

Chief Editor

Dr. A. Singaraj, M.A., M.Phil., Ph.D.

Editor

Mrs.M.Josephin Immaculate Ruba

EDITORIAL ADVISORS

1. Prof. Dr.Said I.Shalaby, MD,Ph.D.
Professor & Vice President
Tropical Medicine,
Hepatology & Gastroenterology, NRC,
Academy of Scientific Research and Technology,
Cairo, Egypt.
2. Dr. Mussie T. Tessema,
Associate Professor,
Department of Business Administration,
Winona State University, MN,
United States of America,
3. Dr. Mengsteab Tesfayohannes,
Associate Professor,
Department of Management,
Sigmund Weis School of Business,
Susquehanna University,
Selinsgrove, PENN,
United States of America,
4. Dr. Ahmed Sebihi
Associate Professor
Islamic Culture and Social Sciences (ICSS),
Department of General Education (DGE),
Gulf Medical University (GMU),
UAE.
5. Dr. Anne Maduka,
Assistant Professor,
Department of Economics,
Anambra State University,
Igbariam Campus,
Nigeria.
6. Dr. D.K. Awasthi, M.Sc., Ph.D.
Associate Professor
Department of Chemistry,
Sri J.N.P.G. College,
Charbagh, Lucknow,
Uttar Pradesh. India
7. Dr. Tirtharaj Bhoi, M.A, Ph.D,
Assistant Professor,
School of Social Science,
University of Jammu,
Jammu, Jammu & Kashmir, India.
8. Dr. Pradeep Kumar Choudhury,
Assistant Professor,
Institute for Studies in Industrial Development,
An ICSSR Research Institute,
New Delhi- 110070, India.
9. Dr. Gyanendra Awasthi, M.Sc., Ph.D., NET
Associate Professor & HOD
Department of Biochemistry,
Dolphin (PG) Institute of Biomedical & Natural
Sciences,
Dehradun, Uttarakhand, India.
10. Dr. C. Satapathy,
Director,
Amity Humanity Foundation,
Amity Business School, Bhubaneswar,
Orissa, India.



ISSN (Online): 2455-7838

SJIF Impact Factor : 6.093

EPRA International Journal of

Research & Development (IJRD)

Monthly Peer Reviewed & Indexed
International Online Journal

Volume: 4, Issue:5, May 2019



Published By
EPRA Publishing

CC License





PARTICIPATION IN THE BURKINA FASO LABOR MARKET: CASE OF SKILLED AND UNSKILLED WORKERS

Moussa THIAW

Institutional and Growth Research Laboratory (LINC), University of Cheikh Anta Diop of Dakar (UCAD),

Adress : Dakar BP 64608

ABSTRACT

For most African countries, the issue of employment is one of the main challenges of inclusive growth . 11 million young people enter the labor market each year, while the sub-Saharan Africa labor market offers only 3 million jobs, a gap of around 8 million jobs per year (AfDB, 2017). From this work, we evaluate, using a multinomial logit model, the impact of human capital on the probability of access to employment in the Burkina Faso labor market with data from household surveys. The results show that a significant increase in human capital allows to hold a skilled job in Burkina Faso.

KEYWORDS : *Human capital; Employment; Labor market ; skilled ; unskilled; Burkina-Faso*

INTRODUCTION

For most African countries, the issue of employment is one of the main challenges of inclusive growth. In sub-Saharan Africa, 60% of the population, or 200 million, are under 25 years old. Among them, 11 million enter the labor market each year, while the sub-Saharan Africa labor market offers only 3 million jobs, a gap of around 8 million jobs per year (AfDB, 2017). WAEMU countries's GDP growth will be in real terms at 6.8% in 2018 (Central Bank of West African States, 2018). Despite sustained economic growth for years and progress in education and training, the issue of employment remains a major challenge for many countries in sub-Saharan Africa. Research on human capital theory has shown that education is an economic investment that increases the productivity skills of workers and, de facto, is a form of human capital (Becker 1964, Schultz 1963). Education and training can be likened to investments that, accumulating, form a stock of professional skills, called "human capital" (Pierre and André, 2004). The state of the labor market in the West African Economic and Monetary Union (WAEMU) countries has always been one of the major concerns of the authorities of the zone. Since 2012, WAEMU countries have obtained from the

