the country, the Botswana Government has turned to the promotion of entrepreneurship and self-employment. Even though there has recently been a slight decrease in the unemployment rate (from 20% in 2013 to 17.6 in 2016), most of the jobs created are in small-scale activities and are subsidized by government in the agricultural sector. Apart from the jobs created in the agricultural sector, many new jobs have come from the public sector, although these have also declined since the imposition of a hiring freeze in the public sector in 2010 (World Bank, 2015). According to the World Bank (2015) the high unemployment rate is also exacerbated by the low capacity of the private sector to create jobs.

The Government of Botswana has realized the importance of entrepreneurship as an economic diversification strategy. As a result, the Government has put various initiatives in place to promote entrepreneurial development. Such programmes or

initiatives include the Local Enterprise Authority (LEA), Citizen Entrepreneurial Development Agency (CEDA), and Youth Development Fund (YDF). Some of these initiatives have been geared at promoting SMMEs development. LEA promotes entrepreneurship development through training on business skills, while CEDA and YDF provide finance to citizens and youth respectively at subsidized interest rates. Despite these initiatives, self-employment has grown at a slow rate and accounts for only 23% of private sector employment (World Bank, 2015). According to GEM (2012), entrepreneurial development (and entrepreneurship) has not yet reached a desired level despite government's efforts to promote self-employment.

Entrepreneurial development is faced with a number of challenges which limit its ability to reduce poverty and create jobs. In Botswana, these include lack of access to markets, poor work ethics, lack of funding and lack of management skills and training (Mutoko, 2014). According to Mannathoko (2011), many small businesses in Botswana do not survive for more than 3 years. In fact, 80% of the businesses fail within the first 3 years of operation. This is a great concern considering the efforts and resources the Botswana Government has invested in entrepreneurship development.

According to Gindling and Newhouse (2013) it is important to have a broader knowledge about characteristics and the potential of the self-employed. This will assist policy makers to come up with interventions that are likely to enhance self-employment, hence job creation and poverty reduction. To our knowledge, there has never been a study undertaken to identify the determinants of self-employment in Botswana. Therefore, this study aims to fill the existing knowledge gap on this subject by identifying the factors that influence individuals to go into self-employment. Understanding such factors would provide information for devising strategies for promoting self-employment and entrepreneurship, which will lead to economic growth, diversification, employment creation and poverty reduction.

The rest of the paper is organized as follows. Section 2 provides a review of literature. In section 3 the methodology, data sources and descriptive statistics are discussed. Section 4 discusses the empirical results, and section 5 provides conclusions and policy implications.

2. LITERATURE REVIEW

Self-employment has mainly been studied at both macroeconomic and microeconomic levels. The microeconomic perspective investigates household level issues and data, where analysis is done on why an individual would switch from paid employment to self-employment, or the earnings are compared for individuals that transition from paid employment to self-employment (Nikolovo and Bargar, 2010; Dawson et al., 2009; Taylor, 2001; Rees and Shah, 1986). The macroeconomic approach considers self-employment from a national perspective. It investigates the association between unemployment and economic development (Macieira, 2009 and Pietrobelli et al., 2004;). The literature reviewed for this study will be from microeconomic studies as the study follows a microeconomic perspective.

2.1 GENDER

Gender has been considered as an important factor when looking at why an individual would enter self-employment. Gender has been found to influence self-employment in Greece (Vlachos, 2016), Botswana (Almqvist and Bjornberg, 2010), OECD countries (Millan et al., 2010), United Kingdom (Dawson et al., 2009), Portugal (Macieira, 2009), various developing countries (Pietrobelli et al., 2004), and Israel (Shavit and Yuchtman-Yaar, 2001). Entrepreneurship is traditionally viewed as a male dominated sector and therefore majority of entrepreneurs are male (Almqvist and Bjornberg, 2010). Studies undertaken in Greece (Vlachos, 2016), the United States (Nikolova and Bargar, 2010), and Portugal (Macieira, 2009) have found that males are more likely to enter into self-employment as opposed to their female counterparts. Dawson et al. (2009), argue that men enter self-employment for financial gains while women's entry into self-employment is motivated by lifestyle factors.

