# Building entrepreneurship in developing countries: evidence of the role of informal activities in increasing entrepreneur performance in Cameroun

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**Abstract**

This study aim is to identify, according to microeconomic approach, the determinants of the performance of individual entrepreneurs in the informal sector in Cameroon, through their unit's performance. Using the Second Survey in the Informal sector and Employment (SSIE) collected in 2010 in Cameroon, we made two regressions of a profit function of an entrepreneur with the method of multiple regressions after a statistic analysis of some characteristics that influence entrepreneur performance in the informal activities. After this analysis, some lessons emerge. First, there are significant gaps in the income generated by informal activities. Then, the impact of factors that can improve the performance of entrepreneurs varies widely depending on the measurement used to capture their performance (sales or income). Finally, individual factors such as education level, seniority, specific experience in entrepreneurship and the time spent on the job significantly increase the performance of informal entrepreneurs. Similarly, the factors of the firm (sector of activity, level of capital, number of permanent employees) exception due to the age of the firm, also significantly improve the performance of informal entrepreneurs better than the individual factors (27% against 15%). However, the main factor that reduce their performance are the economic environment (difficulties in accessing to infrastructure and finance). This could be explained by the fact that, operating in the informal sector, reduce access to financial services and public infrastructures. Several recommendations can be made in line with the improvement of informal entrepreneurship and access to financial services, in order to build strong entrepreneurship in developing countries.

Keywords: Informal Entrepreneur, individual characteristics, firm characteristics, environmental characteristics, entrepreneurial performance.

JEL: C39, J46, L26, O17

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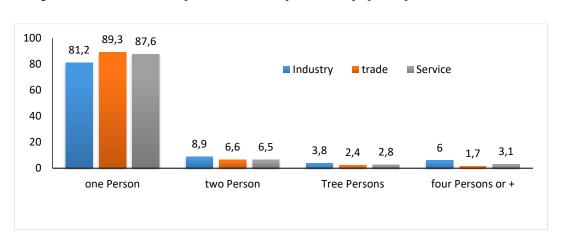
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## 1. Introduction

Since the economic crisis of the 1980s, the role of the informal sector in the production and distribution of goods and services has been amplified enough in developing countries (DCs). It has become an important sector particularly for job creation and Growth (World Bank, 2011). The growth of informal activities is partly explained by the inability of the formal sector to provide work for a large part of the workforce, due on one hand existence of barriers to entry in the formal sector, and the increase of youth unemployment in developing countries, on the other hand. From this perspective, development in Africa represents a significant share of economic activity in several in developing countries. Thus, the significant contribution of these activities in their national income obliges governments and researchers to consider the role of these actors in improving inclusive and sustainable growth.

In Cameroon particularly, the informal sector has experienced considerable growth these last years. Indeed, weight in the national economy increased from 40% in 1980 to 90.5% in 2010 (NIS, 2012). For many authors, therefore, (Honig, 1998; Van Praag *et al.* 2007; Parker, 2009), the performance of informal entrepreneurs, indexed in their units could facilitate self-employment, social well-being, innovation and economic growth. Yet, despite its participation in the national income, the heterogeneity of these activities contribute to weakening the performance of these entrepreneurs, owners of informal production units (IPU), from which they yield incomes crucial for their well-being and those of their families. These units are mainly individual and their characteristics are represented as follows:

**Graph 1: Distribution by size of IPU by industry (in %)**



*Source:* Author, from EESI, Phase 2, INS, 2011.

This figure shows that, no matter the sector, informal production units are mostly individual (86% average). Therefore, not taking into account these actors could lead to obtain incorrect information on the labor market and inefficiency of public policy, due to their involvement to self-employment and competition for formal enterprises.

Moreover, the Counting of Companies (EGR) 2009, conducted by the NIS reported that most firms find themselves in the informal sector (86.4% of SME and MSE). In addition, the orientation of national economic policy has demonstrated the importance of self-employment and hence the importance of the success of these entrepreneurs in reducing poverty, improving growth, and the distribution of growth. The analysis of these factors can be done on the informal economy, which takes an important place in African countries and Cameroon in particular. In the same way, government support for entrepreneurs in Cameroon is felt through the improvement of business environment and the support of SMEs.

Despite these developments, the performance of entrepreneurs through their units is still deplorable, while some progress, helping to improve the national income, others are turning towards survival activities. This situation creates differences in the performance of these entrepreneurs. For example, we note that, individual's entrepreneurs have lower incomes than bosses or owners with employees. Thus, it is these income gaps which raise their performance.

The context presented allows achieving the following question: what can explain the entrepreneur's performance in the informal sector in Cameroon? Entrepreneurship is a fundamental characteristic of developing countries, so, studies concentrate in the factors that lead to the growth of their performance which is important. This study empirically assumes that, in addition to the traditional factors such as human capital (education professional experience) and demographics (age, gender, religion, marital status, etc.) on the performance of entrepreneurs, there are other factors (including the characteristics of the company and its environment), which can significantly influence entrepreneurial performance in the informal economy.

The main objective of this research is to identify the determinants of income gap in income entrepreneur performance in the informal sector. More specifically, it shows that, first, individual features enhance the level of performance of the informal

entrepreneurs, and to examine the influence of sector' characteristics on the performance of the owner; and finally verifies effect of economic environment on their performance. Consequently, it is assumed for this purpose that, the level of education and professional experience of informal entrepreneur improve their performance as well as the initial level of investment activity; and the successful entrepreneurs are those who can easily access to infrastructure and finance.

