

# **Occupational Choice in the Urban Labor Market** in Congo (DRC): Can Gender Disparities Be **Identified?**

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Abstract

The purpose of this study is to quantify the disparities between men and women in occupational choice and particularly in the choice of employment status and to identify the factors that contribute to explaining them. The results thus found confirm the general consensus on the importance of the three groups of explanatory factors (individual characteristics, household characteristics and those of the state of the labor market) of the choice of self-employment status. The decomposition analysis shows that the estimated average probabilities of self-employment are 73.51% for women and 38.46% for men and the total gender gap in self-employment is 35.05 percentage points. It emerges that this difference is explained at 48.76% by the differences between men and women in the endowments. Taking into account the different characteristics shows that the differences in human capital endowments (Eduction) represent 1.428% to 4.190% of the gender gap in access to salaried employment and that other characteristics such as those related to the social as well as those of the state of the labor market would contribute to accentuate the gender gap in the occupational choice. However, the very high nature of the gender gap unexplained by unobservable factors would intuitively imply that other factors not taken into account in the equations could have substantially explained this gap in self-employment.

## **Keywords**

Occupational Choice, Employment Status, Self-Employment, Salary, Gender

# **1. Introduction**

Research conducted by Hotchkiss et al. (1979) highlighted two reasons that seem

to be at least important in justifying the practical interest in occupational choice in the labor market. First, the occupation is a means of subsistence for the vast majority of the population. Second, many people's sense of self-respect depends to a large extent on their employment status and the type of work they do. In general, the literature on occupational choice describes three pathways likely to influence an individual's employment decision. First, the individual characteristics (capacities), with the socio-economic context as framing conditions in which the person chooses the occupation. Next, the characteristics of the labor market (the structure of wages and demand) and government policies. And finally, the social and cultural context, including the status of parents and other family members and the resulting conditions and expectations (Nagler, 2015). Occupational choice therefore presents an essential aspect in the analysis of the labor market. On the one hand, it shows interest in how individuals decide to be active, why they engage in a particular sector of activity or why they opt for a particular employment status. And on the other hand, how they plan their professions throughout life. These decisions in turn affect their well-being and that of their families.

At a time when in many developing countries, the question of occupational choice has experienced a resurgence of interest on the part of researchers (Lassassi & Hammouda, 2012; Leoni & Falk, 2010), this issue is still very little debated in the Democratic Republic of Congo (DRC), while it is proven that the labor market in the DRC is characterized by a strong dynamic of informality of jobs and entrepreneurship (INS, 2018). Analyzing both individual factors and those of the functioning of the labor market is likely to explain the preponderance of one type or status of occupation compared to other alternatives. Within the framework of this study, particular emphasis is placed on the choice of employment status and analyzes the differences observed between men and women in wage employment and in self-employment. The result of this study underlines on the one hand, the importance of the three groups of explanatory factors (individual characteristics, characteristics of the household and those of the state of the labor market) of the occupational choice on the urban labor market in the DRC and highlights, on the other hand, the existence of a gender gap estimated at 35.05 percentage points to the detriment of women in the employment status.

The rest of the study is organised as follows: Section 2 presents the literature review. We discuss the methodology and data in Section 3. The empirical analysis and discussion of results are covered in Section 4. We conclude with Section 5.

## 2. Review of Literature

Occupational choice can be defined as the freedom of individuals to choose what type of economic activity they wish to engage in, while simultaneously allowing them to secure their income and therefore their livelihoods (Nagler, 2015). It is a lifelong process for people of working age, since people can choose to be active

or to leave the labor market at different stages of life, as well as to occupy different positions in different sectors and fields of employment, or become an entrepreneur (Blau et al., 1956). In their study of the process of occupational choice, Ginzberg et al. (1951) consider that occupational choice is a cumulative process of decision-making, taking place in three stages closely linked to those of emotional and intellectual development, namely: the fanciful choice which is often justified during a first experience on the labor market, then comes a period of provisional choice, then finally a period of realistic choice.

In other words, we can consider that the occupational choice of individuals operates freely according to their respective comparative advantages. Nevertheless, Wheeler and Mahoney (1981) suggest distinguishing between occupational choice and occupational preference. These authors show that economic and psychological models make a critical distinction between the occupations or jobs that individuals would most attract and the jobs they would prefer, or occupational preference and the occupations that individuals choose. For its part, Vroom (1964) describes occupational preference as a function of the attraction for a profession, for a type of job or even for an employment status, while occupational choice is described as a function of this attraction and the hope of obtaining a job occupation<sup>1</sup>.