African Development Fund (ADF) a foreign exchange donation of 20 million units of account to finance the Higher Education Support Project (*ASPP*) of the WAEMU countries. One of the three components of this project is "Support for reforms and harmonization of higher education systems in the WAEMU area". According to the Central Bank of West African States (2016), investments in human capital made in WAEMU countries have positively affected the efficiency of investments in other sectors. Thus human capital can be seen as a factor of human development in the area by its contribution to the acquisition of knowledge useful for insertion and the active participation of the population in the labor market. Therefore, the countries of the union must increase their level of investment in education and vocational training to enable the population to access quality jobs and sufficiently high wages. In the four WAEMU countries, much effort has been made in the sectors of education and training. This, with the aim of fostering strong growth and creating quality jobs.

As for Burkina Faso, since its independence in 1960, the education sector has been a major concern. Burkina's public higher education has faced an exponential increase in the number of its students. They increased from 374 in 1974 to 48,000 in 2009,

and were estimated at around 56,000 in 2011 (UIS, 2012). The Burkina Faso active population is estimated at 6,334,230 individuals, of which 52.2% are men (CMS¹, 2014). In this labor force, 42.3% are under 30 years of age. The country is characterized by a labor force with a low level of education (75.3% of workers have no education). In Burkina, public spending on education was revised upwards between 2005 and 2015, from \$ 671 to \$ 1247 PPP (millions). The gross rate of primary school graduates is 48.42% in 2015 against 26.91% in 2006 (UIS, 2017). However, this contrasts with the rise in unemployment among the school population in Burkina Faso. Indeed, the unemployment rate increased by 4.4 percentage points from 2010 to 2014 and the analysis of broad unemployment by level of education shows that the most educated are exposed to unemployment (24% for women in higher education and 12.8% for men in higher education) (NOET², 2015).

Despite efforts to invest in education, the economic situation of the country is characterized by very high unemployment rates and a very low employment offer, implying the failure of the education system to respond at the request of the labor market. And yet, according to Becker and Schultz (1964), the more educated individuals are, the more likely they are in the labor market.

Faced with this paradoxical situation, the following question should be asked: does the accumulation of human capital enable individuals to access employment in Burkina Faso ?

The relationship between education and the labor market has attracted a lot of attention since Mincer's study showed a correlation between income and the level of education attained (Mincer, 1958). In theory, education decisions are motivated by two aspects. First, education makes workers more productive and increases their earnings in accordance with human capital theory (Becker 1964, Schultz 1961). Secondly, education increases the duration of individual employability, and thus is a protection against exclusion. This is because more educated workers are also more productive, so firms agree to train them for longer. According to this vision, individuals and employers invest in training when they can expect a profit that exceeds the costs incurred. These include the direct costs of training but also the opportunity costs of the gains that we did not have because we were in training.

The objective of this paper is to evaluate the impact of human capital on the probability of access to employment in the Burkina Faso labor market. The rest of the article is organized as follows. The first section presents the background. Section 2 describes the state of the issue in the literature and Section 3 develops the Multinomial Logit Model specification. The last section presents the results.

1. BACKGROUND

This section presents the public expenditure on education (% GDP). Table 1 highlights public expenditures on education (% total expenditure) in the WAEMU zone. In fact, education expenditures (% total expenditure) of Burkina Faso has exceeded the average education expenditure of Sub-Saharan Africa (18.03% in Burkina versus 16.62% in Sub-Saharan Africa).

¹ Continuous Multisectoral Survey

² National Observatory of Employment and Training

Table 1. Education Expenditures (% GDP) and (% Total Expenditures) in Burkina Faso

WAEMU countries	Year	Education expenditure (% total expenditures)
Benin	2015	17,48
Burkina Faso	2015	18,03
Cote d'Ivoire	2015	21,17
Guinée-Bissau	2013	16,19
Mali	2014	18,22
Niger	2014	21,66
Sénégal	2014	24,76
Togo	2015	17,99
Reference		
Sub-Saharan Africa	2013	16,62

Source : WDI, UNESCO 2017

Table 2 shows the distribution of employment by sector in Burkina Faso. In the country, the level of

employment is below the average for sub-Saharan Africa (7.153 million).