A study done in Botswana has found that prejudices of women not being serious business partners and time spent on managing family affairs has impeded entry of women into self-employment (Almqvist and Bjornberg, 2010). Millan et al. (2010) however, found that female participation in self-employment may be underestimated because women are usually classified as unpaid family workers in national statistics, even where they are equal partners in the running of the business. This therefore, may not give a true reflection of the extent of women entrepreneurship.

2.2 AGE

Studies undertaken in Greece (Vlachos, 2016), OECD countries (Millan et al., 2010), and the USA (Evans and Leighton, 1989) produced mixed results on whether older or younger entrepreneurs are more likely to enter into self-employment. Some have found that younger individuals are more likely to enter into self-employment than older individuals (Evans and Leighton, 1989 and Taylor, 2001). This is because older people

are more risk averse compared to the youth who also still have the energy to meet the work demands of a business (Macieira, 2009).

However, other studies have found that older individuals are more likely to enter into self-employment than younger individuals (Gindling and Newhouse, 2013 and Shavit and Yuchtman-Yaar, 2001;). This is because older individuals may have acquired more human and physical capital than the youth, and they may have established better networks.

2.3 MARITAL STATUS

According to Rees and Shah (1986), an individual that is married is more likely to take the risk of entering into self-employment than an unmarried individual, an unmarried individual is more risk averse than a married one. This is also because marriage constitutes social capital and being married increases the probability of success and survival of a firm (Tokila, 2009).

Dawson et al. (2009) found that married people were motivated by money to enter into self-employment than unmarried individuals. Since married individuals normally have homes and families to take care of, they are more likely to want to increase their income through self-employment. Marriage is also associated with stability, and therefore reduces the risk of failure (Macieira, 2009). This may be because if the business is not successful a married individual may have the spouse's income to fall back on.

2.4 CITIZEN

Immigrants enter into entrepreneurship as a way to accumulate wealth. It is also believed that immigrants are less likely to find paid employment as compared to citizens, and therefore end up entering into self-employment in order to generate income and survive (Sanders and Nee, 1996). Millan et al. (2010) discovered that immigrants are self-selected risk takers as they are willing to leave their home countries and move to a foreign country. Due to such risk taking behavior, non-citizens are more likely to be self-employed than citizens.

2.5 EDUCATION

There are mixed results when it comes to the relationship between education and self-employment. Millan et al. (2010) found that in the OECD countries, those that are educated tend to be better informed and to have the know-how to seek self-employment opportunities. The study also found that skills are what is important in making a good entrepreneur and these skills are not necessarily acquired through formal education, implying that experience may be more important than education when it comes to entering self-employment.

Vlachos (2016) found that in Greece, the probability of starting a new business increased with education; however, this was only for post-secondary education but not university. Rees and Shah (2016) found that in the UK, those that are more educated are more likely to enter into self-employment and this may be because self-employment opportunities available were for self-regulating professionals and specialists.

However, Macieira (2009) found that in Portugal, those with lower levels of education or no education were more likely to enter self-employment. Those individuals with high education tended to believe that they would make more money through paid employment, as compared to those with low or no education who were forced into self-employment, out of necessity rather than opportunity.

2.6 HEALTH

Health affects the work characteristics of an individual. According to Rietveld et al. (2014), the type of occupation one engages in depends on his/her health status. Self-employment can attract people with different health profiles than paid employment workers. Self-employment is known to be very demanding in terms of the responsibility and long strenuous hours. We would therefore expect that if a person has health problems or is considered less healthy then he/she would be less likely to engage in self-employment (Rees and Shah, 1986).

A person who is less healthy is not able to focus on business opportunities for many reasons, and may not secure start up financing because investors may be skeptical to borrow someone who is not healthy (Rietveld et al., 2014). Since income in self-employment is dependent on the ability of the individual to work, a healthy person may view paid employment as more enticing than self-employment. Moreover, since insurance or medical aid could be expensive for someone who is not on paid employment, individuals with ill-health would opt for wage work to access good healthcare. On the contrary however, it is very difficult for a person that has ill health to actually find paid employment and therefore some may engage in self-employment out of necessity.

2.7 REGION

The dynamics of self-employment may differ spatially (across regions) due to structural factors, differences in labor markets and entrepreneurial cultures. Employment opportunities in rural areas are not as many as in urban areas. Survival of an entrepreneur in rural areas is subject to the pull and push effect from the market, and rural areas generally develop an entrepreneurship culture. The unemployment situation also has an impact. If unemployment is high in a region, then we would expect that more people would enter self-employment out of necessity, rather than as an opportunity.