Among the many areas of research on the issue of occupational choice, the literature on the determinants of the choice between wage earning and self-employment has emerged over the past two decades, and this, given the importance and role of entrepreneurship in economic development (Lasassi & Hammouda, 2012). Indeed, studies on the determinants of employment status emphasize the importance of individual characteristics, in particular age (Zamo-Akono, 2018), sex (Sboui, 2006), level of education (Poschke, 2013), marital status (Leoni & Falk, 2010), labor market experience (Chennouf & Hafsi, 2009); second, the importance of variables such as financial capital and income of household members (Dunn & Holtz-Eakin, 2000); as well as the labor market situation, in terms of growth and structure (Carrasco, 1999; Roubaud, 1994).

Moreover, studies focusing on the sources of gender differentials in occupational choice in the labor market are based on stylized facts according to which the differences appear between men and women above all when looking for employment, women seek employment less than men and the fact of being married has a negative effect in the search for employment for women and a positive one for men (Parsons, 1991). Jones (1989) justifies the differences in occupational choice by the differences in the intensity of the job search effort, the reservation wage, the ability to negotiate and the functions offered. For this author, men spend more time than women looking for work and that the two are different in their activities, so women would pay more attention to working conditions, while men would focus on their careers. In developing countries, the results of empirical work also show a consensus on the existence of significant disparities be-<sup>1</sup>Occupational choice as a process of compromise between professional attraction and expectations to achieve a job is also found in the works of Ginzberg et al. (1951) and Blau et al. (1956). tween men and women in occupational choice (Nordman and Wolff, 2009; Temesgen, 2006; Kabubo-Mariara, 2003). However, a contrast persists when it comes to looking at the sources of these disparities. Indeed, if for some, the disparities observed in occupational choice on the labor market are attributed to individual characteristics, others, on the other hand, attribute them to the occupational segregation of which women are victims. Siphambe and Thokweng-Bakwena (2001) attribute the participation gap observed in the public sector in Botswana to differences in individual characteristics between men and women, whereas it is not explained by the latter in the formal private sector. Their result goes in the direction of confirming that of Appleton et al. (1999) for Côte d'Ivoire but contrast with the conclusions of Armitage and Sabot (1991). For its part, Ekamena (2014) finds that the estimated labor market participation gap between men and women in Cameroon is 4.09%; the breakdown of this gap shows that the share of disparities explained by individual characteristics is 36.56%, while segregation occupies 63.44% of the total differential.

Obviously, the results of studies on this issue remain very mixed (Nagler, 2015). In addition, although abundant, the majority of the literature has so far concerned developed countries and only a few studies are interested in developing countries, in this case those dealing with gender disparities in the choice of status, employment (Lassassi & Hammouda, 2012; Lassassi & Hammouda, 2009). This study contributes to this literature by identifying the factors that explain gender disparities in occupational choice, more specifically by focusing on the choice of employment status in a particular context, that of the DRC.

## 3. Methodology

## 3.1. Econometric Approach

The modeling of the choice of employment status by an individual can be done by drawing inspiration from the random utility model (Greene, 2005; Wooldridge, 2002). Indeed, it is hypothesized that an individual can only face the choice between two options, namely: whether he chooses the status of self-employment or  $Y_i = 1 Y_i = 0$  if he chooses to be a wage earner. In principle, the individual chooses in all rationality the alternative which gives him the greatest utility, all other things being equal. The choice of one or the other alternative therefore gives it a level of utility which is a function both of its characteristics and of pecuniary and non-pecuniary elements. Starting from this conception, the rationality of the individual will be justified by the fact that he will choose self-employment if his expected utility in this employment status is greater than the utility he would have achieved by choosing wage-earning.

We use  $U^a$  et  $U^b$ , the respective utilities derived by the individual from the "self-employment" and "wage earning" alternatives. These utility functions can be formalized on the basis of the linear random utility model as follows:

$$U^a = X'\beta_a + \varepsilon_a \tag{1.a}$$

$$U^{b} = X' \beta_{b} + \varepsilon_{b} \tag{1.b}$$

where is the transpose of the matrix of variables determining the level of utility of the individual faced with the choice of employment status, is the matrix of coefficients and the error term. However, the utility of the individual is unobservable, only the choice of self-employment or salaried status which is observable. So we have:  $X'\beta\varepsilon(Y_i = 1)(Y_i = 0)$ 

$$Y = \begin{cases} 1, \operatorname{si} U^a > U^b \Longrightarrow U^a - U^a > 0\\ 0, \operatorname{si} U^a \le U^b \Longrightarrow U^a - U^b \le 0 \end{cases}$$
(2)

Therefore, assuming that the individual opts for self-employment, it is possible to estimate the probability of the choice of self-employment by the individual as follows:

$$Pr = [Y_i = 1 | X] = Pr[U^a > U^b]$$
$$= Pr[X'(\beta_a - \beta_b) + \varepsilon_a + \varepsilon_b > 0 | X]$$
$$= Pr[X'\beta + \varepsilon > 0 | X]$$
(3)

The probability that is defined by Equation (4) in which, represents the cumulative function of a normal distribution, can be estimated from a probit model.  $Y_i = 1 F(.)$ .

