Innovations

Determinants of self employment in Gondar city, Amhara regional state

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Abstract
During the last three decades,researchers, scholars, and policy makers have given priority attention to Self-employment. The most reason for this concern was the growing intention for entrepreneurs who accelerate economic development through raising new ideas and converting them into profitable ventures. However, there is no that much well-known understanding about what factors affect self-employment of individuals,especially in urban Ethiopia. So, detailed understanding regarding the factors which determine self-employmentis one essential research area. Therefore, this study aims to examine the demographic, back ground, personality, and economic factors which determine self-employment in urban Ethiopia in the case of Gondar city. The researcher usedstructured Questionnaire to collect data from a total of 398 randomly selected respondents(148self-employed and 250wage/salary employees) within the study area.In assessing the determinants of self-employment,a logistic regressionmodel which has a binary outcome was applicable.To come up with the results,the study found that 80.15% of the respondents have a good attitude toward self-employment while 19.85% of them are not well-intentioned. In the case of econometrics analysis, marital status, family business background, inheritance, hardworking and stress tolerance, and credit access are identified as positive and significant determinants of self-employment in the study area. Whereas sex, education level, and religion of the respondents affected self-employment negatively and significantly. Therefore, the researcher recommended that Government and government bodies should be placed effective governance mechanisms for self-employed, in particular training that addresses specific skills shortages as well as the expansion of opportunities like credit access, working place and marketing assistance and should launch sufficient numbers of micro finance institutions which can avail financial resources and improved loan advancing services for individuals who attempt to establish their own business and improving the conservative lending practice of the banks would be essential to improve the credit access of individuals.

***Key words**: self-employment, entrepreneurship, logit model*

Introduction

1.1. Background of the Study

Nowadays, urbanization creates both opportunities and challenges for urban residents. Among those urban bound problems, unemployment is critical in challenging both developed and developing countries(Duguma and Tolcha, 2019; Debele, 2020).Even though unemployment becomes a serious

problem, individual do not give hand easily rather they engage in different productive activities by themselves to overcome the problem. Recent large-scale household data show an increase in self-employment,especially in urban contexts (Falco and Haywood, 2016).

Academic researchers, policy literature, and medias used self-employment and entrepreneurship interchangeably and defined it as "someone who working on their own selves or with one or a few other partners or cooperative"(Burchell et al., 2015).

According toBorooah and Hart(1999), as cited by Comola(2011),an individual may sustain his/her life through being in one of three possible labour markets, namely unemployment, wage employment, or self-employment. Therefore, a business-oriented person can choose one of the career alternatives from these labour market possibilities by considering advantageous opportunities attached to each alternative.Particularly, asKolvereid, (2011) states the intention to become self-employed can be broken down into: (1) a choice intention, i.e. a preference for self-employment over organizational employment, and (2) a behavioral intention; reflecting individuals' intentions after become self-employed or employed in an organization. Conceptually, choice intention comes first and followed by behavioralintentions.Therefore, this study focused on the behavioral intention of self-employed individuals.

During the last three decades, researchers, scholars, and policymakers have given priority attention to Self-employment. The most reason for this concern was that the growing intention for entrepreneurs who accelerate economic development through raising new ideas and converting them into profitable ventures (Pittz, 2014).Self-employment plays an important role in reducing poverty, fostering innovation, developing an entrepreneurial economy, promoting economic growth, increasing the levels of employment especially for those countries that have previously suffered from high unemployment, cultural exchange, taxation, and self-efficacy(Jones et al2011; Wan2017).Moreover,according to Luke (2016) andNanda and Sørensen (2010),self-employed workers with increased wealth and better-functioning credit marketscreate investment opportunities and provide opportunities to observe and learn about entrepreneurial tasks respectively. Since supporting self-employment is essential to achievedevelopment in a growth centered world.

These key and powerful role of self-employment for economic development and job creation has persuaded policy makers to explore ways to advance the entrepreneurial climate and increase their knowing interest aboutwhat factors affectsself-employment. This can be accomplished by enabling new groups of people to have anopportunity to start a firm(Cooney, 2013). Therefore, promoting self-employment as a key livelihood option and designing appropriate policies that would promote self-employment plays an important role in this era.

According to Central Statistics Office(2011), there were 2.67 million youth self-employed in the European union (EU). This counts 6.5 per cent of the total European youth population. Moreover, self-employment is adopted among young people in Greece and Italy (16 and 15.3 per cent respectively) followed by the Czech Republic, Poland, Romanian and Slovakia (between 8.7 and 11 per cent).At the same manner in the United States and Korea rates of self-employment are high. In contrast, in European member states such as Austria, Denmark, Germany and Luxembourg, young self-employed people cover less than 3.5 per cent of all working young people. The available data shows that the older and men are more likely to be self-employed than younger individuals and women.

Ethiopia is one of the least developed countries in the world with a relatively fast-growing population country in SSA(World Bank, 2018). Despite the progressive economic growth and abundant resources in Ethiopia, unemployment isstill high and rising (Martha, 2012). The problem is more strict in urban

compared with rural area, and females share large number of being unemployed compared to males(Kemal, 2020).

According to CSA (2020)urban employment-unemployment survey report, the total urban populations of the countrywere 23,081,127.Also, asCSA(2020)definedeconomically active population,arepopulations in the labour forceof age fifteen years and abovewho engaged in a productive activity or work at least for one hour during the seven days of the week and consist of 10,780,552 (61.1%) urbanresidentsfrom the above total urban dwellers. Additionally, from those total economically active populations2,018,190 and 8,762,362 (81.3%) are unemployed and employed respectively. This means about 81 percent of the total urban population of the country aged fifteen years and above are employed. Moreover, the total unemployment rate declining from 17.5 % in 2012 to 16.8 % in 2015 and then after increases from 16.9 % in 2016 to 19.1 % in 2018 and decrease to 18.7% in 2020. This shows that Ethiopia stillshowsa high unemployment rate and unlucky to use self-employment for the establishment of several small, medium and large businesses that will improve the degree of market competition and customer profit.