This study has two interests. First of all, in practice, it fits into the logic of government giving priority to self-employment and private sector development. Theoretically, it is involved in the development perspective of entrepreneurship research in Africa by analyzing performance in terms of the informal economy. Contrasting with other studies, we try to combine all the factors of performance.

The rest of this study will be organized around literature review of entrepreneur performance (section 2), the search of micro economic factors that explain performance in the informal sector (section 3) and finally present the results of the estimation from a sample of entrepreneurs identified in the informal sector in Cameroon, followed by recommendations (section 4).

## 2. The conceptual framework of Entrepreneurial Performance in the Informal Sector

### 2.1. Theoretical background and determinants of informal entrepreneurship

Economic literature in entrepreneurship distinguishes between modern theories of entrepreneur who is a person working for his own account (self-employment) and traditional theories of innovation (Schumpeter, 1935). According to these theories, the first goal of the entrepreneur is to achieve profit as well as workers who seek jobs to get higher income (Parker, 2009). According to this, informal entrepreneurship results from the institutional, occupational choice and allocation resources theories (Webb et al., 2012).

Indeed, the first theory studies how institutional context influences entrepreneurship in the informal and the formal sectors. Developed by the World Bank for more than thirsty years, this theory shows that, access to infrastructure and financial services for example, can reduce transaction costs (De Soto, 1980). The theory of the

choice of occupation initially proposed by Brock and Evans (1986), shows how individuals operate a choice between becoming employee or self-employed, just as they choose to exercise formal activities or not, according to their opportunities (access to information or the funding available). Finally, the theory of optimum allocation of resources is used to show how entrepreneurs combine constraints in the allocation of resources (including physical, financial and human) and risks related to perform independent activities.

These theories therefore explain the performance through a number of factors that can be grouped into three, namely: the individual characteristics of the entrepreneur[3], the characteristics that are related to the nature of an activity (formal or informal) and those related to the economic environment. Theoretical studies determine several factors that may help to explain the different performances between entrepreneurs, however, there is so far no consensus about the effectiveness of all these factors that satisfy the empirical work.

In fact, the entrepreneur's individual characteristics are considered like the first determinants of its performance. Yet it is difficult to show that these factors are the only ones to affect the performance of an entrepreneur especially when the activity is running in the informal sector. That is why specific factors and the environment in which entrepreneurs perform are associated.

2. **Empirical background on the relationship between the individual, specific and environment characteristics of entrepreneurs**

Empirically, most works based in analyzing entrepreneur's performance, emerge significant differences in their results. This is one of the most significant reasons why the choice of measuring the performance is important. It is therefore necessary first to present the different types of indicators used to capture entrepreneur performance before presenting the results of existing empirical work.

From first glance, one can classify the performance measurement indicators into two groups: the first group includes indicators of firm growth (Job creation, innovation, productivity and survival etc.), (Cooper et al., 1994; Van Praag and Versloot, 2007). The

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[3] Regarding factors related to individual characteristics of entrepreneurs, these factors are related to human capital of the entrepreneur and the factors related to socio-demographic characteristics of entrepreneurs.

limits of these indicators are the correlation between these measures and the availability of data. The second group provides indicators of revenue and profitability which measure the performance of the entrepreneur with the income enchancing from his business (Hisrich and Brush 1985; Bosma and al., 2004; Garoma, 2012; Itaddy and Moutouat, 2014; Mallaye, 2014). The main recognized limitation of this measure is the difficulty to verify the income reported by entrepreneur dued to the fear of tax (Parker, 2009).

Secondly, studies that investigate the determinants of performance make a distinction between the entrepreneurs, business and environment characteristics. Concerning individual characteristics, most studies (Honig, 1998; Parker, and al., 2006; Van Praag, 2007; Griaco and al., 2013; Baptista et al., 2014) test the relationship between education and the performance of entrepreneurs and examining the returns of education on their income or performance of his firm controlled by the age, the gender, the race, and background (Parker 2006; Thompson, 2012). They usually reach to the conclusion that; formal education contributes positively to improving the performance of entrepreneurs regardless of the measure of performance.

Thus, Dickson et al. (2008) found a positive relationship between the level of general education and the various measures of entrepreneurial success (income and innovation) in a study based on developing countries. Similarly, Baptista and al. (2014) show that education and professional experience are significant variables of human capital which improve the level of performance in developed countries. Griaco and al. (2013) using a Logit on longitudinal data of Portuguese enterprises in all the sectors in 1986 to 2005, confirmed these results. Cooper et al. (1994) and Honig (1998) moreover using the profit as a measure of the performance of 215 informal microenterprises in Jamaica concluded that there is a positive and significant relationship (28%) between the level of primary, secondary education and the performance of the firm. For some authors, to reflect the heterogeneity of informal activities, the variables related to the business sector should also be taken into account.

Concerning the characteristics of enterprises, authors such as: Rokotomanana, (2010); Böhme and Thiele (2012); Abessolo and al, (2012); Baptista and al., (2014), assume that the income of an informal entrepreneur depends on other factors, including the characteristics of the activities (heterogeneity, sectors of activities, size of the firm, using a permanent employee or dependent workers etc.).