We can then write:

$$\Pr = \left[Y_i = 1 \middle| X\right] = \frac{e^{X'\beta}}{1 + e^{X'\beta}} = F\left(X'\beta\right)$$
(4)

Moreover, to assess the contribution of each of the explanatory variables to the gender gap in terms of participation in the labor market, we use the technique of decomposition of Blinder (1973) and Oaxaca (1973), which consists in decomposing the intergroup differences in the average observations of a given variable, into differences due to observable characteristics or "endowments" between these groups and into those due to the differentiated reward (or coefficients) of said characteristics. However, if the decomposition Blinder-Oaxaca (1973) is usual when the variable of interest is continuous, many authors have proposed a generalization of this decomposition to nonlinear functions (Yun, 2004; Bauer & Sinning, 2008). Thus, if we consider a non-linear equation of the Probit type and we define  $\overline{Y_i}$  the average probability that the individual of sex j is a worker and F the cumulative function of a logistic distribution Y. We denote  $Y = F(X\hat{\beta})$ , the difference in probability of participation between men and women can then be written as follows:

$$\overline{Y}_{h} - \overline{Y}_{f} = \left[\sum_{i=1}^{N_{h}} \frac{F\left(X_{i}^{h}\beta_{h}\right)}{N_{h}} - \sum_{i=1}^{N_{f}} \frac{F\left(X_{i}^{f}\beta_{h}\right)}{N_{f}}\right] + \left[\sum_{i=1}^{N_{f}} \frac{F\left(X_{i}^{f}\beta_{h}\right)}{N_{f}} - \sum_{i=1}^{N_{f}} \frac{F\left(X_{i}^{f}\beta_{f}\right)}{N_{f}}\right]$$
(5)

In Equation (5), the first term in square brackets indicates the contributions of each variable to the deviations linked to differences in observable characteristics. This is the explained part of the difference in the probabilities of access, i.e. what is due to the difference between the endowments of men and women with regard to the observed explanatory characteristics of market access work. While the second term in square brackets corresponds to the deviations linked to the differences in coefficients for the characteristics retained in the regression. This is the unexplained part of the difference in the probabilities of access to employment, these are the differences linked to the effects of the differences between the unmeasurable and unobserved variables of men and women. This component, (Jann, 2008). Finally,  $N_i$  represents the number of individuals of sex j.

The various estimated parameters are obtained using the maximum likelihood method. However, the estimators obtained may be affected by a selection bias. This econometric problem often arises when the presence of an observation in the sample is determined by exogenous factors, which would affect its random nature. One of the generally suitable solutions to this problem is to use the two-step correction method proposed by Heckman (1976) for linear models with extensions of Van de Ven and Van Pragg (1981) for binary choice models. However, the difficulty in applying this correction lies in identifying the exclusion variables. In this case, the aim is to identify the variables that can explain participation in the labor market without having an impact on employment status. In addition, the non-random differences observed exist for each of the comparisons considered. This difficulty increases when unobserved differences also exist between the active and the inactive, between the unemployed and the employed employed and the self-employed. The works of Gorg and Strobl (2003) as Muller (2009) show that all these elements make it difficult to correct this bias in the specific case of the estimate considered.

Another solution considered is that of estimating a multinomial logit including all employment statuses on the labor market (Wilkins, 2006). This econometric model is based on the assumption of the independence of irrelevant states which is strong. Moreover, for the estimates envisaged, the characteristics linked to the demand for labor are essential in view of the theoretical approaches to the determinants of the forms of labor underutilization that are of interest to us and it is impossible to control for the effect of its factors in a multinomial logit which includes the inactive and the unemployed. Panel data methods are often used to control for unobserved effects in discrete-choice models (Wooldridge, 2002). However, not having such panel data and as argued Burda and Harding (2009) these methods suffer from a weak theoretical basis and from estimation difficulties which make it difficult to assess the contribution attributable to the differences in the unobserved effects. In view of all these difficulties, the estimates envisaged are not subject to any correction for any selection bias and must be interpreted as conditional on selection.