Amhara region share 3,599,369 (19.8%) out of the total urban population of the country and 1,836,262 (51%) are employed from those total urban residences of the region.Also, Gondar city has 109,447economically active population with 83,060 individuals who are employed either in self or wage employmentand 26,388 are unemployed(CSA, 2020).Therefore, the purpose of this study is to examine the factors that affecting self-employment status of individuals in urban Ethiopia, particularly in Gondar City which has relatively more self-employed individuals next to Addis Abeba compared with other urban areas of the country.

Even if the field is still growing, Self-employment was important drivers of previous economic growth and development of any development aspect for both developed and developing countries (Talegeta and Adefris, 2018). As Simoes et al (2016) described, Self-employment is not only an interesting solution for individuals who have no or have few opportunities in the wage sector or earn less than others with similar observable characteristics, but also it is an opportunity for dynamic individuals who seek a different career path.Beside this self- employment is source of freedom, offers higher economic returns, improves the living standards of an individual, and create earning sources instead of looking for employment opportunities from employer organizations(Dawson et al 2017; Parker et al 2012); provide earnings that increase according to entrepreneurial ability (Rosti and Chelli, 2009) ; and source of the knowledge(Binet, 2013).Those arethe reasons why policy makers provide subsidies to set-up self-employed groups including young people, people with disabilities and women in different countries. Furthermore, government programs provide easier access like finance, loans to small businesses, training, network of contacts, even exempt small businesses from certain regulations and taxes to the unemployed while they attempt to start their own businesses. This looks like an advantage for the least developed and developing countries where the growth and job creation performance of the economy is poor.

Ethiopia is one of the least developed countries (LDC) with development objective of ending poverty through accelerated and sustained economic growth and improves employment opportunities by giving special attention for the youth and women (ILO, 2018). To bring this into the earth, the government of the country has increasingly worked on new firm formation and small business growth to achieve economic development since recent times. However, it looks that the aimed level of outcome has not been sufficiently achieved and seems to be failing. Furthermore, self-employment is treated as a way of unemployment rather than being something driven by entrepreneurship in this country(Getinet, 2009).

As Neumann (2020) described, different researchers have identified a multitude relevant determinants of self-employment. The author also tried to review thoseself-employmentdeterminant factories by categorized them into external environmental conditions, firm level characteristics, and individual

characteristics of the entrepreneurs themselves.However, it is debatableacrossdifferent literature on whether these factors identified would have a comparable effect on self-employment in different countries with different level of development and under different economic circumstances. Therefore, to show the scenario regarding the determinant of self-employment in the middle of different environmentsis critical point for economic progress.

This study is unique from other studies at least by considering the following gaps which are not considered under previous studies. First,there are very few and outdated previous studies whichinvestigating issues of self-employment in the context of Ethiopia, and nogeneral research conducted on determinants of self-employmentin the case of Gondar city. Therefore, in this paper, the researcher aims to examine the factors that determine self-employment in urban Ethiopia context, particularly in Gondar city from different sub city samples.

Second and finally, previous studies examined the determinants of self-employment mostly focus on demographic variables and lacks fullness to hold other relevant variables such as personal attributeand economic determinants, which could have a significant effect on self-employment. However, this studypenetrates simultaneously what personal, demographic, background, andeconomic factors influence self-employed individuals by including some new determinant variables such as health and religion and tries to fill these previous studies' gaps.

Objectives of the study

The general objective of this study is toexamine factors whichdetermineself-employmentin urban Ethiopia standing from Gondar city as a case study.In line with this the researchers addressed the followingspecific objectives

- Identifyindividual'sself-employmentattitude in Gondar city.
- Examinethe factors that affect self-employment.

Research Methodology

Source of Data

This study used both primary and secondary data. As a result,questionnaires data collection methodisused for primary data collection. The targeted populations of the survey are both self-employed and wage employed. Whereas Secondary data are collected from both published and unpublished materials such as reports, articles, books, documents, and others. These sources are primarily used in the literature review and data analysis part of the research, and they are also useful to supplement the information obtained through questionnaires and econometric analysis.

Sampling Techniques and Sample size Determination

Under thissection, the sample sizedetermination of the study and which sampling techniques used to draw a representative sample of respondents are covered.

Sampling is described as taking individuals or entities from population in such a way in order to make generalizations about the phenomena of interest standing from the sample to the entire population (Kothari, 2004). The most decisiveand difficult task of the sampling procedures is the choice of the sampling frame which has a representative characterfor the entire population from which the sample is drawn.

Generally, in order to select representative respondents from the entire population,this study used stratified, purposive,and simple random sampling techniques.

The populations of this study are subdivided into two sub-populations (strata) called wage employed and self-employed that are individually more homogeneous than the total population, and then individuals havedrawn from each stratum to get a representative sample. Under this stratified sampling technique was applicable in order to obtain a representative sample.

Purposive sampling technique is used to identify the four study sub-cities, namely arada, Jantekel, maraki, and Azezo-Tseda sub-city. The reason behind this isthe presence of significant number of economic activities and large numbers of self-employed individuals within those four sub-cities.