Parker (2009) shows for this purpose that, it is more difficult to develop an activity in some sectors than in others. In the same vein, works of Itaddy and Mutu at (2014) reach similar conclusions when they found that micro-entrepreneurs belonging to Brazzaville trade sector perform better than the sector of service and the agricultural sector, especially when their activity is unregistered. They also noted that the most successful micro-entrepreneurs[4] are fewer (16.5%) than those who are less successful (83.5%).

Going in the same direction, Fomba et al. (2013) on a sample of 1,017 micros, small and medium formal and informal Cameroonian firms from the General Enterprises Survey in Cameroun (GES, 2009), concluded that the degree of informality of firms have a positive impact on the performance of their owners. They therefore suggest that it is important to add factors related to the business environment (such as financial access, rate of employment, age of the firm, the use of telephones, the degree of informality of the business etc.) because they also influence the performance of informal enterprises as well as formal enterprises.

Considering therefore the characteristic of economic environment, Dethier and Straub (2008) provide a large literature on the determinants of the business environment (infrastructure, access to credit, political regulation, etc.). They assumed that, a good business climate increases the return on investment; it creates new business opportunities, influences the choice of entrepreneurship, the competitiveness and growth of firms. This suggests that a weak business climate discourages investment, increases charges of firms and create additional costs to protect their business.

Mallaye et al. (2014) show through a multiple regression that, the growth of employment (take as performance measure), has a positive effect on the performance of small local activities in Chadian businesses including the exploitation of oil. Then Mbugua and al. (2014), in a study of informal entrepreneurs in Kenya however stressed that, access to finance influence 70.2% of the performance of microenterprises; following by access to infrastructure (11.8%). It processed in a multiple regression on a sample of 161 microenterprises, and find that, government

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[4] That is to say, those who have a higher income 120000 FRS CFA, represent (1.6%) of the sample against 87.4% for those with incomes below 40000 FRS CFA.

policies of SME access to finance and economic regulation of informal activity have a positive effect on their performance.

In this context, access to finance is considered by many recent studies Dethier and Straub (2008); Mallaye et al. (2014), *Doing Business* (2007); World Bank (2000), etc., as one of the major constraints of the economic environment in which firms operate, especially for the smaller one (SMEs and TPE). According to Beck and Demirgüç-Kunt (2006) it is evaluated by more than 35% respectively 30% of small and medium enterprises as the biggest obstacle in a sample of 71 developing countries. Difficulties facing by enterprises for accessing finance therefore arise for the informal sector in terms of external funding (access to bank credit, to the financial market, and subsidies). For Beck (2007), the reasons that explain the lack of access to finance many SMEs are transaction costs and asymmetric information between the borrower and the lender.

For Chowdhury et al. (2014), variables in the economic environment that positively influence the performance of entrepreneur's access to financial market are infrastructure and policy environment. They show that the external environment influences 39% of the total variation of entrepreneur performance (measured by the business growth) of 80 entrepreneurs of southern Bangladesh, while demographic factors influence only 26.9% of the total performance entrepreneurs.

This review revealed that both individual and specific factors can have a significant effect on the level of the firm performance of informal sector and in the performance of their owners. Moreover, this performance can be restrained by factors of the economic environment. However, there is no consensus on the shift of this contribution because the diverge results between countries and the degree of informality taking in account.

## 3. Characteristics of Entrepreneurial Performance in the Informal Sector in Cameroon

### 3.1 Statistical analysis

Descriptive statistics of the variables relating to informal entrepreneurs are summarized in Table 1 in the Appendix. Moreover, it is possible to get an idea on the issue of performance in the informal sector by exploiting the available statistics on the results of the financial year (profit and turnover) informal enterprises. We will also   proceed in

crossing between income and some factors explaining the performance after analyzing the income generated by informal activities. The aim here is to make comparisons between the different factors that influence the performance of informal entrepreneurs and deduce who better improved this performance. The crossings are mainly carried out to check whether the heterogeneity of informal activities (type of activity, initial investments, time spent at work, gender, education, etc.), making them more efficient.

> *Type of entrepreneurs by income*

The following table shows profit generated by informal enterprises can be divided into four income groups or quartiles including: *The lower level of income group, the lower middle income group, the upper middle of income group and the higher level of income group*. Each income represents about 25% of the sample. It is clear that, whatever the slice considered income, own-account workers constitute the largest fraction, probably because they are the most numerous. In other words, 90.74% of own-account workers remain levels of annual profits more than 9.26% High patterns. However, this proportion is higher for entrepreneurs who belong to the lower income (96.17%) than for higher income (80.74%). We conclude that despite the fact that they only develop their activities, individual entrepreneurs are also those with the most revenue belonging to the highest band in the informal economy.