## 3.2. Data

The data used in this study come from the survey on Employment, the Informal Sector and Household Consumption (Survey 123) collected between 2012 and 2013 by the National Institute of Statistics of the DRC (INS-RDC). It consists of a system of three phases, providing information on the characteristics of the population in a fairly broad way. The first phase of this survey concerns employment, unemployment and the conditions of household activities (phase 1: employment survey). The second phase consists of carrying out a specific survey of the heads of informal production units, on their conditions of activity, their economic performance, the mode of integration into the productive fabric and their prospects (phase 2: survey on the informal sector). Finally, the third phase is a household consumption survey. It aims to estimate the standard of living of households, to measure the weight of the formal and informal sectors in their consumption, and to analyze the determinants of the choice of different places of purchase (phase 3: survey on consumption, places of purchasing and poverty). It should be noted that this survey is increasingly being used to study the labor market in the DRC (Kamenga-Mapurita et al., 2021; Kiuma et al., 2020; Kamala et al., 2018). As part of this survey, 88,600 individuals were successfully interviewed (INS-RDC, 2016). However, given that the analysis relates exclusively to the population of working age (15 to 64 years), a total of 44,555 observations were deleted because the persons concerned do not belong to the age group considered. Also, the study being focused on those who participate in the labor market (active people), it was necessary to exclude from the sample, individuals still in school and individuals who did not provide information on their employment situation activity (i.e. 33,841 observations), which brings the sample down to 10,204 individuals. In addition, considering only individuals in urban areas, in the end the analyzes relate to a sample of 7574 individuals, among whom women represent 43.01% (i.e. 3258) against 4316 men (i.e. 56.98%). From this information.

To do this, a series of variables are selected and used as follows: The first group of variables (variable of interest) concerns human capital and provides information on the level of education of the individual. The second group of variables captures the experience of the individual on the labor market as well as the characteristic of his job and the third group of variables concerns the other characteristics of the individual. However, it is possible that the choice of employment status is influenced by the specific characteristics of the individual's region of residence. Failure to take this heterogeneity into account would likely lead to an underestimation of the degree of positive dependence of the employment status occupied by the individual with respect to his region of residence. To take this aspect into account, the variable capturing regional characteristics (Province) was introduced into the regression. Finally, two variables are used as control variables in this study. First, we use the variable providing information on the state of the labor market captured here by the local unemployment rate. This information is described in Table 1.

## 4. Results

### 4.1. Prelimanary Analysis

The result of the descriptive statistics recorded in Table 2 shows that 59.2% of

#### Table 1. Variables define.

Variables	Definition
Education level of the individual	Series of binary variables capturing the human capital of the individual.
Uneducated	1. if uneducated; 0. otherwise
Primary	1. if primary level; 0. otherwise
Secondary	1. if secondary level; 0. otherwise
Superior	1. if higher level; 0. otherwise
Experience and nature of employment	Series of binary variables capturing labor market experience and employment formality
First-time entrant	1. if First-time entrant; 0. otherwise
Informal employment	1. if informal employment; 0. otherwise
Other characteristics of the individual	
Age	Age (in completed years)
Age2/100	Age (in completed years) divided by 100
Women	1. if Female; 0. if Male
Couple	1. if married or common-law (marital status); 0. otherwise
head of household	1. if head of household; 0. otherwise
Income from activity	Logarithm of the monthly income from the activity
Residence area	Series of binary variables indicating the region (Province) of residence of the individual.
Kinshasa	1. if Kinshasa; 0. otherwise
Bandundu	1. if Bandundu; 0. otherwise
Bas-Congo	1. if Bas-Congo; 0. otherwise
Katanga	1. if Katanga; 0. otherwise
Kasai-Oriental	1. if Kasai-Oriental; 0. otherwise
Kasai-Occidental	1. if Kasaï-Occidental; 0. otherwise
Equateur	1. if Equateur; 0. otherwise
Nord Kivu	1. if Nord Kivu; 0. otherwise
Sud Kivu	1. if Sud Kivu; 0. otherwise
Maniema	1. if Maniema; 0. otherwise
Province Orientale	1. if Province Orientale; 0. otherwise
Control variables	
Unemployment rate	variable indicating the proportion of unemployed individuals in the region of residence in 2012
Self employed father	1. if self-employed; 0. otherwise

individuals for the sample considered here have on average a secondary level of education (respectively 58.7% and 59.9% among men and women). It can also be noted that there are many men with a higher level of education (i.e. 28.8%) compared to women (11.1% on average). By looking at the experience of individuals on the labor market, we can note that 80% of self-employed people are