A Simple random sampling technique was also applied to select samples of self-employed and wage/salary workers out of the sampling frame obtained from the four predetermined sample sub-city and four wage employed organizations.Since simple random sampling gives an equal and non-zero chance of being selectedfor each element. Moreover,samples of four employer organizations wererandomlyselectedsince managing and getting the list of all wage/salary employer organizations was difficult with the given resources and time. Therefore, two organizations from the Government owned (Gondar City Health Office (GCHO) and Gondar city administration office (GCAO)) and the other two from private organizations (pepis factory and Dashen brewery factory) were randomly selected.

After representative sample determination,the next step isdetermining the sample size of the study. For this study, the respondentsaredetermined by using the formula designed by Yamane (1969)as cited by Adam (2020)for both the self-employed and employed.

The formula has been expressed as follows:

$$n = \frac{N}{1+N(e^2)} = \frac{75250}{1+75250(0.05^2)} = \frac{75250}{189.125} = 397.88 \approx 398$$

Where n = Sample size N= Total population (Self-employed plus Wage/salary employed)

e = error term (0.05%) at 95% confidence interval

Therefore, out of the total population 75,250 (47,276 wageemployed and27,974 self-employed) which found from CSA (2020) and GCMSEO (2020) unpublished report, the researcher was selected a sample of 398 individuals by using the above sample determination formula.

When the sample size of the total population is determined using the formula shown above, the sample size from each targeted sample section (the employed and self-employed) wasdetermined by usingthe proportional allocation method as expressed as follow.

$$P_1 = \frac{n(N_{we})}{N} = \frac{398(47276)}{75250} = 250.04 \approx 250$$

$$P_2 = \frac{n(N_{se})}{N} = \frac{398(27974)}{75250} = 147.9 \approx 148$$

Where: P_1 = Proportion of wage employed, P_2 = Proportion of Self-employed, N_{we} = Population of wage employees, N_{se}= Population of self-employed, N= Population of both paid employees and self-employed.

Therefore, as obtained from the above proportional allocation, 250of wages employed and 148self-employed respondents were selected to gather the planned data and achieve the objective of the current study. The proportional allocation technique was also used to determine the sample size of wage workers taken from each organization. Therefore, 35 samples from pepis, 87 samples from Dashen, 81 samples from the Gondar city health office (GCHO), and 47 wage employed sample from GCAO havebeen taken for the survey in order to accomplish the paper.

Table 3.1: sample size of wage employees from each four-wage employer organization.

Organization	Sample size	
	Total No of employees	Proportion of sample
Pepis factory	220	$\frac{250(220)}{1569} = 35$

Dashen brewery	549	$\frac{250(549)}{1569} = 87$
GCHO	504	$\frac{250(504)}{1569} = 81$
GCAO	296	$\frac{250(296)}{1569} = 47$
Total	1569	250

Source; own computation, 2021

The research also useda proportional allocation technique to determine the sample sizefrom each sub city in order to get representative self-employed samples. Therefore, as shown below,39 samples from Jantekel sub city,40 from Maraki,38 from Arada, and 31from Azezo-Tseda sub city are prepared for the questionnaire.

Table 3.2: sample size of self-employed from each four sub-city.

Sub city	Sample size	
	Total No of self employed	Proportion of sample
Jantekel sub city	5541	$\frac{148(5541)}{21245} = 39$
Maraki sub city	5799	$\frac{148(5799)}{21245} = 40$
Arada sub city	5412	$\frac{148(5412)}{21245} = 38$
Azezo-Tseda sub city	4493	$\frac{148(4493)}{21245} = 31$
Total	21245	148

Source; own computation, 2021

Methods of Data Analysis

To address the objectives of the study,both statistical tools and econometric analysis were used. Descriptive data analysis like frequencies, percentage, mean values, etc are employed using statistical tools (descriptive statistic, like frequency and percentage) to summarize the demographic and socioeconomic characteristics and other relevant characteristics of respondents. At the same time, under the econometric model of data analysis, the study employeda logit model to examine factors that determine self-employmentin the study area. Because Logistic model compared to its competitor probit model, it is less sensitive to outliers and easy to correct a bias. In instances where the independent variables are categorical or a mix of continuous and categorical, logistic analysis is preferred to discriminate analysis (Agresti, 2009).

Model Specification

There are different factors (personal trait, background, demographic characteristics, and economic factors) that determine an individual decision to become either a wage employed or self-employed worker. Therefore, the dependent variable is self-employment. It is binary response variable, and if theith individual is self-employed, the response variable (Y_i) takes the value 1 and wage employed it takes the value 0.

$$Y_i = \begin{cases} 1, if\ the\ i^{th}\ respondent\ is\ self\ employed\ and \\ 0, if\ the\ i^{th}\ respondent\ is\ wage\ employed \end{cases}$$

As described at Gujarati (2004) the logistic model would be written in terms of the odds ratio and log of odds ratio, which is easy understand the interpretation of the coefficients. In this study, the odds ratio is

the ratio of the probability that the individuals areself-employed (P_i) to the probability that he/she is wage employed (1- P_I). So

$$\boldsymbol{P_i = F\,(z_i) = F\,(\beta_0 + \beta_i X_i) = \frac{1}{1+e^{-(\beta_0+\Sigma\beta_i X_i)}} = \frac{e^{(\beta_0+\Sigma\beta_i X_i)}}{1+e^{(\beta_0+\Sigma\beta_i X_i)}}} \quad \textbf{(1)}$$

Since, $\boldsymbol{Z_i = \beta_0 + \beta_i X_i}$and theprobability of wage employed (1- P_I) written as

$$\boldsymbol{(1- P_I) = \frac{1}{1+e^{Z_i}}} \quad \textbf{(2)}$$

Therefore, the odd ratio in favor of being self-employed becomes

$$\boldsymbol{\frac{P_i}{1-P_I} = \frac{1+e^{Z_i}}{1+e^{-Z_i}} = e^{Z_i} = e^{(\beta_0+\Sigma\beta_i X_i)}} \quad \textbf{(3)}$$