Haapanen and Tervo (2009) found that in Finland, exit and entry rates from self-employment and the length of entrepreneur survival were dependent upon locational and cyclical trends in the economy. The study discovered that, as rural areas have less paid employment opportunities, rural dwellers were forced to go into self-employment for survival.

3. METHODOLOGY

3.1. MODEL SPECIFICATION

In line with the empirical literature (Vlachos, 2016; Macieira, 2009; Shavit and Yutchman, 2001 and Sanders and Nee, 1996) this study adopts the logit regression model to investigate the determinants of self-employment in Botswana. The model is specified as:

$$\ln \left[\frac{P_i}{1-P_i} \right] = \beta_0 + \sum_{j=1}^n \beta_j X_{ij} + \varepsilon_i \quad \varepsilon_i \sim \left(0, \pi^{\frac{2}{3}} \right)$$

where P_i is the probability that the household head (HH) is self-employed, β_0 and β_j are parameters to be estimated, X_{ij} s represents explanatory variables j for household i , \ln is the natural logarithm and ε_i is the error term.

The dependent variable, employment status is defined as a dummy variable, taking a value of 1 if the household head is self-employed and a value of 0 if the household head is engaged in paid employment. Following (Vlachos, 2016; Nikolova and Bargar, 2010; Dawson et al., 2009; Shavit and Yutchman, 2001; Taylor, 2001; Fairlie, 1999; Sanders and Nee, 1996 and Rees and Shah, 1986), seven independent variables were considered in this study and they include; age of HH, gender of HH, education level of HH, citizenship of HH, marital status of HH, health of HH and region of business.

The choice of independent variables was mostly guided by the empirical literature on the determinants of self-employment and data availability. Table 1 describes the variables used in the model.

Table 1: Description of Variables Used in the Model

Variable	Variable Definition
Dependent Variable	
Employment Status	Employment Status; 1= Self-employed, 0= Paid employed
Independent Variable	
Age of HH	Age of HH in years
Gender of HH	1=male, 0=female
Citizenship of HH	1=citizen, 0=non-citizen
Health of HH	1=HH has a chronic disease, 0=HH has no chronic disease
Education level of HH	Years of schooling of HH
Marital Status of HH	
Never Married	1= HH is never married 0=otherwise
Married	1=HH is married, 0=otherwise
Cohabiting	1=HH is cohabiting, 0=otherwise
Separated	1=HH is separated, 0=otherwise
Divorced	1=HH is divorced, 0=otherwise
Widowed	1=HH is widowed, 0=otherwise
Region	
Cities/towns	1= cities/towns, 0= otherwise
Urban villages	1= urban village, 0= otherwise
Rural villages	1= rural village, 0= otherwise

3.2. DATA AND DESCRIPTIVE STATISTICS

This study uses data from the 2009/10 Botswana Core Welfare Indicators Survey (BCWIS), a household level nationwide survey that was conducted during the period April 2009 to March 2010. The main objective of the BCWIS was to provide a complete and thorough data set for providing a basis for establishing poverty profiles for Botswana. The survey had modules on household consumption and expenditure, education, employment, access to health amenities, community activities and other information on school and health facilities, as well as household characteristics. BCWIS survey gathered information from 7,732 households from cities/towns, urban villages and rural villages. This study is based on information for household heads who were engaged in paid employment and self-employment (both formal and informal), which reduced the sample to 5,199 households.

Table 2: Descriptive Statistics Results

Variable	Mean	Minimum	Maximum
Dependent Variable			
Employment Status	0.250	0	1
Independent Variable			
Gender of HH	0.625	0	1
Citizenship of HH	0.922	0	1
Health status of HH	0.235	0	1
Age of HH	42	13	98
Education level of HH	8.1	0	17
Marital Status of HH			
Married	0.298	0	1
Cohabiting	0.231	0	1
Separated	0.012	0	1
Divorced	0.022	0	1
Never Married	0.370	0	1
Widowed	0.067	0	1
Region			
Cities/towns	0.334	0	1
Urban village	0.292	0	1
Rural village	0.374	0	1

Source: Author computed from 2009/10 BCWIS.

