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Determinants of Employability of Young People in Congo

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Abstract

The objective of this paper is to analyze the determinants of employability of young people in Congo. To achieve this aim, we have combined both methodological approaches: the microeconomic approach and macroeconomic approach. The approach microeconomic highlights the microeconomic determinants from binary and multinomial logit models applied to the survey data of National Institute of Statistics while the macroeconomic approach estimates the macroeconomic determinants using the autoregressive models applied to aggregate data from the World Bank. The results show that the employability of young people depends on both microeconomic and macroeconomic factors. Take about microeconomic, education, individual gender, age; location residence and affiliate to a work organization are the main determinants of the employability. A macroeconomic level, analyzes have shown that GDP and gross fixed capital formation as well as imports are determinants of the employability of young people.

Keywords

Employability, Microeconomic Determinants, Macroeconomic Determinants

1. Introduction

Employability has always been at the heart of major economic debates both in terms of economic policies. The term employability originated in Great Britain during the industrial revolution. At that time, the concept made it possible to differentiate within the category of the poorest between people who could be part of this new society and people who had to come under public charity, through passive employment policies (Gazier, 1999; Hassen & Hofaidhllaoui, 2014).

Later, the concept of employability was undoubtedly the object of targeted ap-

plications according to the socioeconomic context from the 20th century, more particularly from the 1930s, when the United States had experienced a severe economic crisis, following the stock market crash of 1929. This crisis which began in the United States has spread worldwide, with the corollary, an increase in the unemployment rate caused by the fall in demand. In order to be able to reduce the unemployment rate, the government of the day implemented an interventionist policy in favor of employment through well-targeted programs. These programs consisted of distinguishing between people who were going to be offered a stable job and those who were to receive social assistance. In this context, the notion of employability covers the ability of the individual to be able to exercise a job in society.

Since then, employability has been the subject of other applications. The individual becomes at the center of employability through his various characteristics. The emphasis will be on education, training and work experience to improve the employability of the individual (Schultz, 1961; Becker, 1964; Harvey, 2001; Knight & Yorke, 2003).

At the same time, authors like Loury (2002) and Bourdieu (1980) highlight social capital as a determining factor of employability. The authors start from the postulate according to which, in order to achieve the goals pursued, individuals do not only make use of material resources and their personal skills, but also of the social relationships they have in their families, their communities of origin and any other organization to which they are a member.

On the other hand, another category of factors that can affect an individual's employability is external factors. According to McQuaid and Lindsay (2005) and Berntson (2008), among the external factors are those related to the economic environment and the facilitation mechanisms. They are interested in local and regional demand, macroeconomic factors in terms of the stability of large aggregates, the profile of the labor market, the characteristics of available jobs and situational factors.

Evidently, in sub-Saharan Africa, the workforce has seen a rapid increase in the number of children completing primary school, from around 50% in 1991 to 70% in 2011. The current cohort of young people in Africa Sub-Saharan woman will be the most educated that it has not been in years. The level of education influences employment prospects according to economic theory (Becker, 1964; OECD, 1998), as evidenced by the substantial variation in the educational profiles of young contract workers aged 14 - 24, i.e. 15% employees with a post-secondary level; 27% of upper secondary education completed; 18% completed lower secondary education compared to 10% of employees with no education level (Filmer & Fox, 2014).

In the Congo, each year, several learners complete their training cycle at the Marien Ngouabi University, in private universities and in vocational training schools. These young graduates and other young people who have not completed their training course face enormous difficulties for their employability in

the labor market. The majority of these young graduates find themselves in a situation of unemployment which is sometimes structural and sometimes cyclical. The difficulties in their employability can be explained by several factors, including the phenomenon of training-employment mismatch and economic instability. According to the National Human Development Report (2020), several skills are hard to find in the labor market, including foreign language skills, advanced computer technology or programming skills and technical or practical skills as well as skills in planning and organization. In addition, the Congolese economy is experiencing unstable growth that can negatively affect the structure of the labor market, in terms of job creation. According to the World Bank (2018), the economic growth rate went from 2.65% in 2015 to −2.80% in 2016 to settle at −4.59% in 2017 while the employment ratio of 15 - 24 years was 35.20% in 2015, 34.74% in 2016 and 34.39% in 2017. Finally, it seems that employability would depend as much on individual factors, in particular training, as on macroeconomic factors. Thus, we can ask ourselves the question: what are the determinants of the employability of young people in the Congo.

This article is structured as follows. The first section presents a brief review of the literature on the determinants of employability. The second section describes the methodology adopted. The results are presented and discussed in the third section.

2. Literature Review

The determinants of employability have always been one of the most discussed topics in the economic literature both from a theoretical and empirical point of view (Schultz, 1961; Becker, 1964; Phelps, 1972; Harvey, 2001; Knight & Yorke, 2003).

2.1. Theoretical Review

At the microeconomic level, models of heterogeneity of human capital (Schultz, 1961; Becker, 1964) and models based on the imperfect information hypothesis, notably models based on the filter hypothesis (Phelps, 1972; Spence, 1973; Thurow, 1972) are among the first models to analyze the relationship between education and employability. Models based on the heterogeneity hypothesis postulate that the differentiation of earnings or productivity observed between individuals and the probability of being employable can be explained by the differentiation of the human capital endowment of each individual. However, these models presented a certain limitation in the information on the productive capacity of the individual. At the time of hiring, only the individual has knowledge of his productive capacity. On the other hand, the employer has no knowledge of the productive capacity of the individual. Human capital cannot be an indicator of the employer's appreciation of the productive capacity of the individual, but rather, it will serve as a filter and selection between individuals with a high endowment in high human capital and those with a high human capital endow-

ment.

Harvey (2001), Knight and Yorke (2003, 2004), Dacre Pool and Sewell (2007) have also theoretically analyzed the relationship between education and employability by going beyond generic and specific capacities. Harvey's "magic ball" model (Harvey, 2001) states that attempts to measure the effectiveness of employability by graduate employment rates involve a "magic ball" model of the impact of education on employment. The assumption is that higher education institutions provide opportunities for developing employability and therefore finding employment. There is a link between the opportunities for developing employability and the individual employability of graduates. This link is invariable, used as legitimate for practical use of the employment rate as a measure of the employability rate of an institution. Higher education institutions offer a range of student employability development opportunities including the development of attributes to obtain, retain and develop jobs or careers, self-presentation skills, necessary when seeking employment, to encourage training and the willingness to continue learning.

The USEM model of Knight and Yorke (2003) suggests that employability is a set of accomplishments, skills, understanding and personal qualities, which make individuals more likely to obtain employment and to be successful in the occupation they have chosen. Beyond generic and specific capacities, this model is built on values relating on the one hand to knowledge, awareness and applicability, and on the other hand to the ability to reflect and regulate one's own learning and behavior. The Career EDGE model of Dacre Pool and Sewell (2007) reformulated the definition of employability by emphasizing inter alia the development of career learning, and work and life experience and emotional intelligence.