# Table 2. Summary statistics.

Control variables		Toge	ether	Men				Women				
	N (Obs.)	Mean	Minimum	Max	N (Obs.)	Mean	Minimum	Max	N (Obs.)	Mean	Minimum	Max
Education level of the	individual											
Uneducated	7574	0.062 (0.241)	0	1	4316	0.033 (0.178)	0	1	3258	0.100 (0.300)	0	1
Primary	7574	0.135 (0.342)	0	1	4316	0.092 (0.289)	0	1	3258	0.190 (0.393)	0	1
Secondary	7574	0.592 (0.491)	0	1	4316	0.587 (0.492)	0	1	3258	0.599 (0.490)	0	1
Superior	7574	0.211 (0.408)	0	1	4316	0.288 (0.453)	0	1	3258	0.111 (0.314)	0	1
Labor market experien	ice and natu	re of emp	oloyment									
First-time entrant	7574	0.800 (0.400)	0	1	4316	0.757 (0.429)	0	1	3258	0.855 (0.352)	0	1
Informal employment	7574	0.670 (0.470)	0	1	4316	0.564 (0.496)	0	1	3258	0.807 (0.395)	0	1
Other characteristics of	of the individ	lual										
Age	7574	37,018 (10,938)	15	64	4316	37,789 (10,932)	15	64	3258	36.024 (10.868)	15	64
Age2/100	7574	14,899 (8.619)	2250	40,960	4316	15.475 (8.685)	2250	40,960	3258	14.158 (8.476)	2250	40,960
Women	7574	0.437 (0.496)	0	1								
Couple	7574	0.698 (0.459)	0	1	4316	0.743 (0.437)	0	1	3258	0.640 (0.480)	0	1
head of household	7574	0.534 (0.499)	0	1	4316	0.784 (0.412)	0	1	3258	0.212 (0.409)	0	1
Income from activity	7574	10.924 (1.074)	5704	15,331	4316	11,229 (1002)	6292	15,331	3258	10.531 (1.035)	5704	14,403
Area of residence of th	ne individual	l										
Kinshasa	7574	0.325 (0.468)	0	1	4316	0.324 (0.468)	0	1	3258	0.326 (0.469)	0	1
Bandundu	7574	0.080 (0.271)	0	1	4316	0.077 (0.267)	0	1	3258	0.083 (0.275)	0	1
Lower Congo	7574	0.049 (0.215)	0	1	4316	0.051 (0.220)	0	1	3258	0.046 (0.209)	0	1
Katanga	7574	0.116 (0.320)	0	1	4316	0.135 (0.341)	0	1	3258	0.092 (0.290)	0	1
Kasai-Oriental	7574	0.062 (0.241)	0	1	4316	0.061 (0.239)	0	1	3258	0.063 (0.243)	0	1
Kasai-Occidental	7574	0.080 (0.272)	0	1	4316	0.072 (0.259)	0	1	3258	0.091 (0.288)	0	1
Ecuador	7574	0.072 (0.258)	0	1	4316	0.066 (0.248)	0	1	3258	0.080 (0.271)	0	1

Continued												
North Kivu	7574	0.049 (0.216)	0	1	4316	0.051 (0.220)	0	1	3258	0.047 (0.211)	0	1
South Kivu	7574	0.050 (0.216)	0	1	4316	0.048 (0.214)	0	1	3258	0.053 (0.223)	0	1
Maniema	7574	0.024 (0.154)	0	1	4316	0.020 (0.141)	0	1	3258	0.030 (0.170)	0	1
Eastern Province	7574	0.093 (0.290)	0	1	4316	0.095 (0.293)	0	1	3258	0.089 (0.285)	0	1
Control variables												
Unemployment rate	7574	8.138 (7.735)	0.94	18.9	4316	8.145 (7.709)	0.94	18.9	3258	8.130 (7.770)	0.94	18.9
Self employed father	7574	0.556 (0.497)	0	1	4316	0.553 (0.497)	0	1	3258	0.560 (0.496)	0	1

## Continued

Source: Authors with 123 survey (INS, 2012). Note: Standard deviations in parentheses.

first-time entrants and compared to men, women represent the largest proportion (i.e. 85.5%). In addition, self-employment remains the occupation status on the labor market mainly characterized by informal jobs (on average 67%) and 81% of women against 56.4% of men are concerned. As for the other characteristics, it appears that self-employed individuals are on average 37 years old (with a year less for women, i.e. 36 years of age). Nearly 70% of them are in a couple (including 74.3% for men and 64% for women). Moreover, in their activities, it emerges that men would earn more than women in terms of income and nearly 56% had parents (fathers) whose employment status is self-employment.

From the description of the employment status recorded in **Table 3**, it appears at first sight that the variables providing information on human capital (number of years of study as well as the level of education) would justify the choice of employment status, employment whether men or women.

Indeed, individuals whose employment status is salaried have on average accumulated nearly 12 years of study (respectively nearly 12.05 years of study for men and nearly 11 years for women), i.e., a level corresponding to a secondary school diploma. Individuals with no schooling and those with only primary education are more inclined to self-employment, while those with a higher level of education would opt more for wage employment. Nearly 2 out of 10 individuals are self-employed and hold a higher education qualification, and this proportion is observed for both men and women. While 3 women out of 10 newcomers would be more inclined to self-employment, it can be noted that individuals (men) with the same characteristic would be more likely to evolve in wage employment. However, it seems obvious that first-time entrants as a whole are relatively numerous in self-employment (52.47%) than in paid employment (47.53%). One of the explanations for this result would be the fact that it is often demonstrated on the one hand the existence of a preference of employers for experienced individuals on the labor market and on the other hand, first-time entrants who