**Table 2: Analysis of different types of entrepreneurs by income**

| Type of entrepreneur | | Income (in thousands of CFA Francs) | | | | |
|---|---|---|---|---|---|---|
| | | lower income group | Lower middle income group | Upper middle income group | High income group | Total |
| Own account workers | | 1,056 96.17% | 1,051 94.34% | 1,022 91.74% | 897 80.74% | 4,026 90.74% |
| Boss | | 42 3.83% | 63 5.66% | 92 8.26% | 214 19.26% | 411 9.26% |
| Total | | 1,098 100% | 1,114 100% | 1,114 100% | 1,111 100% | 4,437 100% |

*Source: Author from SSIE.*

> *Comparison of income and number of hours worked*

In the informal sector, some entrepreneurs spend more time working in their unit while others are busy with other activities (formal job). Therefore, the purpose is

to appreciate whether the number of hours spent at work improves the performance of informal entrepreneurs and if the time spent in informal activities explains the level of incomes in the informal sector? The informal sector reveals gaps in entrepreneur's income, for example, the boss's income is higher than own-account workers. The hourly income = monthly income/ time spent in informal activities.

Thus, an hourly income is 512.63 FCFA, then lower income group that devotes 39 hours of work per week on average, earns about 150.874 FCFA, while the lower middle income group earns 170.310 FCFA in dedicating 42 hours of work per week on average to their activities. In addition, for 47 hours of work per week, the upper middle of income group earns 187.468 FCFA per month while the higher income earns the most important income (212.522 FCFA) for just 53 hours of work per week. It appears that more entrepreneurs devote time to his business and the average of level of income from his activity is high. Finally, entrepreneurs who devote all their time to develop their business are also the most efficient.

**Table 3: Distribution of different income by working hours**

| Income groups | Average (hours) | Standard Deviation | Confidence interval of 95% | |
|---|---|---|---|---|
| lower income group | 150.8743 (39.53) | 2.604365 | 145.7685 | 155.9802 |
| Lower middle income group | 170.3016 (42.57) | 2.517728 | 165.3656 | 175.2376 |
| Upper middle of income group | 187.4686 (46.86) | 2.415144 | 182.7337 | 192.2035 |
| High income | 212.5221 (53.17) | 2.514916 | 207.5916 | 217.4525 |

*Source: Author from SSIE. Note: Values in brackets represent the average time spent on the job.*

➤ *Comparison of the entrepreneur's gender income*

The informal sector is often presented as an area within which there are more women than men. Moreover, it seems that the units headed by men are more successful than those run by women. One of the reasons cited by the researchers is that women have to choose between their participation in the labour market and their domestics tasks. We will try to confirm this.

Table 4 shows that there are more women (54%) than men (46%) entrepreneurs in the informal sector in Cameroon and in general, women receive less income from their activity than man. Indeed, we find that there are more women (32.16%) in the lower income group while a few numbers of men (16.08%), only realize a lower level of profit. However, 35.63% of men realize the greatest number of high income against 15.98% women. We can conclude that in the informal sector, women entrepreneurs earn less than men. Moreover, they are more numerous in the lower income group while men are found primarily in the upper income group.

**Table 4: comparison of entrepreneur Gender by income**

| Income group | Sex | | |
|---|---|---|---|
| | female | male | Total |
| lower income group | 769 | 329 | 1,098 |
| | (32,16) | (16,08) | (24,75) |
| Lower middle income group | 691 | 423 | 1,114 |
| | (28,90) | (20.67) | (25,11) |
| upper middle income group | 549 | 565 | 1,114 |
| | (22.96) | (27.61) | (25,11) |
| high level income | 382 | 729 | 1,114 |
| | (15,98) | (35.63) | (25,04) |
| Total | 2,391 | 2,046 | 4,437 |
| | (100.00) | (100.00) | (100.00) |

*Source: Author from SSIE.*

➢ *Income comparison with the industry*

Informal activities are also described as heterogeneous because of their multi-segmentation into several branches which created a difference in earnings. The informal sector in Cameroon is thus divided into three main branches which are branch of commerce, industry and service. It is important to know whether some branches' membership improves performance than other.

Table 5 shows that entrepreneurs in the industry (29.86%) are those who have high income; followed by the commercial sector (26.80%) and the industrial activities (17.96%). Service industries also has the largest number of entrepreneurs (29.86%) having an upper edge average income followed once again the trade and services (25 and 21.5%; respectively). By cons, a large majority of entrepreneurs in the industrial sector earn less (31.19%), followed by the commercial sector (25.05%) and industry (19.04%).

Finally, we can conclude that the services sector is one in which entrepreneurs realize greater revenues.

**Table 5: Slice of income by industry**

| Income group | Branches | | | |
|---|---|---|---|---|
| | **Service** | **Trade** | **Industry** | **Total** |
| lower income group | 292 | 365 | 441 | 1,098 |
| | 19,04 | 24.51 | 31.19 | 24.75 |
| Lower middle income group | 347 | 352 | 415 | 1,114 |
| | 22.62 | 23.64 | 29.35 | 25,11 |
| Upper middle income group. | 437 | 373 | 304 | 1,114 |
| | 28.49 | 25,05 | 21,50 | 25,11 |
| High-income group | 458 | 399 | 254 | 1,111 |
| | 29.86 | 26,80 | 17,96 | 25.04 |
| Total | 1,534 | 1,489 | 1,414 | 4,437 |
| | 100 | 100 | 100 | 100 |

*Source: Author from SSIE.*

In general, the statistical analysis of available data on informal entrepreneurs in Cameroon allows us to get an idea about factors that influence the performance of informal entrepreneurs. It reveals that there are significant gaps in income from informal activities; there are more women than men entrepreneurs in the informal sector in Cameroon, but they earn less than men. In addition, more an entrepreneur spends time in his activity, the more he increases its level of income especially if this activity is in the service branch. However, this statistical analysis does not capture the individual and collective effect of all these factors in improving the performance. This is why an econometric analysis is required.