Otherwise, other work has highlighted social capital as a determining factor of employability. As a concept, the historical premises of social capital date back to the 19th century with the works of Alexis De Tocqueville (1835) and Durkheim (1893). It was at the beginning of the 20th century that the first known reflection of this expression appeared in a work that discusses the importance of social capital in education and local communities (Hanifan, 1916). The author tries to define this concept, relating it to the relationships of friendship, sympathy, mutual aid, cooperation and solidarity that characterize the members of a community. According to Hanifan, these relationships constitute in themselves a useful wealth to promote the well-being of the members of the community. Jacobs (1984) uses it to illustrate the importance of networks within cities and Loury (2002) uses it to describe the various economic opportunities that young people from ethnic minorities face through their social ties.

In France, Bourdieu (1980) developed the first approach by defining social capital as: "the sum of resources, current or virtual, which accrue to an individual or to a group by virtue of having a lasting network of relationships, of more or less institutionalized mutual knowledge and recognition". Following the exam-

ple of Loury (2002), Bourdieu starts from the postulate according to which, to achieve the goals pursued, the actors do not only use the material means and their personal skills, but also the social relationships they have in their families, their home community and any other organization to which they are a member.

At the macroeconomic level, several explanatory models of employability have been developed, in particular the theory of structural transformation of the economy and the external factors of employability. The work of Clark (1940), Lewis (1954) and Kuznets (1966) on the theory of structural transformation of the economy addresses the dynamics of employability by highlighting the importance of the agricultural and industrial sectors in the process of economic development. According to the theory of structural economic transformation, labor shifts from the less productive sector to the more productive sectors, that is, from the agricultural sector to the industrial sector and then to the service sector. According to McQuaid and Lindsay (2005), among the external factors, we find macroeconomic factors characterized, in particular by macroeconomic stability, medium and long-term viability of enterprises, the level and nature of labor demand in the national economy. Macroeconomic stability can be interpreted as keeping the economy on its potential growth path. The latter reduces the level of unemployment in the national economy, and in turn increases the level of employability. Through positive economic growth, businesses become more and more viable. They create more jobs in which individuals can claim their employability.

2.2. Empirical Review

The relationship between microeconomic factors and employability is one of the traditional themes of economic analysis. In view of a large number of works, only a few are selected to shed light on this research. The work carried out by Contreras et al. (2011) in Chile on the determinants of workforce participation and employability showed a positive relationship between human capital and employability. Indeed, their estimation results from the probit model for the youngest women show that the studies carried out, measured by the number of years of schooling, increase the probability of employability. Employability is particularly strong for individuals with at least 12 years of schooling. Likewise, Berntson et al. (2006) succeeded in establishing a positive link between human capital and employability using a multinomial logit model, for a sample of 4952 individuals in 1993 and a sample of 6696 individuals in 1999. According to the authors, regardless of the period of study, the perception of employability by individuals to a large extent is linked to their human capital. Ouédraogo (2017), in a comparative study of the determinants of youth and adult employment carried out in Burkina Faso, for a sample of 2336 young people and 1076 adults, showed using a probit model that the levels of Primary and secondary education do not influence the probability of young people and adults to be employed or not. However, the level of higher education reduces the chances of young people to

get a job by 5.67%.

Moreover, by analyzing the job search methods used by job seekers, authors such as Epiphane and Martinelli (1997) and Forsé (1997) observe that the process used to gain access to a job depends on the social characteristics of the individual, including the socioeconomic status of the job previously held, social origin, sex, age and marital status. They also claim that these job search patterns predict the socioeconomic status of the job obtained. For example, compared to other job seekers, the unemployed make more use of family relationships to find a job, young graduates and trainees are recommended more by their schools, while those who already have a job are recommended by their employer (Forsé, 1997). In addition, the work of Wapoh (2013) on the modes of access to employment of graduates in Côte d'Ivoire shows that women use personal relationships more than men.

Works on the analysis of the relationship between macroeconomic factors and employability that highlights the opportunity factors of the job offer. According to Keynesian employment theory, business investment and consumer spending constitute effective demand. This encourages employers to produce goods and services in order to meet this demand. Thus, investment is a lever for job creation. Investment stimulates the economic growth of a country. Indeed, in countries where the level of investment is low, the productive capacity of their economy is also low. And this translates into lower economic growth rates and consequently lower job creation rates. Anyanwu (2013) analyzes the characteristics and determinants of youth employment in Africa, using available data ranging from 1991 to 2009. Using the generalized least squares method, this author shows that a 1% increase in the investment rate leads to an increase of 0.21% of employment in Africa and of 0.27% of employment in sub-Saharan Africa and −0.16% of employment in North Africa.

Government spending like financial capital is a component of the demand for goods and services. They have a negative and significant effect on youth employment in sub-Saharan Africa. Indeed, a 1% increase in government spending is associated with a decrease in employment of −0.29% (Anyanwu, 2013). On the other hand, the results of the work of Abdullah et al. (2011) on the relationship between macroeconomic variables and employment, using the error-corrected vector model in the case of Malaysia, show that only government spending positively affects growth in the level of use. Thus, any change in fiscal policy would affect employment growth. The causality test for Malaysia shows that government spending causes employment growth and that employment growth in turn causes capital. For the case of the Philippine, the causality shows that the total of exports and imports by a one-way relationship, but the error correction term is not significant.

Much empirical work has analyzed the relationship between gross domestic production or economic growth and employment. These works whose theoretical anchoring is the Keynesian theory of employment and Okun's law show of

positive or negative effects depending on the economic structure of the country.

Using several methods, including the ordinary least squares method and the error correction method for different OECD countries, Dopke (2001) has shown that the service sector is also considered to be a determining factor of l elasticity of employment in OECD countries. Indeed, according to the author, the share of services in GDP growth is one of the potential determinants of employment intensity. Dopke finds that increasing the level of the service sector leads to an increase in the elasticity of employment with respect to growth. Using a staged lag model of panel data for Africa, the work of Kamgnia (2006) shows overall that economic growth exerts a positive and significant, albeit small, effect on the labor force in Africa. Importantly, the magnitude of this effect increases significantly over a one-year period, then decreases to the point of becoming negative and non-significant after a two-year delay. In addition, the employment variable delayed by one year has a positive effect on the level of employment in progress.

Using the ordinary least squares method, the work of Ningahe et al. (2015) overall concluded that economic growth has a positive effect on the volume of employment in Cameroon. Indeed, an economic growth rate of around 1% leads to an increase in the total volume of employment of around 0.41%, the authors stress. Observations of the values of sectoral elasticities or the respective reactions of agricultural employment, industrial employment and service employment in relation to the variation in GDP have shown that the elasticity of agricultural employment in relation to production is very low and statistically non-zero. It takes a value of 0.29%. At the same time, when it comes to the reaction of secondary sector employment, a 1% increase in the economic growth rate translates into an increase of 0.52%. The tertiary sector saw its level of employment increase by 2.11% following an increase in economic growth of 1%. In the same vein, the work of Fulgani and Narayan (2011) on the trend and determinants of service sector employment intensity in India using ordinary least squares method showed that among the macroeconomic factors of employment intensity in the service sector, a distinction is made between investment and public expenditure. In contrast, other work on the relationship between macroeconomic factors and employability has shown negative effects of macroeconomic factors on employability (Temitope, 2014; Pleic & Berry, 2009).