	Men and	Women		М	en		Wor	men	
Variables	Salary	Self- employment	T-stat	Salary	Self- employment	T-stat	Salary	Self- employment	T-stat
Number of years of study	11.76 (4.096)	8.69 (4.1075)	3.3***	12.05 (0.8969)	10.07 (3.773)	1.9***	10.97 (4.501)	7.77 (4.066)	3.7***
Unschooled	31.13 (0.463)	68.87 (0.463)	124.8***	50.86 (0.501)	49.14 (0.501)	12.1***	22.79 (0.420)	77.21 (0.420)	38.4***
Primary Education	27.39 (0.446)	72.61 (0.446)	245.4***	49.83 (0.501)	50.17 (0.501)	38.9***	13.49 (0.342)	86.51 (0.342)	106.6***
Secondary education	44.02 (0.496)	55.98 (0.496)	16.1***	57.49 (0.494)	42.51 (0.494)	72.9***	27.08 (0.444)	72.92 (0.444)	0.8
Higher Education	79.85 (0.401)	20.15 (0.401)	777.9***	80.90 (0.393)	19.10 (0.393)	248.2***	76.52 (0.425)	23.48 (0.425)	424.3***
First-time entrant	47.53 (0.499)	52.47 (0.499)	9.2***	63.24 (0.482)	36.76 (0.482)	0.3	29.74 (0.457)	70.26 (0.457)	1.2
Formal employment	97.70 (0.149)	2.3 (0.149)	390.0***	97.29 (0.162)	2.71 (0.162)	180.0***	98.86 (0.106)	1.14 (0.106)	200.0***
Informal employment	24.44 (0.429)	75.56 (0.429)	390.0***	37.06 (0.483)	62.94 (0.483)	180.0***	13.19 (0.338)	86.81 (0.338)	200.0***
Age	38.42 (10.943)	35.66 (10.781)	3.1***	39.25 (11.065)	35.26 (10.292)	3.9***	36.16 (10.278)	35.93 (11.088)	) 0.9**
15 - 34 years old	42.88 (0.494)	57.12 (0.494)	87.4***	55.94 (0.497)	44.06 (0.497)	69.5***	29.00 (0.454)	71.00 (0.454)	3.1
35 - 44 years old	50.95 (0.500)	49.05 (0.500)	4.0**	63.67 (0.481)	36.33 (0.481)	1.1	32.80 (0.470)	67.20 (0.470)	0.8
45 - 54 years old	54.66 (0.498)	45.34 (0.498)	22.2***	71.46 (0.452)	28.54 (0.452)	20.5***	28.42 (0.451)	71.58 (0.451)	0.4
55 - 65 years old	59.18 (0.492)	40.82 (0.492)	56.2***	80.25 (0.399)	19.75 (0.399)	45.7***	25.84 (0.439)	74.16 (0.439)	0.9
Women	29.72 (0.457)	70.28 (0.457)	930.6***						
head of household	60.95 (0.475)	39.05 (0.475)	570.0***	65.96 (0.474)	34.04 (0.474)	36.4***	37.13 (0.484)	62.87 (0.484)	34.3***
In a relationship with	48.64 (0.499)	51.36 (0.499)	1.1	64.73 (0.478)	35.27 (0.478)	11.9***	38.53 (0.487)	61.47 (0.487)	69.5***
Income (in thousands of CF)	116.075 (179.897)	718.39 (121.300)	49.8***	130.148 (198.458)	106.806 (159.657)	30133.5***	79.860 (111.802)	49.583 (81.186)	34987.3***

#### Table 3. Employement status profile.

Source: Authors with 123 survey (INS, 2012). Note: Standard deviations in parentheses. \*\*\*p < 0.01; \*\*p < 0.05.

majority are relatively young, would have lower exit rates from unemployment compared to other individuals who already have experience in the past.

Thus, to overcome this situation, many first-time entrants would opt for selfemployment as a mechanism for accumulating experience in the labor market. Secondly, with regard to the formality of employment, almost 76% of self-employed work in the informal sector and this proportion is relatively high when women are compared to men. **Table 3** indicates that 8 women out of 10 in selfemployment hold informal jobs compared to 6 men out of 10. Also, paradoxically for men whose proportion in self-employment decreases with age (49.05% in the age group 15 - 34 years and 70.28% in the age group 55 - 64 years), women see their proportion in self-employment increase with age. Finally, family responsibilities, in particular the fact of being the head of the household and in a couple, would lead men to opt for wage employment while women would opt for self-employment. It emerges that 6 out of 10 men who are heads of household and in a couple have paid employment and 6 out of 10 women who are in a couple and head of household are self-employed. Wage employment would be the employment status in which individuals would earn a higher income in the main activity compared to income in self-employment.