Taking the natural logarithm of the above equation (3)

$$Y_i = \ln\left(\frac{\boldsymbol{P_i}}{1-P_I}\right) = ln\,(e^{Z_i}) = Z_i = \boldsymbol{\beta_0 + \sum_{i=0}^{n} \beta_i X_i + \mu_i} \quad \textbf{(4)}$$

Finally, the equation of this thesis becomes:

$$Y_i = \beta_0 + \beta_1 AG + \beta_2 SEX + \beta_3 EDU + \beta_4 MS + \beta_5 FBBG + \beta_6 HC + \beta_7 ACC + \beta_8 PWE + \beta_9 RN + \beta_{10} BT + \beta_{11} HST + \beta_{12} IN + + \mu_i \quad (5)$$

$Y_i$is dummy of self-employment RNreligion

Where, AG is age of respondent ACC access to credit

SEX, sex of the respondentPWE previous work experience

EDU educational status BT business training

FBBG family business backgroundHST hardworking and stress tolerance

MS marital status IN inheritance

HChealth conditionμ_i= the error term and

β_0 = is the value of the log odd ratio when explanatory variable is zero, and β_i = measures the probability of being self-employed for a change in explanatory variables X_i from value o to one and extra.

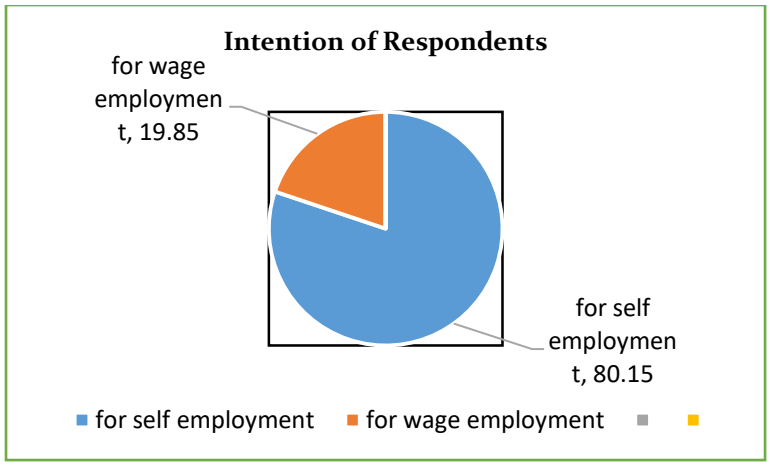
Results and Discussion

4.1. Descriptive Analysis

4.1.1. Respondents Attitude Toward Employment Status

Under this sub section, the one objective of the study "what seems like the attitude of individuals for self-employment in the study area" is addressed.

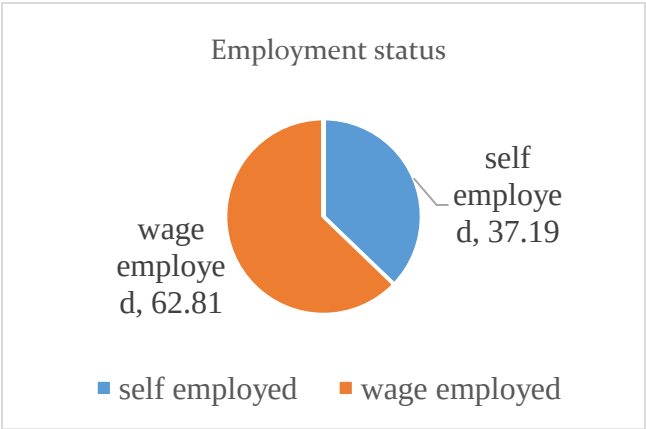
Figure: 4.1 Respondents intentions for employment status.



Source: Own survey computation, 2021

In this descriptive analysis, result that reflect individuals' choices for their children with respect to their future employment status is provided. Despite the fact of not being self-employed, many people have the intention or the desire to start their own firm and to develop their own business. But for some reason, they cannot decide to make that occupational transition and effectively become Self-employed. Moreover, a huge number of individuals choose self-employment status for their children rather than being wage employed.The above chart (Figure 4.1) shows the number of people who aim for their children to be self-employed or paid employed. As can be seen from the figure above, the majority of the respondents, 81.15% have a good attitudetoward self-employment. As revealed from the survey data, those proportion (80.15%) of the respondents choose self-employment activities for their children if they can get the chance of a job choose for their child. This is one indicator that indicates the existence of good self-employment intentions within the study area Gondar city. Therefore, the first objective has been addressed well at this.

Figure 4.2: Percentage distributions of respondents by their employment status.



Source: Own survey computation, 2021

Figure 4.2 shows the employment status of the respondent. When the data collection was undergone, the respondents were specifically requested about their employment status during the survey time. Therefore, as shown in figure 4.2above, 62.81%of the respondents were wage employed working at various government and private organizations from the total 398 respondentsand the rest 37.19%are self-employed individuals who owned and ran their own business in the wholesale and retailing sectors of the trade.

4.1.2. Demographic Characteristics of Respondents

The variables which were utilized to analyze the demographic characteristics of the respondents under this study are sex, age, marital status, religion, and education level.