Descriptive statistics are presented in **Table 2**. Most of the variables used in the model are dummy variables, except for age and years of schooling which are continuous variables. As indicated in Table 2, 25% of the household heads were self-employed, implying that the remaining 75% were engaged in paid employment. Males account for 63% of the household heads and females account for the remaining 37%. Citizens account for 92% of the household heads, while non-citizens account for only 8%. Further, 24% of the household heads had a chronic disease, while the remaining 76% had no chronic disease. The mean age of the business owner stood at 42 years and the mean years of schooling were recorded at 8.1 years.

The majority of the household heads were never married (37%), 30% were married, 23% were cohabiting, 2% were divorced, 7% were widowed, and only 1% had been separated. Majority of the businesses were situated in the rural villages (37%), followed by cities/towns making (34%) and urban villages (29%).

4. EMPIRICAL RESULTS

The results for the estimated logit model are presented in **Table 3**, which shows the coefficients, the corresponding p-values and marginal effects. The Log Likelihood Ratio test shows that the model is a good fit for the data ($p < 0.001$). The Pseudo- R^2 (0.1971) is low which is common for cross-sectional data. A Variance Inflation Factor (VIF) was computed in order to detect multicollinearity. The test produced low VIFs. The highest VIF was recorded at 1.90, the lowest at 1.03, and the mean VIF at 1.36. Since the VIFs are less than 10 we can conclude that multicollinearity is not a serious problem (Stock and Watson, 2003).

The results show that six out of seven variables are statistically significant. The gender coefficient is statistically significant and negative. The estimated coefficient implies that males are 7 percentage points less likely to enter into self-employment than females. This appears to be inconsistent with some findings in the literature which indicate that males were more likely to enter into self-employment than females in Greece (Vlachos, 2016), OECD countries (Millan et al., 2010), the USA (Nikolova and Bargar, 2010) and Portugal (Macieira, 2009). However, the results are consistent with a study by AfDB (2011), which found that men in Botswana were 40% more likely to engage in paid employment than women, which suggests that they are less likely to enter self-employment. The results may imply that women are forced into self-employment because of limited opportunities for paid employment. Moreover, women in Botswana normally take responsibility for the care of families and have to fend for themselves in order to make ends meet, implying that they would be more likely to engage in self-employment than men (Almqvist and Bjornberg, 2010).

Citizenship is found to influence self-employment negatively. As indicated, citizens are 13.3 percentage points less likely to enter into self-employment than non-citizens. This captures the fact that employment opportunities in the country are usually given to citizens, while non-citizens usually enter the country to engage in self-employment. The results further reveal that health status of the household head has had no influence on self-employment.

Age of the head of household is found to be significant and has a positive impact on self-employment. The estimated marginal effect suggests that a one-year increase in age of the household head would increase the likelihood of being self-employed by 0.81 percentage points. Therefore, older individuals are more likely to be self-employed than the youth. These results correspond with those of Zissimopoulous and Karoly (2007) and Blanchflower (2000), who found that in Europe and OECD countries, self-employment was low among the youth and that it rose with age. Zissimopoulous and Karoly (2007) made a very interesting discovery that those who are in the age of 70 and above had the highest percentage of engaging in self-employment, since

the elderly tend to be less risk averse than the younger generation. However, this could also be because the elderly have retired from paid employment, making self-employment the only option available to them.

It is expected that those with higher education level would rather enter into paid employment as compared to self-employment. Consistent with this hypothesis, the education variable was found to be significant and negative. The marginal effect reveals that a one-year increase in years of schooling of the household head would decrease the likelihood of being self-employed by 0.79 percentage points. These results correspond with those in Portugal (Macieira, 2009), where it was found that the higher the education level the less an individual is likely to engage in self-employment. This implies that education opens up opportunities for paid employment and that those individuals who have low educational attainments may be forced into self-employment due to limited job opportunities.

According to the literature (Dawson, 2009; Macieira, 2009; Rees and Shah, 1986) married individuals are said to be more stable and less risk averse and therefore are more likely to enter into self-employment. Our results indicate that a household head who is widowed is 5.2 percentage points more likely to be self-employed than a person who has never been married. This may be because widowed individuals are forced into self-employment as a means of survival, to compensate for the decrease in the overall household income due to the loss of a spouse. The results further reveal that married, separated or divorced household heads are not different from being never married when it comes to making self-employment decisions. Similarly, cohabiting household heads are not different from those that were never married when it comes to making self-employment decisions.