**3.2. Econometric Analysis**

**3.2.1 Data, variables and justification of the choice of the model**

The data used in this study came from the base of the Second Survey of Employment and the Informal Sector (SSIE), conducted by the National Statistics Institute (INS) in 2010. The information collected in this survey treated completely about characteristics and informal unit's profits, such as type of activities, entrepreneur detailed characteristics, investment initial, factors of production (work, capital). In addition, qualitative indicators of the economic environment finally allow us to draw different accounts balance of informal enterprises and to identify key indicators of economic performance, such as the turnover, profit generated by the enterprises that are considered in this study as approximate variables of the income of entrepreneur (table 6 in the appendix).

Note that this discussion is focused on the self-employed informal entrepreneurs. Then econometric estimation covers only individuals who work for themselves and the bosses who are considered as the self-employed and therefore, informal entrepreneurs.

### 3.2.2 *Empirical evaluation of entrepreneur's performance: the Profit function*

The conceptual framework for understanding the determinants of entrepreneur's performance is derived from the theory of Mincer (1974). Originally, this equation is developed by labour economists to measure the performance of education on measurable factors such as the income of workers. However, it now allows some authors (Parker, 2006; Van Praag, 2008; Parker, 2009) to measure the impact of some income of an entrepreneur. The use of this type of model and assumptions resulting back to the pioneering work of Hart (1973), Honig (1998), analyzing the impact of the financial, social and human on performance of micro-entrepreneurs in the informal economy.

For this purpose, we will use in our empirical investigation, a gain function which is represented by models in the form: $\ln(w_i) = f(s_i, z_i)$; With i = 1, ..., n ; $\ln(w_i)$ this model is explained by exogenous variables, $s_i$ measures the level of education of the individual i, $z_i$ represents the other factors affecting wages.

Similarly, our entrepreneur's gain model can be written as follows:

$$\ln y_{i2} = \alpha + \Sigma X_i + \mu_i \; ;$$

*With* :

☞ ($\ln y_i$) The logarithm of the entrepreneur i performance's (generated income, profit);

☞ (X$_1$) the individual characteristics of the entrepreneur (education, work experience, age, sex, marital status, religion);

☞ (X$_2$) the of the enterprise characteristics (initial investment or capital, firm's size, firm's age, work, etc.);

☞ (X$_3$) vector of economic environment characteristics (access to financing and infrastructure difficulties, security, the equipment);

☞ $\mu_i$ is a random term representing unobservable characteristics and hazards inherent in the income statistics. It follows a normal distribution with mean zero and constant variance[5].

In this study, the measurement of performance is taken from the work of Honig (1998), Harada (2001), and Itaddy Moutouat (2014), Mallaye et al. (2014) then, the income generated by the informal and the profit business are the endogenous variables of performance. The choice of income as endogenous variable of performance of informal entrepreneurs is justified by the fact that entrepreneur's income is one of the most significant variables used in studies that analyze performance in the informal sector. In addition, a high level of income leads to a better standard of living for the household. Finally, the income generated by the enterprise can be related to the income of the entrepreneur especially when it comes to individuals' firms, that is our case (there are 86% of informal businesses) in Cameroon (INS, 2011).

## 4. Results and interpretation

## 4 .1 Assessing the empirical determinants of informal entrepreneur's performance in the informal sector in Cameroon

This section presents the results of our econometric regression. These results were obtained using STATA 12 software, through regressions based on the Robust method. Table 7 in the Appendix presents the results of estimates of earnings equations corrected with the selection bias.

### 4.2 Results

The regressions in Table 7 indicate that all the variables do not have the same relevance in explaining the performance of entrepreneurs in the informal economy.

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[5] These models are usually estimated by simple regression (OLS). The objective of the simple regression is to obtain parameters consisting or without bias unknown parameter to be estimated when all the regression assumptions are met. For example, the lack of correlation between the explanatory variables and explained, or the independence of the factors $X_i$ and $v_i$, otherwise, this model admits some limitations to be addressed. One of them relates to the reduced form of the gain equation; specifically, there may be a hand, a bias problem in coefficients (selection bias and endogeneity) and secondly, the problems of confidence intervals or multicollinearity between the explanatory variables. The most commonly used to correct selection bias method is the Heckman (1979); that used for endogeneity is the method of instrumental variables. As for the problem of very large standard deviations, it is resolved by determining the linear Pearson correlation coefficients between two variables.

➢*Individual's characteristics and informal entrepreneur's performance*

Concerning individual's characteristics of entrepreneur, previous work showed that variables such as education, specific work experience in entrepreneurship, age, and sex, significantly influence entrepreneur's income. Our empirical results show that the hypothesis that the level of education is a key determinant of the performance of entrepreneur is partially verified. Education is encoded into three dummy variables, then high school has a significant impact on performance (0.222), unlike the primary and the higher (-0.157). This result shows that; the most successful entrepreneurs are not necessarily those who have received a high education. This can be explained by the fact that in this sector, entrepreneurs are trained in the business. These results correspond to the position of authors like Honig (1998); Islam et al. (2011).