Akkemik (2007) by focusing on the analysis of the relationship between economic growth and employment in Turkey over a period from 1988 to 2004 uses the error correction model to estimate the determinants of employment. The author shows through his results that GDP has an effect on the economy in aggregate and on the manufacturing sector in particular. Temitope (2014) analyzes the relationship between economic growth and the elasticity of employment growth in Botswana for the period 1980 to 2011. The results of his work using the error correction model (MCE) have shown that despite increased growth and production performance in recent decades due to the discovery of diamonds as well as its major contribution to gross domestic product (GDP), the economy is

recording low levels of labor absorption, in that a 1% increase in GDP over two years is associated with a decline in employment of more than 25%. These results are similar to those of Herman (2012) who analyzes the process of economic growth on employment in Romania over the period 1990-2010, i.e. 20 years, and shows the existence of a negative relationship between economic growth and employment intensity, by calculating the elasticity of employment with respect to the change in GDP.

Besso (2010), using the exchange rate as a proxy for trade openness shows that openness to the outside contributes positively to the elasticity of employment in Cameroon. The author justifies this result by the fact that the opportunities for exporting local products are sources of business creation likely to use local labor. This can be further accentuated if the exported products are processed locally. In contrast, the work of Evans (2010) on the empirical assessment of trade liberalization on employment in South Africa has shown that import penetration is negatively associated with the level of employment in the secondary sector. Indeed, a 1% increase in the variation in import penetration leads to a decrease of −0.045% at the 5% significance level. In addition, lagged employment has a positive effect on the level of employment for the current year. Uma et al. (2014) in a study of the impact of trade liberalization on employment in 53 manufacturing industries in India reach the same conclusion as Evans's. Indeed, using a fixed-effects model, the authors showed that import penetration has a negative effect on the level of employment captured by the number of employees. A 1% increase in imports is associated with a decrease in the number of employees of −0.028% to the 5% threshold. Another study carried out in India by Lohani (2017) on the impact of liberalization on employment in the manufacturing sector, in the period from 1988 to 2003, shows that the share of total exports and imports in relation to the GDP has no effect on employment. However, the pre and post liberalization dummy variable has a negative effect on employment.

Other authors like Ozgur et al. (2018), Zonzilos (2000), Anton and Terelli (2001), Kitov (2011) analyzed the effect of macroeconomic factors on unemployment. In analyzing the effect of economic growth on unemployment, Ozgur et al. (2018) showed from an analysis of cointegration in the countries of Eastern Europe over the period from 1992 to 2014, that a 1% increase in economic growth led to a decrease in the rate unemployment rate of 0.08%. Zonzilos (2000) for the same relationship in Greece from 1965-1999 comes to the same conclusion that an increase in production of 1% leads to a decrease in unemployment of −0.28%. Similarly, Anton and Tirelli (2001) examined the relationship between growth and unemployment in OECD countries over a period 1995-2000 using a structural VAR model, and found a relationship negative between economic growth and unemployment. These conclusions are valid for the work of Kitov (2011) on the relationship between GDP per capita and employment in the American, French, British, Australian, Canadian and Spanish economies. Using the ordinary least squares method, Misini (2017) from a simple regression, analyzes the relation-

ship between the unemployment rate and gross domestic product as a proxy for economic growth and shows that the relationship between two variables is significant at the 5% level in Kosovo. Indeed, nominal GDP negatively affects the unemployment rate, any increase of 1% of GDP leads to a decrease in unemployment of −0.43%. In a study on the euro area, Gomez-Salvador and Leiner-Killinger (2008) find that economic conditions, represented by economic growth, are negatively correlated with the youth unemployment rate, that is, the youth unemployment rate increases when the economic situation deteriorates and inversely.

From this review, it emerges that employability depends on both microeconomic and macroeconomic factors. Microeconomic factors relate primarily to education, social capital and socio-demographic characteristics. However, it is important to note the absence of work with the variable "membership of a trade union or work organization" as a determining factor of employability. Thus, this research fills this gap of knowledge observed on the existing literature, which leads us to use the variable "membership of a union" as an explanatory variable. Macroeconomic factors mainly concern macroeconomic stability, gross fixed capital formation and international trade.

3. Research Methodology

The literature review revealed two types of factors of employability: microeconomic factors and macroeconomic factors. As a result, we have adopted two methodological approaches not only to capture the effect of each category of factors, but also taking into account our objectives and the nature of the data.

The macroeconomic approach will be based on the ARDL model (Autoregressive Distributed Lag) or the autoregressive model with staggered delays introduced by Pesaran et al. (2001) while the microeconomic approach highlights the binary logistic model which originates from choice theory, and therefore from the utility functions of individuals (Van De Vyvere, 1995; Hakim, 2001).

3.1. The Macroeconomic Determinants of Employability

3.1.1. Theoretical Model of Employability

The macroeconomic methodological approach used is inspired by that of Greenway et al. (1999) derived from the Cobb Douglas function.

$$Q_t = A_t^{\gamma} L_t^{\beta} H_t^{\alpha} K_t^{\lambda} \tag{1}$$

With i and t representing branches and time respectively, Q output at constant prices, A is an index of technological change which measures technical efficiency, L is unskilled labor, H is skilled labor and K is stock of capital at constant prices.

It is assumed that the goods and labor markets are in perfect competition. In this equation the variables λ, α and β represent the shares of each factor in the production sharing, and γ is a coefficient that allows other factors to affect the efficiency of the production process. The first-order condition of profit maximi-

zation implies that the firm employs the factors of production to the point where the marginal product of each factor equals its price. This gives the following equations for the wages of unskilled and skilled workers, respectively:

$$\left(w_l\right)_i = p\frac{\partial Qt}{\partial L_t} = P\beta A_t^{\gamma} L^{\beta-1} H_t^{\alpha} K_t^{\lambda} = P\beta Q_t L_t^{-1} \tag{2}$$

$$\left(w_h\right)_i = p\frac{\partial Qt}{\partial H_t} = \alpha A_t^{\gamma} L^{\beta} H_t^{\alpha-1} K_t^{\lambda} = P\alpha Q_t H_t^{-1} \tag{3}$$

w_l, w_h, p, and represent respectively the wages of unskilled workers, the wages of skilled workers the price of the good produced and the two-factor marginal productivity (H and L).

By making the ratio between two Equations (2) and (3), we obtain the following equation:

$$\left(\frac{w_l}{w_h}\right)_t = \frac{\beta H_t}{\alpha L_t} \tag{4}$$

Using this last equation the relative demand for labor is written:

$$\frac{H_l}{L_t} = \frac{\alpha}{\beta}\left\langle w_l \middle| w_h \right\rangle_t \tag{5}$$

In a Cobb-Douglas function, the technological bias in favor of the relative demand for skilled labor corresponds to an increase in the ratio (α/β), all other things being equal. Technical progress increases the relative demand for skilled labor because it pushes the marginal productivity of H to the detriment of that of L.