## 4.2. Empirical Result

The results relating to the determinants of the choice of self-employment status are presented first. Secondly, the results of the breakdown of the gender gap in terms of self-employment are presented and discussed. The theoretical predictions concerning the expected effects of the explanatory factors on the decision of the choice of self-employment status are largely verified. Overall, the prediction ROC curve shows that the empirical model was well specified with a prediction rate of 91.3% for the entire sample and 87.2% and 90.9% prediction rate. prediction respectively for the male and female model (Lasassi & Hammouda, 2012). Table 4 shows that the variables capturing human capital are an important determinant in the choice of self-employment status. Whatever the level of education considered, education increases the probability of self-employment. While individuals with primary education are more inclined to self-employment (12.2% chance), this effect is greater among women compared to men.

Indeed, while a number of works in the literature attest to a negative effect of education in the choice of self-employment status in developing countries (Zamo-Akono, 2018; Twumasi, 2013; Wellington, 2006; Wambugu, 2003), one would have expected that as the level of education increases, individuals will tend to prefer salaried jobs over self-employment. If these results are counter-intuitive, several arguments can however justify this. First, like many African countries characterized by the low rate of job creation in the formal public and private sector, and which has resulted in strong progress in the informal sector where jobs are in majority self-employed, the context of the labor market in the DRC is also characterized by a fairly significant scarcity of salaried jobs on the one hand and a high unemployment rate on the other (INS-RDC, 2016). In this case, it is therefore possible that the choice of self-employment status is for the most educated individuals as a substitute for unemployment. Next, (Herrera-Idárraga et al., 2013; Leuven & Oosterbeek, 2011) and underemployment (Abdelnour, 2014; Novelli & Folch, 2009). This work shows that if the most qualified individuals opt for self-employment, one of the reasons would be the refusal to be downgraded or underemployed. In his study, Abdelnour (2014) considers that for the most educated individuals in France, the choice of self-employment status would be a form of managing underemployment.

The choice of self-employment would therefore serve to circumvent downgrading or underemployment and would constitute private insurance against the risk of unemployment. Finally, the question of the entrepreneurial motivation that characterizes the most educated individuals (Carsrud & Brännback, 2011; Hessels et al., 2008; Arenius & Minniti, 2005). The result of this study confirms the hypothesis that human capital is strongly correlated with entrepreneurship (Fairlie, 1999; Caputo & Dolinsky, 1998). On this subject, the result found by Keeble et al. (1993) shows that individuals with a high level of education have a 
 Table 4. Determinants of choice of employment status.

<b>17</b>	Men and	Women	Me	en	Wor	nen
Variables	Coefficient (Z)	dy/dx	Coefficient (Z)	dy/dx	Coefficient (Z)	dy/dx
Education level of the ind	ividual					
Primary	0.307**	0.122**	0.248	0.0840	0.337*	0.111*
	(0.144)	(0.0572)	(0.201)	(0.0725)	(0.201)	(0.0628)
Secondary	0.267**	0.104**	0.295**	0.0920**	0.332*	0.118*
	(0.121)	(0.0468)	(0.148)	(0.0454)	(0.201)	(0.0729)
Superior	0.345**	0.136**	0.400**	0.134**	0.246	0.0814
	(0.152)	(0.0598)	(0.171)	(0.0589)	(0.283)	(0.0890)
Experience and nature of	employment					
First-time entrant	0.0329	0.0129	0.0152	0.00483	0.0155	0.00543
	(0.0853)	(0.0334)	(0.0867)	(0.0275)	(0.196)	(0.0689)
Informal employment	2.595***	0.726***	2.269***	0.599***	3.337***	0.862***
	(0.143)	(0.0153)	(0.149)	(0.0208)	(0.299)	(0.0168)
Other characteristics of th	e individual					
Age	0.0397**	0.0156**	0.0532**	0.0169*	0.0284	0.00994
	(0.0196)	(0.00773)	(0.0271)	(0.00877)	(0.0295)	(0.0103)
Age2/100	-0.0431*	-0.0169*	-0.0680**	-0.0216**	-0.0214	-0.00748
	(0.0248)	(0.00979)	(0.0336)	(0.0109)	(0.0389)	(0.0136)
Women	0.606***	0.236***				
	(0.0831)	(0.0312)				
Couple	0.282***	0.109***	0.316**	0.0950**	0.441***	0.158***
	(0.0699)	(0.0267)	(0.145)	(0.0419)	(0.120)	(0.0436)
head of household	-0.153*	-0.0601*	-0.299*	-0.100*	0.0514	0.0179
	(0.0860)	(0.0339)	(0.171)	(0.0608)	(0.158)	(0.0544)
Income from activity	-0.141***	-0.0555***	-0.0922**	-0.0293**	-0.208***	-0.0727**
	(0.0310)	(0.0122)	(0.0389)	(0.0123)	(0.0479)	(0.0174)
Control variables						
Unemployment rate	-0.0254***	-0.00998***	-0.0287***	-0.00912***	-0.0226***	-0.00792*
	(0.00431)	(0.00169)	(0.00555)	(0.00172)	(0.00674)	(0.00234)
Self-employed father	0.0126	0.00495	0.0298	0.00949	0.00777	0.00272
	(0.0647)	(0.0254)	(0.0829)	(0.0264)	(0.106)	(0.0370)
Constant	-1.675***		-1.980***		-1.129	
	(0.501)		(0.672)		(0.771)	
Comments	7574	7574	4316	4316	3258	3258
Wald chi2 (13)	805.88		517.2		287.88	
prob > chi2	0.0000		0.0000		0.0000	
Nickname R2	0.4668		0.3749		0.5042	