Similarly, it should be noted that the contribution of specific work experience in entrepreneurship of entrepreneur's performance in the informal sector is significant at 5% (0.0199). This result shows that, entrepreneurs who obtained some experience before creating their own activity have many advantages in compared to those who didn't. This can be explained if the acquired experience relates only to the business managed in the informal economy. These results are supported by authors like Cooper et al. (1994) and Musa and Semasinghe (2014).

The results we obtained with some control's variables respect some empirical works, including, sex (46%), age (26%) and marital status (-26%), this coefficient depends on the measurement used to capture the performance. For example, male entrepreneurs are more efficient than female (0.460, 0.134 for income and for the profit), even if they are more numerous (56%). These results are supported by the work of Thompson (2012) and Itaddy and Moutouat (2014).

Regarding the variable of marital status, which is composed with three dummy variables (married, single; other), the variable "single" is considered as reference. Therefore, the coefficient of the variable "other" is negatively and significantly associated with the performance (-0.261), this means that, divorced and widowed entrepreneurs are less efficient than single entrepreneurs. This result can be explained by the fact that, widowers and divorced people are mostly elderly unlike singles who are young and who have consequently a better physical strength to develop their business. Similarly, married entrepreneurs (-0.0868) are more efficient than single entrepreneurs. For this study, there is not enough evidence to assert that married entrepreneurs are more efficient than

single entrepreneurs even if the theoretical literature assumes that entrepreneurs who are married can get help from their family members; because they can replace them during their absence.

Regarding variable of age, the assumption saying that, young entrepreneurs are more efficient than old entrepreneurs is not verified in this study, because with a value of 0.261, this variable is significantly and positively linked with the performance however the measurement used. This means that when the age increases with one unit, the performance increases with 26%. This can be explained by the fact that older people who engage in entrepreneurship in retirement, take the time to build relationships with partners, identify good opportunities, study the environment before engage in entrepreneurship. These results follow the conclusions of Honig (1998) and are contrary to the results of Parker (2006) who shows that young entrepreneurs are more efficient than the old.

For the variable of hours spent at work, its effect seems more significant than those other individual variables. Indeed, it is a variable that affects performance significantly and positively regardless of the performance measurement. That is to say that as the number of hours devoted to employment increases with one unit, performance increases about 40%. This means that the performance increases with the number of working hours devoted to the activity.

Finally, the religious orientation did not appear significantly to affect the entrepreneur's income, unlike the turnover. Indeed, the fact of belonging to the Catholic religion enhances the turnover of 0.18 entrepreneurs from those who have a different religious orientation. Which is to say that membership in the religious community «Catholic» improves the performance of the informal sector entrepreneurs in Cameroon, compared to other communities? This can be explained by the fact that some religious communities are limited by financial constraints that prevent them to develop their business such as Islamic finance. This result is going in the same direction like those of Nguena and Tsafack (201 4).

➢ *Impact of firm characteristics on informal entrepreneur's performance*

This study shows that all the firm's variables are significant except for the age of the informal enterprise. More specifically, individual entrepreneurs have invested more capital to create their business improve their performance of 19.1%, compared to those

who have invested little capital. This result is justified by the fact that capital is an important factor in the performance of an enterprise and therefore an entrepreneur, hence the importance of funding for a business.

Moreover, entrepreneurs belonging to the trade industry are more efficient than those engaged in service activities (0.697), while the entrepreneurs of service industries are more efficient than those that are part of the industrial branch (-0.158). Because the investment in industrial sector required serious and expensive equipment, while it is not the case in services. These results are consistent with those of Parker (2009); Itaddy and Moutouat (2014).

The existence of dependent and family aids subsidiaries in the business has a positive effect (0.683) on the performance of the entrepreneur. This indicates that the presence of aids is more important for individual entrepreneurs than for those who use permanent workers (Granovetter, 1973). As a result, Bosses are increasing their performance by hiring permanent workers.

Finally, the informal enterprise does not influence the performance. This finding contradicts the theory of innovation that argues that, new activities are more efficient than older because, new enterprises bring innovation and use of new technologies in the sense of Schumpeter (1935).

➤ *Features environment outside on informal entrepreneur's performance*

The economic literature postulates the hypothesis that market access, infrastructure and policy environment positively influence the performance of entrepreneur. According to the results, the difficulties of accessing to finance (-0.341) is significant but negative variable. This means that lack of access to financial services reduces the potential for development of informal enterprises, hence the decrease in the performance of entrepreneur in the informal sector.

For the global regression, taken individually, the variables of the economic environment generally explain 21% of the loss of income of informal entrepreneurs, and in this explanation, the degree of the contribution of the difficulties of access to finance are higher than in the overall model. This issue would contribute to 41% to reduce the level of performance of entrepreneurs in the informal sector, which confirms that this obstacle is actually located among the most significant obstacles to the business environment followed by customer problems (-0.321). These results are in the same line

with those of Mbugua et al. (2014), although for him, financial factors influence 70% of the performance of Kenyan informal enterprises.