From Equation (4), we can write the following equation:

$$H_t = \left(\frac{w_l}{w_h}\right)\frac{\alpha L_t}{\beta} \tag{6}$$

By replacing H by its expression

$$Q_t = A_t^{\gamma} L_t^{\beta} K_t^{\lambda} \left(\frac{w_l}{w_h}\right)\left(\frac{w_l}{w_t}\right)_t^{\alpha} \left(\alpha/\beta\right)_t^{\alpha} L_t^{\alpha} \tag{7}$$

The derived demand for low-skilled labor can be obtained by taking the log of Equation (7):

$$\ln L_t = \theta_0 + \theta_1 \ln A_t + \theta_2 \ln\left(w_l/w_t\right)_t + \theta_3 \ln Q_t + \theta_4 \ln K_t \tag{8}$$

The demand for skilled labor can be defined in the same way:

$$\ln H_t = \delta_0 + \delta_1 \ln A_t + \delta_2 \ln\left(w_h/w_l\right)_t + \delta_3 \ln Q_t + \delta_4 \ln K_t \tag{9}$$

where $\delta_0 = -\frac{\beta \ln \frac{\beta}{\alpha}}{\beta+\alpha}$, $\delta_1 = -\frac{\gamma}{\beta+\alpha}$, $\delta_2 = -\frac{\beta}{\beta+\alpha}$, $\delta_3 = \frac{1}{\beta+\alpha}$, $\delta_4 = -\frac{\lambda}{\beta+\alpha}$.

The demand for skilled and unskilled labor is negatively related to the relative wage w_h/w_l and w_l/w_h, respectively. The demand for skilled and unskilled labor are positively related to output but negatively related to technological progress

variables for an output, constant capital stock and relative wage.

Following Greenaway et al. (1999) technical efficiency (A_t) can be considered as dependent on trade openness in the following way:

$$A_t = \mathrm{e}^{n_1 T} LC^{n_1}, n_1, n_2 > 0 \tag{10}$$

where LC is a measure of trade openness, in our case we use imports in value (m). The expansion of trade openness can increase international competition from imports in domestic markets, and lead to greater exposure to international markets, thus causing an impact on factor demand. T represents the time trend. Replacing A_t by its expression in the two equations found previously (8) and (9), we obtain for an industry i at time t the following equations:

$$\ln L_t = \theta_0 + \theta_1 \left(n_1 T + n_2 \ln LC_t\right) + \theta_2 \ln\left(w_l / w_t\right)_t + \theta_3 \ln Q_t + \theta_4 \ln K_t \tag{11}$$

$$\ln H_t = \delta_0 + \delta_1 \left(n_1 T + n_2 \ln LC_t\right) + \delta_2 \ln\left(w_h / w_l\right)_t + \delta_3 \ln Q_t + \delta_4 \ln K_t \tag{12}$$

At the end of the presentation of the theoretical model, we will present the methodology used in the estimation of the macroeconomic determinants of employability.

3.1.2. Estimation Methodology (ARDL Model)

This article uses the Autoregressive Distributed Lag (ARDL) approach to analyze the macroeconomic determinants of employability. The most widely used cointegration techniques are those in two stages of Engle and Granger (1987), the approach developed by Johansen (1995) and Johanson and Juselius (1990). However, these usual cointegration tests recommend the use of integrated series of the same order I (0) or I (1). In addition, they are suitable for large samples. In order to remedy these shortcomings, Pesaran and Pesaran (1997) and Pesaran et al. (2001) have developed a new approach that is more flexible and less restrictive than the previous techniques, the ARDL (Autoregressive Distributed Lag) model or the autoregressive model with staggered delays. This model makes it possible, on the one hand, to test long-term relationships by using limits tests "bounds test" on series which are not integrated of the same order and on the other hand, to obtain better estimates on small samples (Narayan, 2004).

Starting from the theoretical model and drawing on the empirical work proposed by Anyanwu (2013), Lohani (2017), Uma et al. (2014), Abdullah et al. (2011), Mason et al. (2006), Misini (2017) and Oniore et al. (2015), we can thus approach employability by two proxies which are the employment ratio and the unemployment rate. Thus, the specifications of the empirical models are as follows:

$$TC_t = \beta_0 + \beta_1 PIBHC_t + \beta_2 FBCFC_t + \beta_3 M_t + \varepsilon_t \tag{13}$$

$$RE_t = a_0 + a_1 PIBHC_t + a_2 FBCFC_t + a_3 M_t + \varepsilon_t \tag{14}$$

With,

RE: employment ratio;

TC: unemployment rate;

GDPHC: current gross domestic product per capita;

FBCFC: gross current fixed capital formation;

M: imports;

ε: error term;

a_0 and β_0 are constants;

a_1, a_2, a_3, β_1, β_2 and β_3 are coefficients of variables.

By adopting the ARDL approach, the two models look like this:

$$\Delta RE_t = a_0 + \sum_{i=1}^{p} a_{1i}\Delta RE_{t-i} + \sum_{i=0}^{q} a_{2i}\Delta PIBC_{t-i} + \sum_{i=0}^{q} a_{3i}FBCFC_{t-i} + \sum_{i=0}^{q} a_{4i}M_{t-i} + \theta_1 RE_{t-1} + \theta_2 PIBC_{t-1} + \theta_3 FBCFC_{t-1} + \theta_4 M_{t-1} + \varepsilon_t \quad (15)$$

$$\Delta TC_t = \beta_0 + \sum_{i=1}^{p} \beta_{1i}\Delta TC_{t-i} + \sum_{i=0}^{q} \beta_{2i}\Delta PIBC_{t-i} + \sum_{i=0}^{q} \beta_{3i}FBCFC_{t-i} + \sum_{i=0}^{q} \beta_{4i}M_{t-i} + \theta_1 TC_{t-1} + \theta_2 PIBC_{t-1} + \theta_3 FBCFC_{t-1} + \theta_4 M_{t-1} + \varepsilon_t \quad (16)$$

With Δ: first difference operator; a_1 - a_4: the Error Correction Models (ECM) representation; θ_1 - θ_4: long-term relationships; p is the number of delays in the explained variables *RE* (employment ratio) and *TC* (unemployment rate); q is the number of lags of the explanatory variables. In addition, we apply the "bounds tests" approach in order to find out whether there is a long-term equilibrium between the variables. Thus, a Fisher test (the test statistic is the F-statistics) is implemented to verify the following hypotheses: the null hypothesis (H0) is the absence of a long-term equilibrium relationship: $\theta_1 = \theta_2 = \theta_3 = \theta_4 = 0$, while the alternative hypothesis H1 is the presence of the long-term uniform relation between the studied series: $\theta_1 \# \theta_2 \# \theta_3 \# \theta_4 \# 0$. ARDL Bounds test presents two sets of critical values. The first set corresponds to the case where all the variables are integrated of order I (0), while the second set corresponds to the integrated series of order I (1) (Pesaran et al., 2001).

The data used to estimate the macroeconomic determinants of employability come from aggregate data from the World Bank. They cover a period from 1991 to 2019, that is 29 years. This period simply depends on the availability of data.