Source: Authors with 123 survey (INS, 2012). Note: Standard deviations in parentheses. \*\*\*p < 0.01; \*\*p < 0.05; \*p < 0.10.

great ability to promote entrepreneurship because in addition to being better informed about business opportunities, they are likely to be more successful in self-employment. The result indicates that the fact of having an informal job positively and very significantly affects the choice of self-employment status. Although this effect is important for both men and women, the result confirms the idea that women are more prone than men to informal self-employment. In addition, while one would have expected that the income from the activity would be the element that would justify the choice of the self-employment status and increase the reservation wage for the salaried employment status, it comes out, however, while its effect on employment status is uncertain, the result indicates that income tends to significantly reduce the propensity of individuals to become self-employed. Finally, this result shows that there is a negative correlation between the choice of self-employment status and the level of local unemployment. Although counter-intuitive in the context of African countries in general

	1	, 1,	
Male SE rate (%)			38.46
Female SE rate (%)			73.51
Difference (% points)			-35.05
Total explained share of the gap (% points)			-17.09
Explained percentage of total gap (%)			48.76
Variables	Coefficient	Contribution (%)	<i>P</i> -value
Education level of the individual			
Primary	-0.00244	-1.428	0.400
Secondary	0.00716	4.190	0.005
Superior	0.00667	3.900	0.006
Experience and nature of employment			
First-time entrant	-0.00054	-0.316	0.729
Informal employment	-0.15976	-93.482	0.000
Other characteristics of the individual			
Age	0.0133	7.782	0.354
Age2/100	-0.0123	-7.197	0.352
Couple	0.00648	3.792	0.038
head of household	-0.00628	-3.675	0.689
Income from activity	-0.0324	-18.958	0.000
Control variables			
Unemployment rate	0.00929	5.436	0.000
Self employed father	2.42E-05	0.014	0.927
Comments	7574		

Source: Authors with 123 survey (INS, 2012). Note: SE (Self-employment).

and for the DRC in particular, this result is in line with that found by Parker (2009) which tends to confirm the existence of a negative correlation between the probability of choosing self-employment status and the local unemployment rate. However, the fact that a negative relationship is established between the level of local unemployment and the choice of self-employment status could also mean that self-employed individuals do not always opt for self-employment status, employment because of unemployment but rather as an occupational choice. By controlling for the fixed effects of the provinces and this, despite taking into account the effects of the socio-economic characteristics of individuals and of the local labor market, on the probability of self-employment, the gender variable remains a significant determinant of the gender gap, gender in terms of self-employment rates.

The result of the decomposition recorded in **Table 5** shows that the estimated average probabilities of self-employment are 73.51% for women and 38.46% for men. Therefore, the total gender gap in self-employment is 35.05 percentage points.

It also emerges from the analysis of the breakdown that 48.76% of this difference could be explained by the differences between men and women in allocations. More specifically, it turns out that approximately 17.09 percentage points of this gender gap is due to differences in the observed characteristics and 51.24% due to differences in the coefficients of these characteristics between the sexes. These results suggest that the gender gaps would have decreased from 0.3505 to 0.1796 if the distribution of characteristics of women were similar to those of men. Also, it appears that differences in human capital endowments (education) represent 1.428% to 4.190% of the gender gap in access to salaried employment.

## **5.** Conclusion

The objective of this chapter was to quantify the disparities between men and women in occupational choice and particularly in the choice of employment status and to identify the factors that contribute to explaining them. It appears that the theoretical predictions concerning the expected effects of the explanatory factors on the decision of the choice of self-employment status are largely verified. While the econometric results corroborate the statistical evidence, this study reinforces the general consensus of the importance of the three groups of explanatory factors (individual characteristics, household characteristics and those of the state of the labor market) of the choice of employment status self-employment. Despite taking into account the effects of the socio-economic characteristics of individuals and the local labor market,

The decomposition results show that the estimated average probabilities of self-employment are 73.51% for women and 38.46% for men and the total gender gap in self-employment is 35.05 percentage points. It also emerges that 48.76% of this difference could be explained by differences between men and women in allocations. It therefore follows that a fairly large part of said disparities is unex-

plained by the variables taken into account by the model. Furthermore, taking into account the different characteristics shows that the differences in human capital endowments (education) represent 1.428% to 4.190% of the gender gap in access to education.

This result suggests a policy aimed at setting up vocational training programs for women and formalizing self-employed activities, especially for those in the informal sector.

# **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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