Table 2. Distribution of employment by sector in Burkina Faso

Country	employment (%)				Total employment (milliers)
	année	Agriculture	Industrie	Service	(âges 15+)
Benin	2013	42,7	9,5	47,8	4 260
Burkina Faso	2013	84,7	3,1	12,2	6 455
Niger	2013	56,9	11,1	31,1	5 598
Senegal	2013	49,1	14,8	36,1	5 494
Reference					
Sub-Saharan Africa	2013	7 153

Source : WDI, ILO, 2017

2. LITERATURE REVIEW

2.1. Theoretical review

The first part of the literature is rather centered on a theoretical approach of the links between education, economy and employment. The links between education and the economy are important and have an impact on the training-employment relationship

2.1.1. Education and the labor market

The concept of human capital has been used constantly in economics since the works of Schultz (1961) and Becker (1964). Some authors make it go back to Adams Smith in the 18th century. In the OECD (1998) report, human capital is defined as "knowledge, skills, competences and other qualities possessed by an individual and relevant to economic activity". The relationship between education and the labor market has attracted a lot of attention since Mincer's study showed a correlation between income and the level of education attained (Mincer, 1958). In theory, education decisions are motivated by two aspects. First, education makes workers more productive and increases their earnings in accordance with human capital theory (Becker 1964, Schultz

1961). Secondly, education increases the duration of individual employability, and thus is a protection against exclusion. This is because more educated workers are also more productive, so firms agree to train them for longer. According to this vision, individuals and employers invest in training when they can expect a profit that exceeds the costs incurred. These include the direct costs of training but also the opportunity costs of the gains that we did not have because we were in training. According to Lucas (1988), the production function of an economy is composed of three elements: capital, labor and work efficiency reflecting the quality of human capital. This Lucas model refers to a set of knowledge available in the population and a qualitative improvement of training over time.

In most countries education is a bulwark against unemployment. As a result, Borooah and Mangan (2008) argue that the lowest unemployment rates are generally found among the most educated segments of the population. Although this theory has the advantage of advancing the theory of labor supply by bringing training and employment closer together by market logic, it nevertheless has some limitations,

particularly the emphasis on individual productivity and supposedly measurable. . This poses a problem especially when we know that the production process is of the collective type as a whole. Hence the consideration of complementary and alternative theories to the theory of human capital.

2.1.2. Complementary and alternative theories to the theory of human capital

These theories seek to explain the upsurge of unemployment by asymmetric information, the refusal of downgrading, the opposition insiders / outsiders, the failure of the matching process (Azariadis 1975, Spence 1973, Lindbeck and Snower 1988 ; Pissarides and Mortensen, 1999).

- **Signal Theory, formulated by Spence (1973)**

The author makes the assumption that education is not a way to increase human capital but a means of selection. In this perspective, individuals invest in education to send signals to employers. Unlike the theory of human capital, signal theory considers that it is the rank in the hierarchy of diplomas that counts and not the level. As a result, beyond a certain threshold, investment in training would be a social waste and produce over-education and downsizing. The main idea is that the employer, in a state of asymmetry of information with respect to the labor suppliers, does not know the productivity or the potential of the person she is going to hire and that this search for information is too much expensive. As a result, it transfers this burden to the education system and relies on the degree or level of education to rank individuals.

- **The "insiders / outsiders" model**

This model was developed by Lindbeck and Snower in 1988. The distinction is based on the observation that in large, highly structured companies for labor relations, workers already present in the company (insiders) are clearly distinguished from external candidates (outsiders). The latter are confronted with an attitude of rejection on the part of the former, thus defending their wages and working conditions. The threat represented by their power of intervention in the life of the company is sufficient to modify the decision of the employer. Insiders want a rise in wages while outsiders have an interest in lowering wages so that the demand for labor increases and they can maximize their chances of finding employment. At the end of the 1980s, this idea was developed in relation to that of turnover costs. Insiders have been a cost to the company, and departures would be a cost. As long as the claim of the "insiders" does not exceed the estimated cost of their current presence, the "outsiders" will not be hired.