3.2. The Microeconomic Determinants of Employability

Within the framework of this research, employability is approached according to three dimensions within the meaning of Hillage and Pollard (1998), access to employment and job retention and job change. These three indicators are each qualitative and binary. The binary logistic model is best suited for estimating the microeconomic determinants of employability given the nature of the indicators.

In a choice decision process, the goal of the decision is to find a better solution among the possible alternatives to meet the objectives (Van De Vyvere, 1995; Hakim, 2001). In reality, there are two types of choice, the first type is the continuous choice, in this case we choose a combination of the quantity of possible alternatives where the quantities for each alternative can vary continuously. The second type is the discontinuous (discrete) choice where one chooses only one

alternative among several alternatives.

Based on the utility theory (Etner & Jaleva, 2015), the individual will choose, among the *J*, modalities at his disposal, the one which gives him the highest utility. In this perspective, the discrete choice model is described by a variable *y*, which indicates the observed choice $i, i = 1, \cdots, J_n$, and by the latent variables Uin which govern this choice:

$$y_i = \begin{cases} 1 \text{ if } U_{ni} \geq U_{nj}, \text{ for } j = 1, \cdots, j_n \\ 0 \text{ otherwise} \end{cases} \quad \text{and} \quad U_{in} = V_{in} + \varepsilon_{in} \tag{17}$$

If the individual *n* chooses modality *i*, the probability $P_n(i)$ of observing this choice is defined as follows:

$$\begin{aligned} P_n(i) &= P\left(U_{in} = \max U_{jn}\right) = P\left(U_{in} \geq U_{jn} \text{ pour } j = 1, \cdots, j_n\right) \\ &= P\left(\varepsilon_{jn} - \varepsilon_{in} \leq V_{in} - V_{jn} \text{ for } j = 1, \cdots, j_n\right) \end{aligned} \tag{18}$$

By making assumptions on the joint probability distribution of the error terms $\varepsilon_{in}, i = 1, \cdots, J$, we can derive from it all the usual multinomial choice models. In general, the probability $P_n(i)$ is equal to:

$$P_n(i) = \int_{D_{1n}} f\left(\varepsilon_{1n} \cdots \varepsilon_{jn^n}\right) \mathrm{d}\varepsilon_{1n} \cdots \mathrm{d}\varepsilon_{jn^n} \tag{19}$$

where $D_{in} = \left\{\left(\varepsilon_{1n}, \cdots, \varepsilon_{jn^n}\right) / \forall j \neq i, \varepsilon_{jn} - \varepsilon_{in} < V_{in} - V_{jn}\right\}$.

And $f\left(\varepsilon_{1n}, \cdots, \varepsilon_{jn^n}\right)$ denotes the density function of random terms. For the analysis of disaggregated choices, the models most often used are the logit and probit models.

Drawing on the theoretical foundations of discrete choice models and the methodology used by Zalle et al. (2017) in their work on vocational training and employability of young people in urban areas in which the authors explain the occurrence or not of the "employability" event. Thus, for each individual in the sample, we observe whether he is employable or not and we ask:

$$y_i = \begin{cases} 1 \text{ if } y_i^* > 0 \text{ if the individual } i \text{ is employable} \\ 0 \text{ if } y_i^* \leq 0 \text{ si l'individu } i \text{ is not employable} \end{cases}$$

Thus, we can define the probability that an individual in the sample is employable as the mathematical expectation of the variable Y_i since:

$$E\left(Y_i\right) = Pr\left(Y_i = 1\right) X_1 + Pr\left(Y_i = 0\right) X_0 = Pr\left(Y_i = 1\right) = p_i \tag{20}$$

The logit model defines the probability associated with the event $Y_i = 1$ as the value of the distribution function of the logistic law at point $X_i\beta$:

$$p_i = \Lambda\left(X_i \beta\right) = \frac{1}{1 + \mathrm{e}^{-\left(X_i \beta\right)}} \tag{21}$$

The model to be estimated is given by:

$$Y_i = X_i \beta + \mu_i \tag{22}$$

where Y_i is the variable to be explained, X_i is a vector of observable characteris-

tics, β a vector of parameters to be estimated and μ_i the vector of perturbations according to a logistic law.

When the law of the parameters is known, the most common estimation method is that of maximum likelihood.

The data used in the microeconomic approach come from data from the survey on the transition to working life conducted in Congo in 2015 by the National Institute of Statistics among young people aged 15 to 29 years.

4. Results and Interpretation

4.1. Analysis of Results of the Macroeconomic Determinants on Employability

The macroeconomic analysis successively covers descriptive analysis, stationarity and cointegration tests as well as the interpretation of the results of the estimates.

4.1.1. Descriptive Analysis

Table 1 below presents five of the variables: imports (M), current GDP per capita (PIBH_C), gross current fixed capital formation (FBCFC), the composite index of employability (ICE), the 15 - 24 year old unemployment (TC) and the 15 - 24 year old employment ratio (RE). Each variable is characterized by five statistics (the mean, the maximum, the minimum, the standard deviation, the Jarque-Bera statistic and the probability associated with the chi2 statistic) which were calculated on the basis of 29 observations ranging from 1991 to 2019.

The first statistic in Table 1 represents the mean. Imports and gross current fixed capital formation are respectively US$4.28 billion and US$3.19 billion. The average current GDP per capita is US$969,296.9. The averages of the composite index, the unemployment rate and the employment ratio represent 14.66% respectively; 33.09% and 29.29%. The maximum and minimum of the variables are almost of the same order as the average of the variables.

The results of the unit root tests (Table 2) show that all the variables are integrated of order 1, I (1) for the ADF and PP tests. On the other hand, all the variables are stationary in level for the KPSS test. After analyzing the results of the

Table 1. Descriptive statistics.

	M	PIBH_C	FBCFC	ICE	TC__15_24_	RE_15_24_
Mean	4.28E+09	969296.9	3.19E+09	14.66073	33.09759	29.28931
Maximum	9.50E+09	2002846.0	9.94E+09	16.85743	39.99000	33.67000
Minimum	4.82E+08	296928.0	4.74E+08	13.01252	21.58000	26.00000
Jarque-Bera	3.334309	2.147242	4.161824	3.608081	4.379669	3.603936
Probability	0.188784	0.341769	0.124816	0.164632	0.111935	0.164974
Observations	29	29	29	29	29	29

Source: Author based on World Bank data.

Table 2. Study of the stationarity of the series of variables by the ADF, PP and KPSS tests.