Table 4.1: Distribution of employment status by demographic variables

Variables	Categories	Self -Employed	WageEmployed	Total	
				Frequency	Percentage
Sex	Male	70	144	214	53.77
	Female	78	106	184	46.23
Age	Below 20	14	16	30	7.54
	20-40	122	192	314	78.89
	Above 40	12	42	54	13.57
Marital status	Married	104	117	221	55.53
	Single	44	133	177	44.47
Religion	Orthodox Christian	94	151	245	61.56
	Muslim	47	45	92	23.12
	Other	7	54	61	15.31
Education level	Illiterate	17	6	23	5.78
	Primary school	54	38	92	23.12
	Secondary school	32	31	63	15.83
	College and above	45	175	220	55.28

Source: Own survey computation, 2021

As shown in Table 4.1 above, the percentage of each sex independently has been calculated out of the total respondents asked under this study, 46.23% were female and 53.77% were male. Moreover, from those total 184 female and 214 male respondents, the large numbers of 106 and 144 of them are participating in wage employment activities, whereas 70 males and 78 females are self-employed. This indicates that females share large numbers in self-employment activities.

The age profile of the respondents as it has been presented in table 4.1, indicating that 20-40 age cohort is the most frequent in both employment status. This age cohort holds 78.89% of the total participants of the study followed by above 40 age cohorts with its13.57% share and the remaining 7.54% of the respondents are aged below 20.

Marital status is another demographic factor that is included in the analysis of the data. The result shows that 44.47%are single and 55.53are married at the time of the survey as shown in table 4.1above. When the marital status of the participants is seen in terms of their employment status, 133 and 177 of the wage/salary

workers are single and married respectively. Whereas 104 and 44 married and single individuals run their own business. In general, married took the leading number in both employment status.

In relation to the religion profile of the participants of the study, 61.56% of the total respondents were orthodox Christian, while the rest 23.12% and 15.31% were Muslims and others respectively. This implies that the orthodox Christian are huge participants in this study. When the religion profile of the respondents is seen in terms of their employment status, orthodox Christian dominate both self and wage employment status. This reflects that orthodox Christians are dynamic in their employment status.

Finally,regarding to education level profile of the respondent regardless of the employment status of the participants, college and above dominates the respondents with 55.28%, followed by primary school holders with 23.12% of the total respondents participated in the present study. However, the remaining 15.83% and 5.78% were secondary school educated and illiterate respectively. When we taking in to account their employment status, college and above graduates took the highest proportion of the wage-employed with 175 participants, while primary school holders were the highest participant of the study in self-employment status with 54 participants. This implies that when individuals become educated, they prefer to engaged in wage employment rather than self-employment

4.1.3. Background Characteristics of the Respondents

Concerning the background characteristics of the respondents, the survey was undergone and data was gathered regarding to respondent's family business background, business training, and previous business experience as shown in table 4.2 below.

Table 4.2: Distribution of employment status by background variables

Variables	Categories	Self-employed	Wage employed	Total	
				Frequency	Percentage
Family business background	Have self-employed family	117	105	222	55.78
	Have not self-employed family	31	145	176	44.22
Previous business Experience	Have experience	91	149	240	60.30
	Have not experience	57	101	158	39.70
Business training	Get training	61	84	145	36.43
	Have not get training	87	166	253	63.57

Source: Own survey computation, 2021

Family business background was taken as one variable and incorporated in the structured question during data collection period. The respondents were asked whether they had self-employed family or had not during the survey date. The survey shows that 55.78% of the respondents had families who are self-employed and the remain 44.22% of the respondents had no family who runs their own businessduring the survey period. When Family business background of the participants is seen in terms of their employment status, large numbers ofrespondents who had self-employed families are alsoself-employedwith 117

proportions. However, respondents who have no self-employed families are engaged in wage employment activities. This implies that family business background has a significant contribution for individuals to become self-employed.

Another background variable which incorporated in the structured question during data collection period was previous work experience of the respondent. The respondents were requested whether they had work experience or were involved in any income generating work or not earlier to the survey date. The collected data shows that 60.30% of the respondents have work experience and 39.70% of the respondents have no work experience during the survey period. Moreover, when we see from their employment status respondents who had work experience cached the leading number both in self and wage employmentwith 91 and 149 respondents respectively.

The last background factor under this study is business training. As it has been described in table 4.2 the largest proportions of the respondent have not gotten any business training with 63.57%proportions. While the rest of the small proportions 36.43% of the respondents have been accessed business training. Moreover, in terms of their employment status, large number of both trained and non-trained respondents are found in wage employment status with 84 and 166 respondents.

4.1.4. Economic Characteristics of the Respondents

This sub-section briefly analyses the profiles of the respondents based on the basic economic characteristics of the sample respondents using percentage and frequency statistical techniques in the tables below.

Table 4.3: Distribution of employment status by Economic variables

Variables	Categories	Self-employed	Wage employed	Total	
				Frequency	Percentage
Inheritance	Access inheritance	52	40	92	23.12
	Not Access inheritance	96	210	306	76.88
Credit access	Access credit	88	93	181	45.48
	Not access credit	60	157	217	54.52

Source: Own survey computation, 2021

In this study, inheritance was taken as independent variable to analyze and interoperate economic status of the respondents. As shown from the above surveyed data result, most of the respondentswho took 76.88%did not accessed any inheritance from their family or relatives in any form. However, the rest 23.12% respondents received inheritance from their relatives through different forms. However, even if the number of inheritancesreceiver respondents were small, the large proportions 52respondentswho are received inheritance run their own business. Also, as shown from table 4.3, a large share of the respondents who do not receive any inheritance is participating in wage employment with 210 shares.

Concerning to the other economic variable credit access of the respondents, the survey was undergone and data was gathered. As in table 4.3 revealed, the clue of the collected data expresses from the total 398 interviewed respondents, 54.52% of the respondent had nocreditaccess, and 45.48% had credit access. As far as the relationship between credit access and employment status is concerned, the share of wage employment was higher in both credits access and not credit access respondents with 93 and 153 respondents respectively. Additionally, from the prospect of self-employed respondents, large number of

respondents access credits from different microfinance institutions. However, large numbers of wage employed respondents have not credit access (see table 4.3).