- **Matching theory**

The theory of matching is based on the idea that the employer is looking for a profile that is perfectly adapted to the job (Jovanovic, 1979). For this, he needs a period of time necessary to assess the adequacy between the profile sought and the job to be

filled. He may therefore make any salary adjustments. Indeed, at the time of recruitment, the diploma is an insufficient marker. Among the reasons given for the persistence of imbalances in the labor market, the efficiency of the matching process occupies a prominent place. This matching theory accounts for the coexistence of high unemployment and labor shortages in some sectors (Pissarides 1990, Pissarides and Mortensen 1999) .The authors argue that the pairing results from the confrontation between job search of workers who have imperfect knowledge of job vacancies and recruitment of companies that have an unclear idea about the characteristics of job seekers.

To stimulate employment, it is necessary to stimulate the supply of labor rather than reduce the activity rate (Cahuc and Zylberberg, 2004a, b).

The suitability of the worker's characteristics to those associated with a vacant job is a determining factor in the hiring process as described by the matching or job matching models (Jovanovic 1979, Mortensen 1988, Sattinger 1993).

2.2. Empirical review

Empirically, a 1% increase in the GDP of public investment in France would generate in the short term a GDP increase of 1.1% at three years and a reduction of 245 000 unemployed if it is financed by debt (OFCE, 2016). As a primary source of human capital, education increases the productivity of the workforce, improves and promotes growth (Dissou et al., 2016). Boutin (2010) conducts a study in Cameroon with data from ECAM 3 conducted in 2007 where she analyzes the determinants of access to employment using a probit model. The results reveal that the probability of accessing employment is higher for individuals with a primary or secondary education compared to individuals with no education or those with a higher level of education. In parallel, Nordman and Doumer (2012) find opposite results to those of Boutin on the link between level of education and access to employment. From the data of the 1-2-3 survey carried out between 2001 and 2003 in seven capitals of the WAEMU zone (all capitals except Bissau), the authors find with the help of a logit model that in Lomé, Cotonou and Abidjan, there is a positive correlation between unemployment and educational level, the chances of unemployment increase with the level of education. In other cities, however, unemployment and educational attainment form a bell curve. Individuals without a level of education have a lower probability of being unemployed. Their results show a positive impact of the diploma on remuneration with more pronounced effects for secondary and higher education diplomas. According to Chirache (2014), the unemployment rate in France of recent workers, with at most a college diploma, is 4.5 times higher than that of higher education graduates. Further, Nordman and Doumer (2012) show a clear correlation between level of education and quality of employment in WAEMU capitals, applying the segmentation "public,

private formal, informal". In the seven cities studied, 91% of those who did not complete primary education work in the informal sector. This proportion is 75% for those with a primary level, and only 19% for individuals who have completed higher education. Using a multinomial logit model, the authors show that an additional year of study increases the odds to integrate the public and the formal private sector than to work in the informal sector. However, Camara and Benjamin (2011) did a study in Ivory Coast and found a contradictory result to the human capital theory. Their results reveal that the higher the level of education, the lower the employability of young people. As for the formation of incomes, the level of education acts positively.

In Senegal, Cabral et al (2014) find the following results: (i) the socio-professional categories of the "low-skilled" are those where there is a shortage of manpower; then (ii) there is an excess of labor supply in the "unskilled" segment and in the "highly skilled" segment; and finally (iii) in the "highly skilled" labor market, supply is dominated by the non-youth segment. On the other hand, in all other segments of the market, young people account

for most of the labor supply. These studies show us that human capital, measured by level of education, plays a predominant role in access to employment, even if qualification adequacy problems are noted.

3. METHODOLOGY

3.1. Classification of skilled employment and unskilled employment

With regard to the qualification of professions (skilled, unskilled), we have relied on the International Classification of Occupations- ISCO08, adapted to the four WAEMU countries.

Table 4 presents the employment classification (skilled employed, unskilled employed) using ISCO-adjusted to developing countries and applied in the four WAEMU countries. The skilled employed includes senior managers, engineers and related professionals, middle managers and supervisors, skilled employees and workers, semi-skilled employees and manual workers. Finally non-skilled employed includes informal self-employed persons, laborers, caregivers and apprentices.