	TC15-24								
	ADF			PP			KPSS		
	t-Statistic	Critical Value	I(d)	t-statistic	Critical Value	I(d)	t-statistic	Critical Value	I(d)
Model 3	−2.22	−3.59	-	−2.22	−3.59	-	0.16**	0.15	I(0)
Model 2	−2.26	−2.98	-	−2.26	−2.98	-	-	-	-
Model 1	−2.03**	−1.95	I(1)	−2.03**	−1.95	I(1)			
	RE15−24								
Model 3	−1.82	−3.58	-	−1.95	−3.59	-	0.16**	0.15	I(0)
Model 2	−2.01	−2.98	-	−2.10	−2.97	-			
Model 1	−1.98**	−1.95	I(1)	−2.06**	−1.95	I(1)			
	PIBHC								
Model 3	−4.48	−3.58	-	−4.47	−3.58	-	0.09	0.14	-
Model 2	−4.53	−2.98	-	−4.56	−2.98	-	0.59**	0.46	I(0)
Model 1	−4.42***	−2.65	I(1)	−4.46***	−2.65	I(1)			
	M								
Model 3	−4.55	−3.58	-	−4.52	−3.59	-	0.10	0.14	-
Model 2	−4.60	−2.98	-	−4.57	−2.98	-	0.60**	0.46	I(0)
Model 1	−4.45***	−1.95	I(1)	−4.43***	−2.65	I(1)		-	-
	FBCFC								
Model 3	−3.43	−3.59	-	−3.43	−3.59	-	0.09	0.14	-
Model 2	−3.4	−2.97	-	−3.49	−2.98	-	0.5**	0.46	I(0)
Model 1	−3.49**	−1.95	I(1)	−3.54**	−1.95	I(1)			

Source: Author based on World Bank data.

old generation stationarity tests, we will proceed to the unit root test of Zivot and Andrews (1992) which takes into account the breaks in the series. The following table shows the results of the Zivot and Andrews stationarity test in **Table 3**.

The values in bold in **Table 3** are lower than their critical values at the 5% threshold. The alternative hypothesis that the series are stationary cannot be rejected at the 5% threshold. Therefore, all six variables are stationary in level, except the import variable is in first difference. The optimal number of delays is selected by Eviews 9. Thus, the ZA test confirms the results obtained by the ADF, PP and KPSS tests on their stationary characteristics.

From the analysis of the stationarity tests of the series, it emerges from these

Table 3. Zivot and Andrews test.

Model	Change in constant				Change in trend				Change in constant and in trend			
	Level		Difference		Level		Difference		Level		difference	
Variables	Tr	MinT	Tr	MinT	Tr	MinT	Tr	MinT	Tr	MinT	Tr	MinT
TC	-	-	-	-	2005	**−4.482**	-	-	2004	**−4.04**	-	-
RE	2010	**−5.961**	-	-	2002	−3.982	-	-	2005	−4.30	-	-
PIBHC	2015	−3.404	-	-	2014	−3.522	-	-	2010	**−5.32**	-	-
FBCFC	2010	**−4.983**	-	-	2003	−3.702	-	-	2010	−4.90	-	-
M	2007	**−3.774**	-	-	2015	−2.680	2008	**−5.088**	2007	−3.90	2003	−5.22

Source: Author from Eviews software.

analyzes that all the variables are integrated of order 0 or 1 for the Zivot and Andrews (1992) test. Then none of them is integrated with an order greater than 1. Therefore, the ARDL (Autoregressive Distribution Lag) model is the most appropriate to estimate the dynamic equation of employability. Due to its low constraint, this technique is used more and more as an alternative to the usual cointegration tests because of the flexibility it offers in data processing. Indeed, the ARDL test does not require that the model variables are purely I (0) or I (1). It is also a technique that offers the possibility of dealing jointly with long-term dynamics and short-term adjustments. Thus, we adopted this approach to analyze the relationship between macroeconomic factors and employability.

ARDL modeling with the appropriate offset will correct the two series correlation and endogenous issues. Another reason for using the ARDL approach is that it is more robust and performs better for small sample sizes than other cointegration techniques by providing better estimates (Narayan, 2004). The number of lags of the dependent variable and of the explanatory variables is selected using an information criterion.

4.1.2. Application of the Cointegration Test

The cointegration test of the long-term relationship between macroeconomic factors and employability is done using the new ARDL "Bounds tests" procedure used by Pesaran et al. (2001) within the framework of the ARDL models. **Table 4** shows the ARDL Bounds Tests results for Model 1 and Model 2.

The results of the cointegration tests show that the Fisher Statistics (F-Statistic) are equal to 6.43 and 3.88 respectively for Model 1 and Model 2. These values should be compared with the critical values below and above the significance level of 1% and 5%. The test statistics are above the upper bound for both models at the 5% significance level. Therefore, we reject the null hypothesis (H0) of the absence of a long-term relationship and we conclude the existence of a long-term relationship between the different variables, so there is a cointegration relationship between the macroeconomic factors and employability for both models.

Table 4. Results of the bounds tests.

Bounds tests					
Model 1			Model 2		
Test Statistic	Value	K	Test Statistic	Value	K
F-Statistic	6.425416	3	F-Statistic	3.875588	4
	Critical Value Bounds			Critical Value Bounds	
Significance	I0 Bound	I1 Bound	Significance	I0 Bound	I1 Bound
10%	2.37	3.2	10%	2.2	3.09
5%	2.79	3.67	5%	2.56	3.49
2.5%	3.15	4.08	2.5%	2.88	3.87
1%	3.65	4.66	1%	3.29	4.37

Source: Author from Eviews software.

4.1.3. Interpretation of the Results of the Estimation of the Long-Term Relation

Table 5 below summarizes the long-term estimation results mainly the elasticities and probabilities of the variables.

The long-term equations are as follows:

$$LRE = 0.0385LPIBHC + 0.2141LFBCFC - 0.1902LM + 2.4435$$

$$LTC = -0.2787LPIBHC - 0.4303LFBCFC + 0.4191LM + 7.2385$$

The empirical results presented above show that current GDP per capita (LPIBHC) or economic growth is highly significant at different thresholds (1%, 5% and 10%) and positively impacts the employment ratio. Indeed, a 1% increase in current GDP per capita tends to increase the employment ratio by 0.04%. These results are consistent with theoretical predictions and for the majority of the work carried out on this issue with regard to the role played by economic growth in an economy in general and on employability in particular. Indeed, Keynesian employment theory states that the growth in the production of goods and services enables employers to increase the level of employability in the labor market. Empirically, these results corroborate those of Pissarides and Vallanti (2004) in the context of panel models in the United States, Japan and Europe. Our authors have shown through that productivity growth has a positive effect on employment. Otherwise, the work of Sarra (2015) on the relationship between economic growth and employment intensity in developed countries over the period 1991-2011 revealed that elasticity estimates vary considerably from one country to another. Otherwise, employment elasticities tend to be higher in countries with higher standard of living and closed, macroeconomic policies aimed at reducing macroeconomic (price) volatility have a significant effect on the increase elasticities of employment. Likewise, growth in employment intensity tends to be higher in countries with a larger service sector.

Table 5. Elasticities and probabilities of the long-term relationship.

Variables	Model 1		Variables	Model 2	
	Elasticity	Prob		Elasticity	Prob
LPIBH_C	0.0385**	0.0142	LPIBHC	−0.2787***	0.0003
	(0.013017)			(0.048788)	
LFBCFC	0.2141***	0.0000	LFBCFC	−0.4303***	0.0000
	(0.008131)			(0.028738)	
LM	−0.1902***	0.0000	LM	0.4191***	0.0000
	(0.012087)			(0.046532)	
C	2.4435***	0.0000	C	7.2385***	0.0000
	(0.079718)			(0.249076)	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. (n): Erreur-type. Source: Author from Eviews.