4.1.5. Personal traits of the Respondents

Though many personal traits of respondents could be there.This study emphasized only limited traits such as health and hardworking and stress tolerance ability of the sampled respondents.

Table 4.4: Distribution of employment status by personal trait variables

Variables	Categories	Self-employed	Wage employed	Total	
				Frequency	Percentage
Health	Healthy	130	199	329	82.66
	Not healthy (illness)	18	51	69	17.34
Hard working and stress tolerance	Hard worker and stress handler	145	185	330	82.91
	Not stress handler	3	65	68	17.09

Source: Own survey computation, 2021

Health was regarded as a variable that shows personal trait profile of the respondents. During the survey period, the respondents were asked about their personal trait regarding to their current health conditions. As a result, from the survey 82.66% respondent are found in normal heath status and the remaining 17.09% of the respondents have different health problems including physical disability and internal pain. When we taking in to account their employment status, healthy respondents took the highest number both in self and wage employment with 130 and 199 respondents respectively, while large number of ill respondents are participated in wage employment activities due to affirmative actions which have given for disabilities duringvacancy and relative easiness of wage employment activities compared with self-employment activities.

Finally, in relation to the hard working and stress tolerance profile of the participants of the study, 82.91% of the total respondents are hard worker and stress handler, while the rest 17.09% of the respondents couldn't hold stress.when we see hard working and stress tolerance profile of the respondents in terms of their employment status, respondents who cannot hold stress engaged in wage employment with 65 respondents. This may arise due to wage employment requiring relatively less effort compared with its supplement self-employment.

4.2. Econometric Analysis

4.2.1. Diagnostic Test

Before estimating the chance of the event using a binary logistic regression model, goodness of fit of the model, heteroskedasticity, and multicollinearity diagnoses were made.

4.2.1.1. Multicollinearity test

Multicollinearity occurs when independent variables in a regression model are correlated. This correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results.Multicollinearity is essentially a sample phenomenon, arising out of the largely non-experimental

data collected in most social sciences. we do not have one unique method of detecting it or measuring its strength (Garson, 2015). Hence, different multicollinearity diagnostics tests were performed to check the level of collinearity between each explanatory variable for both continuous and dummy variables. For continuous variables, to evaluate multicollinearity effect in the model Variance Inflation Factor (VIF) and tolerance arepreferable. However, this study used Coefficient of contingency test to check multicollinearity among the discrete variables. According to Healy (1984) cited in Paulos (2014), a contingent coefficient with a value 0.75 and above indicates a high collinearity. The test hypothesis is given by:

Ho: There is strong correlation among the explanatory variables Vs. H1: There is no strong correlation among the explanatory variables.

Hence, result shows that none of the variable's correlation between any two explanatory variables exceeded 0.4. This implying that dependencies or the extent of relationships between explanatory variables is not a serious problem in this paper analysis. This entails that no collinearity issue has been found among the predictor variables of this study (see Appendix-I).

4.2.1.2. Goodness-of-Fit Test

One of the techniques used to assess the goodness of fit of a model is Hosmer and Lemeshow test. The test is used to accept or reject the alternative hypothesis "the model adequately describes the data". If the significance level of the test is less than 0.05, it indicates that the, alternative hypothesis is rejected and the null hypothesis which states the inadequacy of the model to describe the data is accepted. The test hypothesis is given by:

Ho: The model does not fit the data Vs. H1: The model adequately describes the data.

In the case of this study, the significance level of the test was found to be 0.0706is larger than 0.05, we do not reject the alternative hypothesis is which states that the model is adequate to describe the data was accepted and we conclude that the model is a good fit (see Appendix II).

Additionally, link test was conducted after the logistic regression to identify specification errors. This test regresses the independent variables on its predicted value (_hat) and the predicted value squared (_hatsq). The outcome of the link test (specification errors test) at table belowindicates that the model equations were properly specified as predicted by the hat-statistic (_hat) as the p-value is 0.000. The variable _hat should be a statistically significant predictor, unless the model is completely miss-specified. On the other hand, if the model is properly specified, the prediction squared (_hatsq) should be insignificant. Therefore, this model shows no problem with the specificationas shown from the tablebelow.

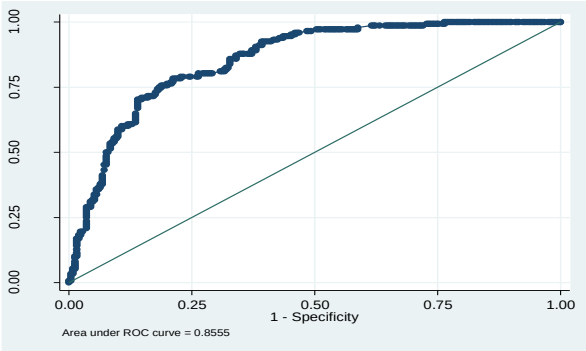
Table 4.5: Link test output of the regression model

Employment status	Coeff	St. Err.	Z	P > |Z|	[95% Conf. Interval]	
_hat	0.9475475	0.1135307	8.35	0.000	0.7250314	1.170064
_hatsq	-0.100032	0.0720816	-1.39	0.165	-0.2413094	0.0412454
_cons	0.1303443	0.1611587	0.81	0.419	-0.1855209	0.4462095
Number of observations = 398 LR chi2(2) = 167.31 Prob > chi2 = 0.0000 Log likelihood = -179.00119 Pseudo R2 = 0.3185						

Source, own survey computation, 2021

Receiver Operating Characteristic (ROC) curve was also used to validate the assumptions of the model specification (tests for predictive accuracy). As indicated in Stata (2014) package, the graph of the ROC curve is a graph of sensitivity (the ability of the model to predict an event correctly) versus one minus specificity as the possible cutoff is increased from 0 to 1. Sensitivity refers to the fraction of observed positive-outcome cases that were correctly classified, while specificity is the fraction of observed negative/false-positive cases that are correctly classified. The greater the predictive power, the more bowed the curve, and hence the area under the ROC curve is used to measure the predictive power or accuracy of the diagnostic test. A model with no or worthless predictive power has an area of 0.5 while a ROC area with 1 represents a perfect model, and from 0.7-0.8 is acceptable.Figure 4.3 indicate the ROC area is 0.8555. This indicates that the model has acceptable predictive power.