Table 3: Classification of Employment by Adjusted-ISCO08

ISCO groups	Employment classification
1- Senior manager, engineer and related	Skilled segment
2- Middle manager, master agent	
3- Employee / skilled worker	
4- Employee/ semi-skilled worker	Unskilled segment
5- Independent (seller, grower, tailor)	
6- Maneuver	
7- Help family	
8- Apprentice paid or unpaid	

Source: author, ILO (2013)

3.2. Model

The multinomial logit model (MLM) is our analytical model. This model is an extension of the simple logistic regression model. It was introduced by McFadden in 1968 and it allows to study situations where the individual must make a choice among several modalities. In unordered models, the variable to be explained represents the possibilities of choice of an individual among $M + 1$ possibilities and therefore his preferences. This is why they are also called random utility models.

The decision $Y_i = j$ is retained if $U_{ij} =$

$$\text{Max} (U_{i0}, U_{i1}, \dots, \dots, U_{iM})$$

Suppose that each individual has to choose between the three alternatives ($j = 0$ to 2) more precisely (unemployed, skilled employment and unskilled employment). What we seek to study is the unique decision of an individual among a number of unordered alternatives. In a model of unordered choices, the individual we will compare the different

levels of utility associated to the various states, and then we will opt for the one that maximizes its utility U_{ij} among the J states. For the individual i , the utility of the state j is given by :

$$U_{ij} = \beta'Z_{ij} + \epsilon_{ij}$$

Where Z_{ij} is a vector of individual characteristics (education level, vocational and /or technical training, age group, gender, residence place, etc.), β is a vector of unknown parameters and ϵ_{ij} is a random error term. If the individual i is in the state j , we shall consider that U_{ij} is the greatest utility among the utilities considered by the individual i . In fact, the probability that the individual i participates in sector j corresponds to the probability that the utility of sector j is greater than that associated with all other sectors:

$$P(U_{ij} > U_{ik}), \text{ with } k \neq j ; j, k=0, 1, 2$$

In many studies, the estimation of the reduced equation of labor force participation is done from this

point using a multinomial logistic model³. In this model, the probability that the individual i is in the state j is expressed by:

$$\text{Prob}(Y_i = j) = \frac{e^{\beta_j' z_i}}{\sum_{k=0}^2 e^{\beta_k' z_i}}, \text{ with } j = 0, 1, 2 \text{ et } \beta_0 = 0$$

The estimation of the parameters will be done by the likelihood maximum method. The maximum likelihood estimators are obtained once again by canceling the partial derivatives with respect to the different parameters of the likelihood of the sample. We will admit the classical results on the asymptotic behavior of the estimators: asymptotic variance deduced from the Fisher information matrix, asymptotic normality of the maximum likelihood estimator, Wald tests, likelihood ratio etc. The odds ratio appear directly in the software outputs for the multinomial model.

3.3. Data and study area Burkina Faso

Data from the Multisectoral Continuous Survey (*EMC-2014*), collected by the National Institute of Statistics and Demography (*INSD*) are used. We are interested in items related to the labor market (employment, education). Inactive subjects are excluded from the study, resulting in a sample of 43,238 subjects.

The dependent variable (employment state) has three alternatives: unemployed, skilled employment and unskilled employment. The explanatory variables of the model are human capital, here captured by the level of education and vocational and/or technical training, and other individual characteristics of households (age group, gender, place of residence, marital status, etc.). Unskilled employment stands at 96.97% in Burkina Faso.

4. RESULTS

Table 4 presents the results of the multinomial logit model (MLM) estimation for access to employment and for which the base is the alternative 0 (unemployed).

The overall significance test of the model shows that the model is globally significant. We then did the independence tests of the variables (likelihood ratio test, wald test) to check the partial significance of these variables. The LR test of alternative combinations, another test that we performed to check whether it makes sense to combine certain categories of the dependent variable - for example: whether it makes sense to combine "unemployed" and "skilled occupation". Finally, the independence test for irrelevant alternatives (IIA) has been validated for this model.

To clarify the effect of human capital, Table 4 gives the results of a simulation of the probability of being in a skilled job or an unskilled job using odds ratios.

In Burkina Faso, an increase in the level of education significantly increases the probability of being in a skilled job.