Countries with a higher share of the urban population tend to have higher employment elasticities. The work of Kamgnia (2006) shows overall that economic growth has a positive and significant effect, albeit a small one, on the labor force in Africa. Importantly, the magnitude of this effect increases significantly over a one-year period, then decreases to the point of becoming negative and non-significant after a two-year delay.

Our results are also in the same direction of those of Ningahe et al. (2015) who show that economic growth has a positive effect on the volume of employment in Cameroon using the ordinary least squares method. Indeed, an economic growth rate of around 1% results in an increase in the total volume of employment of around 0.41%. Observations of the values of sectoral elasticities or the respective reactions of agricultural employment, industrial employment and service employment in relation to the variation in GDP showed that the elasticity to agricultural employment to the production is very low and statistically non-zero. It takes a value of 0.29%. In contrast, when it comes to the reaction of secondary sector employment, a 1% increase in the economic growth rate translates into a 0.52% increase in the level of employment. The tertiary sector saw its level of employment increase by 2.11% following an increase in economic growth of 1%. In contrast, the increase in current GDP per capita tends to lower the unemployment rate.

Gross fixed capital formation has the same effects as current gross domestic product per capita. According to Keynesian employment theory, business investment is a component of effective demand. This encourages employers to produce goods and services in order to meet this demand. Thus, investment is a lever for job creation. Investment stimulates the economic growth of a country. In countries where the level of investment is relatively low, the productive capacity of their economy does not increase. And this translates into lower eco-

nomic growth rates and consequently lower job creation rates. Besso (2010) showed, from a series of 40 observations of quarterly data ranging from the first quarter of 1994 to the fourth quarter of 2003, that the financial capital of companies in Cameroon contributes positively to the determination of the elasticity of employment. Anyanwu (2013), using available data from 1991 to 2009, shows that a 1% increase in the investment rate leads an increase of 0.21% of the employment in Africa and of 0.27% in sub-Saharan Africa and of 0.16% of employment in North Africa.

Imports have a negative influence on the employment ratio and a positive effect on unemployment. These results corroborate those of Evans (2010) on the empirical assessment of trade liberalization on employment in South Africa. The author has shown that import penetration is negatively associated with the level of employment in the secondary sector. Indeed, a 1% increase in the variation in import penetration leads to a decrease of −0.045% at the 5% significance level.

4.1.4. Interpretation of the Results of the Estimation of the Short-Term Relation

Table 6 shows the estimation results of Model 1 and Model 2.

From the analysis of the results of this table, we appoint by D the first difference of the variables considered. The error correction term (−1) corresponds to the lagged residuals from the long-term equilibrium equation. Their estimated coefficients are negative and significant, confirming the existence of an error correction mechanism. These coefficients, which express the degree to which the variables (employment rate, unemployment rate) will be recalled towards the long-term target are estimated respectively of −0.9948 and −0.7184 for our ARDL models, thus translating a relatively rapid adjustment to long-term target.

The employment rate differential and the one-year and two-year lagged unemployment rate differential have a positive effect on their respective current values. In other words, the employment ratio improves the level of employment while the unemployment rate deteriorates employability. These results seem to be logical with regard to the theory of the segmentation of the labor market. Insiders in employment tend to stay as long as possible in the light of their experience in the profession, while unemployed outsiders will not have the opportunities for a job offer due to their inexperience for new workers and old unemployed workers. The work of Kamgnia (2006) illustrates this situation because the employment variable delayed by one year has a positive effect on the level of employment in progress. However, the effect of the three-year lagged employment rate differential and unemployment rate becomes negative.

The differential in current GDP per capita has a negative effect on the unemployment rate. This result is consistent with theoretical predictions, including Okun's Law, according to which changes in GDP lead to lower unemployment rates.

The differential in gross current fixed capital formation has a positive effect on the employment ratio and the composite employment index, and a negative

Table 6. Estimation of the short-term relationship of Model 1 and Model 2.

Variable	Model 1		Variable	Model 2	
	Coef.	Prob.*		Coef.	Prob.*
D(LRE(−1))	0.2365**	0.0411	D(LTC(−1))	0.0985	0.3276
	(0.100965)			(0.095156)	
D(LRE(−2))	0.3536**	0.0180	D(LTC(−2))	0.0675	0.4794
	(0.125231)			(0.091561)	
D(LRE(−3))	−0.2638**	0.0118	D(LTC(−3))	−0.3205***	0.0029
	(0.085934)			(0.079158)	
D(LPIBH_C)	0.0046	0.5380	D(LPIBH_C)	−0.0877***	0.0006
	(0.007313)			(0.016851)	
D(LFBCFC)	0.0619***	0.0000	D(LPIBH_C(−1))	0.0498**	0.0305
	(0.008608)			(0.019441)	
D(LFBCFC(−1))	−0.1376***	0.0000	D(LFBCFC)	−0.0885***	0.0004
	(0.015197)			(0.016006)	
D(LFBCFC(−2))	−0.1089***	0.0000	D(LFBCFC(−1))	0.2496***	0.0000
	(0.011078)			(0.023979)	
D(LFBCFC(−3))	−0.0572***	0.0002	D(LFBCFC(−2))	0.1823***	0.0000
	(0.009754)			(0.018694)	
D(LM)	−0.0791***	0.0001	D(LFBCFC(−3))	0.1017***	0.0006
	(0.012455)			(0.019714)	
D(LM(−1))	0.0842***	0.0000	D(LM)	0.1430***	0.0003
	(0.011997)			(0.025555)	
CointEq(−1)	−0.9948***	0.0000	D(LM(−1))	−0.1702***	0.0000
	(0.099574)			(0.022099)	
			CointEq(−1)	−0.7184***	0.0000
				(0.065705)	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: Author from Eviews.

effect on the unemployment rate. However, its lagged values have opposite effects to those of the differential in gross current fixed capital formation.

The one-year lagged import differential has a positive effect on the employment ratio and a negative effect on the unemployment rate. The nature of these effects can be explained by the fact from the entry of imported products into Congolese territory to the wholesale and retail sale of products constitutes a chain promoting job creation and at the same time the reduction of unemployment. Otherwise, the purchase of inputs and production goods also promote job

creation and therefore lower unemployment. In contrast, the import differential has a negative effect on the employment ratio and on the composite employment index, and a positive effect on the unemployment rate. This result seems logical since the return to investment even in the case of reduced unemployment cannot be realized instantly even less so in the first year. The first few moments can be spent purchasing fixed assets and equipment and will continue to operate for years to come. Therefore, we can observe an increase of the unemployment rate and a decrease of the employment rate during the investment period.

4.1.5. Robustness Tests of the Results

The estimated error correction models are generally good, as shown by the obtained values of R^2 which are all close to 1, that is 0.9986 for Model 1 and 0.9988 for Model 2. The following Table 7 shows the results of normality tests of the residuals and the tests of stability of the coefficients.

According to the analysis (Table 7), it addresses that all the tests of Model 1 and Model 2 are all conclusive because the corresponding probabilities are all greater than 5% (0.05). We cannot therefore reject the null hypotheses at the 5% threshold according to which the residuals are homoscedastic and follow a normal distribution on the one hand, and the coefficients are stable on the other hand.