Figure 4.3: Receiver Operating Characteristic Curve of the logistic regression model



Source; own survey computation, 2021

4.2.1.3. Heteroskedasticity tests

One of the important assumptions of classical linear regression model homoscedasticity means that the errors in the regression equation have a constant variance. If the errors do not have a constant variance, we say there is heteroskedasticity problem. The problem of heteroskedasticity makes the data estimators inefficient because the estimated variance and covariance of coefficient are biased and inconsistent. According to Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, if the P-value is below the chosen significance level, then we reject the null hypothesis of homoskedasticity (Gujarati, 2004). Robust logistic regression was used to avoid heteroskedasticity in binary outcome models. Heteroskedasticity in binary outcome models will affect both the coefficients and their standard error (Wooldridge, 2002). Therefore, the test hypothesis is given as:

Ho: The model is homoscedastic Vs. H1: The model is heteroscedastic.

In this particular study, according to Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, the P-value is greater than the chosen significance level, i.e., 0.0901> 0.05, and then we reject the alternative hypothesis of heteroscedasticity (see Appendix III). Therefore,errors term has a constant variance, and we say there is no heteroskedasticity problem.

4.3. The Probability of Being Self-Employed

In order to investigate the probability of being self-employed, the model described in the last section logit model is applied. The model defines a binary variable indicating if the individual is paid-employed or self-employed.

Table 4.6. Logistic Regression Results of self-employment

Employment	Coefficient	P>|z|	Marginal effect
Sex	-0.6972735	0.011**	-0.1364057
Martial	0.8730574	0.002***	0.1646835
Education level	-0.7206453	0.000***	-0.1397616
Age	-0.2971161	0.371	-0.0576226
Religion	-0.5785786	0.007***	-0.1122092
Family business back ground	1.375168	0.000***	0.253943
Previous business experience	-0.0742709	0.788	-0.0144556
Business Training	-0.125461	0.662	-0.0241327
Health	-0.4152048	0.350	-0.0854082
Inheritance	0.7523689	0.014**	0.1582587
Hard working and stress tolerance	2.792431	0.000***	0.3312918
Credit access	0.6195942	0.023**	0.1213993
Constant	-1.730474	0.124	
Number of observations= 398 LR chi^2 = 165.15 Prob>chi^2 = 0.0000 Pseudo R^2 = 0.3144 Log likelihood = -180.08058			

Source; own survey computation,2021

***, **, * indicates significant at 1%, 5 % and 10% level of significance respectively.

The probability of being self-employed is measured through marginal effect which is attached with each explanatory variable. Marginal effects measure the expected instantaneous change in the dependent variable as a function of change in a certain explanatory variable while keeping all the other factors constant. The marginal effect measurement is helpful to interpret the effect of the regressors on the dependent variable(Greene, 2003).

The marginal effectassociated with sex indicates that the probability of being self-employed for menis lower than female respondents and significant at 5% level of significance. This implies when individuals are men, the probabilities of being self-employed decrease by0.136 when other things remain constant. This finding is coherent with William's (2012) idea “Females have chance to become self-employed than male” at literature review in Section 3.6.1. This might arise due to load home activities that reduce women’s opportunities for wage employment and push them into self-employment as an escape strategy. The fact that women are more likely to be self-employed than men was also showed in the descriptive section (Section 4.2) when analyzing sex regarding to their employment status.

The variable marital status is significant at 1% level of precision, and Married individuals have a higher probability of being self-employed than single individuals. More specifically, being married increases the likelihood of being self-employed by 16.5% compared to single when other factors are remaining constant. In line with this, the current study is consistent with the research findings of Krasniqi (2014)who reported that due to the greater opportunity for couples to raise finance or have income savings advantage to start business, the chance for married people to go into business is much greater than singles individuals.

Concerning education level, the evidence from the model indicates that there isa significant and negative association between the probability of being self-employed and education level at 1% significance level. The higher levels of education give a person a higher probability of being wage-employed as compared to having none of the education. Holding other factors constant, an increase in education by one year reduces the probability being self-employed by 0.14 when other things are remaining constant. Individuals who are more educated are more likely to participatein wage employment for employer organizations. This finding also accords with the result of Mesfin (2020) and Wennberg et al (2010) which states that education enhances an individual's managerial ability and leads to higher propensity of choosing wage-employment. Furthermore, the descriptive statistic result concerning the educational level of the self-employed individuals shows minimum involvement of those individuals who have higher education. Thus, we can conclude that self-employment cannot be an appropriate choice for individuals with higher level of education in Gondar city.

Family business background has a positive and significant relationship with the probability of being self-employed at 1% significance level. This means those who have self-employed families have a lower probability of being wage employed than those who don't have a self-employed family. If all other variables are hold constant, the probability of individuals who have a self-employed family (family business background)to become self-employed is higher byo.254 compared with individuals who do not havea self-employed family. The result is in agreement with studies and findings of Guyo (2013) who state that individuals who have families with businesses tend to show a higher attitude towards entrepreneurship than those individuals who don't have business undertakings.