Regarding the other variables, the competitive environment for example, has a significant and negative impact on performance, this variety is -0.149 and -0.296 for the income and the profit respectively; which means that the level of competition reduces the performance of entrepreneur in the informal economy. This result can be explained by the fact that the lack of barriers to entry in the informal sector facilitates the arrival of other entrepreneurs, reducing the benefit of those already installed, which cannot cope with the competition.

Similarly, the influence of the lack of qualified entrepreneurs on performance is positive and significant (0.224), knowing that individual enterprises are the most part of our data. However, this variable may be important in terms of bosses of companies employing at least one permanent employee. These findings are in line with Harada (2001), namely that the qualification is important even in this sector.

However, the infrastructure variable (-0.066) is not very significant, despite the fact that it is negatively associated with the performance of an entrepreneur. This means that when an entrepreneur has access to equipment (or a local court, a house or computer equipment etc.) needed for its production, its performance is reduced by 6.6%, which is in contradiction with the states of Mbugua et al. (2014). This is because the lack of infrastructure, limited access to financing when they want to start an economic activity, which inevitably led to the informal sector.

Furthermore, the influence of the lack of customer is significant and negative regardless of the performance measurement (-0.296 for income, and -0.149 for the profit). This means that lack of customer reduces the performance of informal entrepreneurs. These factors seem to be added to individual and specific factors to improve the performance of individual entrepreneurs. Although some authors (Chowdhury et al. 2014), their influence is much greater than the former; our results do not seem to support these findings.

For the rest, the fact to record their activity does not seem to be an important factor in the performance of the informal entrepreneur. In fact, the coefficient of the variable recording turns out to be insignificant regardless of the performance measurement (0.0069). However, its positive sign leads us to believe that since this variable is coded 1 if the enterprise is registered and otherwise, performance increases with the recording.

Thus, entrepreneurs who have not registered their businesses making less profit than those who have registered, which means that due to the legalization of the unit, the entrepreneur increases its income or its sales because he wins either customers or infrastructure.

The effect of a formalization of informal enterprises policy is positive on the performance of the entrepreneur through that of his company. In addition, registration allows the owner to make his business stable and out of hiding, an entrepreneur earns more by developing its business or formalizing. This reflects the fact that the formalization policy improves the performance of entrepreneur. These results contradict those of Fomba et al. (2013) in Cameroon, which show that the degree of informality has a positive impact on the performance of entrepreneur.

However, operating in the informal sector to achieve higher incomes and reduce costs related to the formalization, deprives entrepreneur of some benefits such as access to bank financial services, access to public markets or infrastructure set up by the government to support entrepreneurs.

## 5. Concluding remark and Recommendation

This study led to the conclusion that the factors that most negatively influence performance informal of entrepreneurs are human capital and the economic environment. To this end, the following recommendations are made against the state and its partners in development:

- Improving the human capital of entrepreneur by informal training, including business training; specialization in their job;
- Enabling access to finance for informal entrepreneurs; young entrepreneur; and limitation of conditions for granting financing to informal entrepreneur; create more innovative product;
- Hold informal sector with the regulation of new attainable areas and location for small trader's street.

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**<u>Appendix</u>**

**Table 6: variables**

| variables | Definition |
|---|---|
| *entrepreneurperformance* | |
| **Entrepreneur** | 1 if worker on own account, 0if boss |
| **Ln income generated by the business** | Captured by the profit of informal business (FCFA / Month) |
| **Ln turnover** | Picked up by the turnover of the company (FCFA / month) |
| *Entrepreneur characteristics : individual characteristics of the entrepreneur* | |
| **Gender** *(sex)* | = 1 if the entrepreneur is male, 0 = otherwise |
| **Entrepreneur's age** *(age)* | Gone entrepreneurAge (years) |
| **Marital status** *(mat_statut)* | |
| **Single** | reference |
| **Married** | 1 = if married, 0 = otherwise |
| **Other (divorced and widowed)** | 1 = if divorced or widowed, 0 = otherwise |
| **religion** *(religion)* | |
| **other Religion** | reference |
| **Muslim** | 1 = if he is a Muslim, 0 = otherwise |
| **Protestant** | 1 = if Protestant, 0 = otherwise |
| **Catholics** | 1 = if Catholic, 0 = otherwise |
| **Labor (** *time)* | Number of hours spent on the informal business |
| *The human capital of the entrepreneur* | |
| **Level of education** *(educ)* | |
| **At the primary** | reference |
| **Secondary** | = 1 if he has the secondary level, 0 = otherwise |
| **High** | = 1 if he has the high level, 0 = otherwise |
| **Specific work training** *(prof-training)* | 1 if the is trained 0 if not |
| **Seniority** | The number of years of experience of the owner in the same informal. |
| *The company Features* | |
| **existence of employee** | = 1 if there is at least one permanent employee in the company, 0= otherwise |
| **The age of the unit** *(age_upi)* | Number of years of unity |
| **Use of family aids** *(family-aids)* | Number of hours worked by family members |
| **Branch of activity** *(branch_act)* | |
| **Industry** | reference |
| **Trade** | 1 = if the company is in the trade branch, 0 = otherwise |
| **Service** | 1 = if the company is in the service industries, 0 = otherwise |
| **Investment** *(capital)* | Estimated value of replacing the local, land, machinery, cars, tools and small tools. |
| *The characteristics of the external environment* | |
| **Access to infrastructure or lack of equipment hardware** *(infrastructure)* | = 1 if the contractor meets these difficulties, 0 otherwise |
| **Difficult access and use of financial services** *(Xfin)* | = 1 if the contractor encounters this type of difficulty, 0 = otherwise |
| **Regulatory policy** *(registration)* | = 1 if the contractor meets these difficulties, 0 otherwise |
| **Customer problem** *(lack-customer)* | = 1 if the contractor encounter this type of difficulty, 0 = otherwise |
| **Competition problems** *(too_conccurence)* | = 1 if the contractor meets these difficulties, 0 otherwise |