4.2. Interpretation of the Results of the Estimation of Microeconomic Determinants

Recall that the results are interpreted according to the three dimensions of employability, namely, access to employment, job retention and job change, according to Model 1, Model 2 and Model 3 as well than the composite employability index.

4.2.1. Likelihood of Access to Employment

We recall that in Model 1, the dependent variable is the ability to get a job (initial employment), conditioned among other things by the education system, and human capital was measured by the highest level of studies (diploma), vocational training as well as the field of study.

Table 7. Results of robustness tests.

Tests	F-Statistiques (Probabilités)	
	Modèle 1	Modèle 2
Normalité des résidus	1.3838	0.7097
Jarque-Bera	(0.5036)	(0.7015)
Ramsey Reset	0.1373	0.0076
	(0.8938)	(0.9941)

Source: Author from Eviews.

The results of the multiple regression lead us to note that in Model 1 and in Model 3, the different levels of education are significant at the 1% threshold and positively affect access to employment, compared to the modality without level because their Odds ratios are greater than 1. This is specifically the case for the vocational training variable and the university variable. This means that, when we consider the modality without level as the reference modality, all individuals with vocational and university training have a better chance of getting a job. These results are consistent with economic theory (Becker, 1964), and are also supported by the results of empirical research (Wittekind et al., 2010; Contreras et al., 2011), and de Lassassi and Hammouda (2012) on a sample composed only men. In addition, Harvey (2001) and Knight and Yorke (2003) highlight higher education as a determining factor of employability. However, the results of Lassassi and Hammouda are contrary on a sample composed of men and women, and those of Zalle et al. (2017) in a market where the informal sector occupies 75% of employment areas, but employing workers with a low level of education or absolutely no.

When we consider the feminine gender as the modality of reference, thus, the results show us that men are more likely to access a job than women in Model 1 and Model 3. In other words, women have more difficulty accessing a job than men. These results are similar to those of Lassassi and Hammouda (2012). In their work, the authors show that gender is the first factor in a person's availability to participate in economic life. Men are 18.18 times more likely to be employable than women. Likewise, Zalle et al. (2017) find the same results insofar as women are 19.57 times less likely to be employed than men. This discrimination in terms of gender could be due to the interruption of their career for reasons of maternity or taking care of sick children on the one hand, and to absenteeism mainly due to the difficulties of finding a balance between work and family responsibilities and/or domestic. In the case of this approach, the work of Erickson et al. (2000) has shown that family responsibilities are an important explanatory factor for absenteeism for men and women. According to the author, the correlation between hours spent on family and domestic tasks and absenteeism is positive for women and for men, although stronger for women.

The variable "belonging to a union or a work organization" has a positive effect on access to employment in Model 1 and in Model 3. Indeed, young people belonging to a work organization are more likely to "access a job than other young people". These results can be explained by the fact that associative movements play a large role in the employability of young people insofar as they put pressure on employers to recruit young people.

The education of the father and the education of the mother are significant at the 10% level in Model 3 with the opposite effects on access to employment. Indeed, the education of the father has a negative effect while that of the mother has a positive effect. The positive effect of mother's education theoretically corroborates the work of Granovetter (1973), Lin (1995) who highlight a positive

relationship between social characteristics, in particular the education of parents and access to employment. The negative effect of father's education confirms the findings of Kamanzi (2006) in that they establish a negative association between access to employment and the mother's level of higher education.

4.2.2. Job Retention Probabilities

Model 1 is not well specified because the probability associated with the chi2 statistic is greater than 10%, or 16.24%. This poor specification is due to the selection of the sample. By specifying the selection model, it addresses that eight variables are significant at the different thresholds.

The level of education, especially young people with a secondary professional level and a post-secondary professional level as well as the university level are more likely to keep their jobs than young people without level. These results show that there is a positive link between education and job retention. Young people with a high level can be considered as the insiders. Job retention for these young people can be explained by the fact that they benefit from good working conditions with the protection of their jobs and attractive remuneration.

Young people who belong to a trade union are more likely to keep their jobs than other young people. Trade unions are workers' organizations which defend the interests of workers. As a result, union members have an influence in the organization and especially on employers. The union has a look at the organization's policy in terms of recruiting new workers and the training policy for agents, and in the event of a recession in activities, employers will lay off workers who do not belong to a movement syndical.

The "age" variable is significant at the 1% level. This reflects a positive effect on job retention. This means that the older the individual increases, the more likely the individual is to increase their chances of keeping their job. From this perspective, job retention is an increasing function of age due to the cumulative effects of the acquisition of experience which improve the productivity of workers. These results confirm the results of Contreras et al. (2011) regardless of the genre.

The variables married and divorced have negative effects on job retention compared to single people. This result seems paradoxical insofar as newlyweds, for example, should in reality keep their jobs given the mutual social pressure and possibly the social pressure due to dependent children.

4.2.3. Probabilities of Changing Jobs

Place of residence (urban) is significant at the 1% level with a negative effect in all three models, except in the selection equation where it has no effect on job change. Young people living in urban areas are less likely to change jobs compared to young people living in rural areas. These results are in line with those of Contreras who assert a positive effect of the rural environment on employability for men, but a negative effect for women. In urban areas, jobs are increasingly scarce, unlike in rural areas where young people work in the agro-pastoral sec-

tor. The scarcity of jobs in urban areas is due not only to the phenomenon of rural exodus, the massive displacement of the population from rural areas to urban centers.

Union membership has a negative effect on job change. Young people in a work organization are less likely to change jobs compared to other young people. In the Congolese context, job offers are much lower than job demand. Young people are not tempted to want to change their jobs for lack of job opportunities. Therefore, they prefer to keep their jobs, a result which corroborates with the dimension of job retention.

The social characteristics of the individual, the level of education of the mother has a negative effect on job change. The more the mother's level of education increases, the young people are less likely to change their jobs. In contrast, young people whose parents have post-secondary vocational education are more likely to change their jobs. The second result is consistent with Lin's theory, but contrary to that of Kamanzi (2006).

5. Conclusion

The results of this article have shown that the employability of young people depends on microeconomic and macroeconomic factors. On the macroeconomic level, current GDP per capita, gross current fixed capital formation as well as imports have an effect on employability.

From a microeconomic point of view, the results show that both individual and environmental factors are determinants of the employability of young people. Indeed, an individual's education, gender and age, place of residence as well as union membership all have an effect on employability.

In view of these lessons, it is appropriate that a number of perspectives are emerging on both the job supply side and the job demand side. On the job supply side, economic policies should prioritize support for the private sector and the promotion of entrepreneurship, in particular through a reallocation of resources in productive sectors with high labor capacity. On the job demand side, it is opportune to re-frame the education system in order to improve the training offer. In addition, huge efforts are expected from the public authorities to reduce gender inequalities in order to improve the employability of young people and in particular that of young women. Likewise, the public authorities should promote trade union action in organizations because without it, all decisions in the organization would be taken unilaterally by the employers. This could lead, in particular to breach of employment contracts and unfair dismissals which infringe employability.

Conflicts of Interest

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

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