The regression output revealed that religion has a negative and significant relationship with the probability of becoming self-employed at 5% significance level. This implies that as the religion of individual change from orthodox Christian (the reference) to Muslim and other,the probability of being self-employed decrease by 0.112. This mean that orthodox Christian individuals are more likely to become self-employed than Muslim and other religion followers.

Inheritance was found to be statistically significant at 5% significant levels and has a positive relation with being self-employed. According to this finding, individuals who have accessed inheritance from their families and relatives are more likely to be self-employed than individuals who have not accessed any inheritance. This means when other factors are remaining constant, the probability being self-employed increase by 0.158 when individuals access inheritance from their families or relativities. This finding is also in line with other previous study of Fairlie and Krashinsky (2012) who found that windfall gains such as an inheritance or bonus employment increase the probability of being self-employed.

The other determinant of self-employmentishardworking and stress tolerance trait of individuals and It is significant at 1% level of significance.Some studies have revealed that being self-employed increases if the individuals have hardworking and stress tolerance ability(Frese et al., 2014). This study finding is also in agreement with this fact. This means individuals who have hardworking and stress holding ability are more likely to be self-employed than individuals who are not hard worker and stress holder. Generally, when

other things remain constant the probability of being self-employed increase by 0.331 when individuals arehard worker and stress holder.

In addition to the above factors, the regression output indicated that access to credit has a positive and statistically significant relation with being self-employedat 5% level of precision. This implies that individuals who get credit access are more likely to be self-employed than those that do not access credit. This may happen because of many individuals who get credit access are using their credit for investment purpose in order to establish their own business. The finding of this study is consistent with Herkenhoff, 2019 and Alene, 2020b statement which says that entrepreneurs who suffer capital constraints in their initial business for investment expect lower profits, and their selection rate to enter self-employment is lower than those who had adequate access of capital.As indicated from table 4.5, the probability of being self-employed increase by 0.1221 when individuals get credit access from different microfinance institutions under citrus paraben conditions.

Generally,as it can be seen from the above discussion,the determinants of self-employment identified in this study have all been well established in the literatures review part. In conclusion, sex, marital status, education level, religion, family business background, inheritance, hardworking and stress tolerance ability, and credit access are significant determinants of self-employment status of an individuals at the accepted 5% level of significance. However, On the contrary, age, health, previous work experience, and business training even have either a positive or a negative relationship with being self-employed, they are insignificant determinant of self-employment. Therefore, definitely,it does not necessary to interpret their marginal effect.

Conclusion and Recommendations

Conclusion

The main objective of this study is to identify and examine the factors which determine self-employment in urban Ethiopia, particularly in Gondar city. To achieve its objective, the study has employed a Binary logit regression model. In the model, employment status was taken as dependent variable and 12 explanatory variables were included. Based on the result of the logit model, eight of the explanatory variables were found significant determinants of self-employment; of which, sex, education level, and religion affects self-employment negatively, whereas marital status, family business background, inheritance, hardworking and stress tolerance, and credit access affects self-employment positively.

The main determinants of self-employment considered under the theoretical, empirical analysis as well as the discussion part of this thesis are demographic, background factors, economical and personal trait factors. Despite self-employment is subject of interest and research in many countries and by diverse authors, some of the studies reviewed show mixed evidence on the role played by some of the determinants under analysis. However, using survey data through structured questionnaires, statistical analyses concerning to self-employment are performed in this paper. The data analysis shed some light on the main characteristics of self-employed individuals in urban Ethiopia, specifically in Gondar city.

The researcher synthesized the main findings of thisstudy as follow: as far as sex is concerned, the evidence indicates that the probability of being self-employed is higher for femalerespondents. Moreover, individuals who have self-employed families, married, inheritance access, credit access, and hardworking and stress tolerance ability are more likely to be self-employed compared with individuals who have not those above-described characteristics.The reverse is true for wage employment status. However, individuals with higher

levels of education have lessinterestto become self-employed. Concerning to religion, individuals who are out of orthodox Christian followers are less likely to being self-employed than those who are orthodox Christian. Lastly, the effect of age, previous work experience, business training, and health on self-employment is insignificant as shown in table 4.6 at the logistic regression result part.

Moreover, the second objective of the paper "what seems like the individuals' attitude toward self-employment"is also well addressed. According to the finding of the survey, themajority of the respondents, 81.15% have good intentions for self-employment. this implies that 80.15% of the respondents choose self-employment activities for their children if they can get the chance of a job choice for their child. Therefore, this large proportion indicates that the existence of good attitudes of individuals for self-employment opportunity within the study area Gondar city.

Recommendations

Based on the analysis discussed in the previous chapter through different analytical tools, the following policy implications are forwarded.

- Government and government bodies shouldbe placed on effective governance mechanisms for self-employed, in particular training that addresses specific skills shortages as well as the expansion of opportunities like credit access, working place and marketing assistance.
- Moreover, regarding credit access, thegovernment should launch or established sufficient numbers of micro finance institutions which can avail financial resources and improved loan advancing services for individuals who attempt to establish their own business and improving the conservative lending practice of the banks would be essential to improve the credit access of individuals.
- As it can be seen from the discussion part, less qualified individuals are dominating the self-employment participation of the city. This situation might be problematic to the practice of a businessbecause without education one cannot understand the outside world and equips/ ready him/her with the basic knowledge and skills to deal with the day-to-day problems. Hence, fostering self-employment among the higher education graduates would bring competition, product and service quality, growth, creativity, and solution to various types of problems in business. Therefore, the researcher recommended that the government should work together towards creating entrepreneurial cultures among educated people and the society in general by giving entrepreneurship/self-employment related courses and training.

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