*Source: Author from SSIE data.*

**Table 1: Descriptive statistics of variables used to analyze entrepreneur's performance.**

| variables | Average | Standard deviation |
|---|---|---|
| **Income** | 962.553 | 3343.532 |
| **Turnover** | 315.033 | 3116.788 |
| **Age_entrepreneur** | 35.890 | 12.386 |
| **Sex** | | |
| **Wife** | 0.54 | 0.51 |
| **Man** | 0.46 | 0.49 |
| **Level of education** | 7,898 | 3,861 |
| **Seniority** | 6,746 | 8.124 |
| **Professional_training** | 0.491 | 0,500 |
| **Lack_customer** | 50 | 0.501 |
| **Competition** | 0.50 | 0.49 |
| **Infrastructure** | 0,181 | 0,385 |
| **lack of workers** | 0.51 | 0.49 |
| **Number of hours** | 45.554 | 29.63976 |
| **Investment** | 182.084 | 806.9008 |
| **UPI Age** | 23.31 | 33.47 |
| **Existence employee** | 0.083 | 0.276 |
| **Family help** | 0,972 | 0,164 |

*Source: The author from SSIE.*

**Table 7: General regression of the informal entrepreneur performance**

|  | Model1 regression with generated income<br>N = 2,356<br>F (24, 2331) = 30.31<br>$R^2$ = 0.104 |  | Model2 regression with turnover<br>N = 2,291<br>F (24, 2266) = 51.21<br>$R^2$ = 0.343 |  |
|---|---|---|---|---|
| variables | coefficients | Standard Deviation | coefficients | Standard Deviation |
| *Individual characteristics* |  |  |  |  |
| **Sex: Female** | Ref, | Ref, | Ref, | Ref, |
| **Male** | 0.460 *** | (0.115) | 0.134 ** | (0.0540) |
| **Mat_statut: Single** | Ref, | Ref, | Ref, | Ref, |
| **Married** | -0.0679 | (0.117) | -0.0868 | (0.0565) |
| **Other** | -0.297 | (0.256) | -0.261 *** | (0.0971) |
| **Ln_age** | 0.132 | (0.191) | 0.272 *** | (0.0977) |
| **Religious:** |  |  |  |  |
| **Other Religion** | Ref, | Ref, | Ref, | Ref, |
| **Muslim** | 0.119 | (0.156) | 0.171 | (0.121) |
| **Protestant** | 0.0306 | (0.243) | -0.0874 | (0.0913) |
| **Catholic** | 0,125 | (0.150) | 0.188 * | (0.108) |
| **Level of education:** |  |  |  |  |
| **More at Primary** | Ref, | Ref, | Ref, | Ref, |
| **Secondary** | 0.0123 | (0.0996) | 0.222 *** | (0.0501) |
| **High level** | -0.157 * | (0.0952) | -0.123 | (0.0825) |
| **Professional_training** | 0.108 | (0.271) | -0.201 | (0.132) |
| **Seniority** | 0.0199 ** | (0.00862) | -3,04e-05 | (0.00396) |
| **Ln_time** | 0,400 *** | (0.0690) | 0.443 *** | (0.0443) |
| *Enterprise characteristics* |  |  |  |  |
| **Branch_act:** |  |  |  |  |
| **Service** | Ref, | Ref, | Ref, | Ref, |
| **Trade** | 0,140 | (0.160) | 0.697 *** | (0.0700) |
| **Industry** | -0.0908 | (0.114) | -0.158 *** | (0.0558) |
| **ln_capital** | 0.174 *** | (0.0279) | 0.196 *** | (0.0183) |
| **Age_upi** | -0.000182 | (0.00157) | 0.000109 | (0.0252) |
| **Existence_employee** | 0.933 *** | (0.118) | 1.287 *** | (0.125) |
| **Existence-employed** | 0.388 ** | (0.184) | 0.683 *** | (0.182) |
| *Environmental characteristics* |  |  |  |  |
| **Xfin** | -0.341 ** | (0.139) | 0.0144 | (0.0562) |
| **lack_customers** | -0.296 *** | (0.103) | -0.149 *** | (0.0504) |
| **Much_competition** | 0.0328 | (0.0925) | 0.201 *** | (0.0512) |
| **Lack_qualitied_employees** | 0.403 *** | (0.152) | 0,224 * | (0.135) |
| **Infrastructure** | .0497 | (0.104) | -0.0661 | (0.0588) |
| **Registred** | 0.0694 | (0.162) | 0.0347 | (0.0683) |
| **constant** | -0.564 | (0.751) | -0.351 | (0.418) |

**Notes:** *** = significant at 1%, ** = significant at 5%, * = significant at 10%.

*Source: Author from SSIE;*