Location of the enterprise is also important determinant of self-employment. The results indicate that residing in cities/towns and urban areas than in rural areas reduces the probability of self-employment. Individuals residing in cities/towns and urban villages are respectively 18.4 and 9.5 percentage points less likely to engage in self-employment than those residing in rural areas. This is consistent with expectation because paid employment opportunities are limited in rural areas. The results are consistent with those for Haapanen and Tervo (2009), who found that self-employment rates were higher for rural areas in Finland because of weaker employment conditions which force rural dwellers to enter into self-employment for survival.

Table 3: Logit Estimates of the Determinants of Self-Employment

Variable	Coefficients	P-value	Marginal Effects
Gender of HH	-0.4249	0.000***	-0.0699
Citizenship of HH	-0.7075	0.000 ***	-0.1327
Health Status of HH	0.0454	0.590	0.0073
Age of HH	0.0507	0.000***	0.0081
Education level of HH	-0.0496	0.000***	-0.0079
<i>Marital Status of HH (Never Married omitted)</i>			
Married	0.1543	0.138	0.0251
Cohabiting	-0.0472	0.659	-0.0075
Separated	-0.3961	0.222	-0.0559
Divorced	0.0332	0.885	0.0054
Widowed	0.3039	0.040**	0.0523
<i>Region (Rural area omitted)</i>			
Cities/towns	-1.3114	0.000***	-0.1842
Urban	-0.6473	0.000***	-0.0951
Constant	-1.6093	0.000***	
Pseudo R-Square	0.1971		
Log Likelihood	-2347.4424		
LR Chi-Square	1152.83	0.000***	
No. of Observations	5199		

***, ** and * statistically significant at 1%, 5% and 10%, respectively.

5. CONCLUSIONS AND POLICY RECOMMENDATIONS

Self-employment is attracting a lot of interest globally as it is seen as a key driver for economic development for both developed and developing countries. The main objective of this study was to examine factors that influence the decisions of individuals to engage in self-employment, rather than paid employment.

Results reveal that males are less likely to enter into self-employment than females. This may mean that women enter into self-employment for survival, as they face limited paid employment opportunities. Therefore, targeted entrepreneurial skills development programs need to be launched to assist women to improve the performance of their businesses.

Citizenship also has an effect on self-employment decisions. Non-citizens are more likely to enter into self-employment than citizens. A plausible explanation for this might be that paid employment opportunities are less available to non-citizens than citizens, compelling non-citizens to enter self-employment for survival. Moreover, non-citizens may enter the country to start businesses which would increase the likelihood of self-employment. Government needs to continue to encourage citizens to engage in self-employment to address the high unemployment in the country. More effort needs to be put on skills development, particularly through on-the-job training to impart practical business skills.

The results further reveal that the older an individual becomes, the more likely he/she enters into self-employment. This may be motivated by accumulated human, physical and financial capital over time, which facilitates entry into business. This is despite the fact that grants, training and other benefits are mainly targeted at the youth in Botswana. Government should also target older potential entrepreneurs with accumulated experience to encourage them to go into self-employment, and to further promote employment creation, economic diversification and poverty reduction.

Results also show that the higher the education level the less likely a person is to enter into self-employment. This suggests that education enhances entry into paid employment, which is generally preferred to self-employment, and that individuals with less education enter into self-employment out of necessity. Government needs to devote more resources on those individuals with lower educational attainment so as to enhance their entrepreneurial skills to further increase their success in businesses.

Widowed individuals have a higher chance of entering into self-employment as compared to someone that has never been married. This may be because widows are forced into self-employment as a means of survival. Therefore, entrepreneurship programs should place emphasis on upliftment of widows, to ensure they are not excluded.

Firm location is also important in making self-employment decisions. Results show that individuals residing in rural areas are more likely to enter into self-employment than those in cities/towns or urban villages. This is because of limited paid employment opportunities in rural areas than in urban areas and cities. Therefore, rural dwellers tend to enter self-employment out of necessity (survival), rather than to exploit opportunities. Therefore, government has to target rural dwellers to enhance their business skills and should provide the necessary facilities and infrastructure in rural areas, to further promote self-employment, job creation, poverty reduction, and economic growth.

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