A one-point increase in the level of higher education leads to an increase in the probability of having a skilled job of 35.17 points in Burkina Faso. On the other hand, the results obtained in Burkina Faso concerning the unskilled segment seem to reveal a phenomenon of declassification on the labor market of Burkina Faso. Although the probability of access to a skilled job is high (35.17 points for the higher level), it is 19.87 points for unskilled employment. This would reflect a phenomenon of over-education or downgrading in this country. This result corroborates with Thiaw's (2019) finding that a significant increase in human capital makes it possible to hold a skilled job in Senegal.

³ Nerlove et Press [1973]

Table 4: Effect of variables on the probability of access to employment in Burkina Faso (odds ration)

Variables	Burkina
Skilled employment	
primary	2.00**
middle	
general secondary	
general high educ	35.17***
technic secondary	
technic high edu	
women	0.47*
rural	0.52***
AGE24_35	19.24***
AGE236_59	57.00***
AGE60_plus	56.53***
Unskilled employment	
primary	2.05**
middle	2.37**
general secondary	
general high educ	19.87***
technic secondary	
technic high edu	
women	0.36***
rural	0.55**
AGE24_35	18.93***
AGE236_59	75.12***
AGE60_plus	84.54***
Statistics	
N	43788
Ll	-5893.84
df_m	38.00
chi2	908.30

Source: Author

*** p<0.01, ** p<0.05, * p<0.1

Other individual characteristics that significantly affected the probability of belonging to the employment state are: gender, residence palce, youth (AGE24_35), adults (AGE236_59), olders (AGE60_plus). Compared to men, women are at a disadvantage in all segments and in Burkina Faso. In rural areas access to skilled employment is very limited in this country.

Compared to youths (AGE_15_24), the results reveal that in Burkina Faso, the chances of older people to work in unskilled jobs are greater than the chances of getting a skilled job.

5. DISCUSSION

According to the results, an increase in the education level increases the probability of having a skilled job in all the four countries. So education and skilled employment are positively correlated in the Burkina

Faso labor market. On the other hand, the results obtained in Burkina Faso concerning the unskilled segment seem to reveal a phenomenon of declassification in the Burkina Faso labor market.

CONCLUSION AND POLICY

LESSONS

In this paper, we study, using a multinomial logit model, the impact of human capital on the probability of access to employment in Burkina Faso. Empirical analysis reveals that:

- A significant increase in human capital allows to hold a skilled job in Burkina Faso.
- Burkina Faso labor market seems to reveal a phenomenon of declassification.
- Compared to rural people who are mainly immersed in unskilled employment, urban

households are more likely to be in a skilled job.

The results have important implications for serving education, vocational and technical training policies and labor market policies in the Burkina Faso labor market:

- An education policy focused on the correction of imbalance between supply and demand for qualification in the labor markets.
- An employment policy based on promoting access to decent and sustainable jobs and reducing unemployment;
- A technical and professional training policy of the workforce to increase the employability of it.

The extension of the study area and the consideration of the matching issue between labor market supply and demand for qualification seems original for future research.

BIBLIOGRAPHY

1. Adair P., Bellache Y., Gherbi H. (2012), « L'accès à l'emploi informel en Algérie : Déterminants et fonctions de gains, *Inequalities and Development : new challenges, new measurements ?* » Submission to the 4th Economic Development International Conference, Université de Bordeaux. 22 p.
2. AfDB Rapport annuel 2017
3. AFRISTAT (1999) « Concepts et indicateurs du marché du travail et du secteur informel », Série Méthodes N°2. 65 p.
4. Alain Jaquot (2000), « Les modèles économétriques-LOBIT-PROBIT-TOBIT », Dossier d'Etude N° 6, CNAF-Bureau des Prévisions.
5. Angel de la Fuente et Ciccone Antonio, (2002), « Le capital humain dans une économie mondiale fondée sur la connaissance », RAPPORT FINAL(2002).
6. Annabi, N., Harvey, S., Lan, Y., 2011. « Public expenditures on education, human capital and growth in Canada: an OLG model analysis » *J. Policy Model* 33 (6), 852-865.
7. Annabi, Nabil., 2017. « Investments in education: what are the productivity gains ? ». *Journal of Policy Modeling*. DOI: <http://dx.doi.org/doi:10.1016/j.jpolmod.2017.03.003>.
8. ANSD (2013), « RGPHAE », rapport définitif.
9. ANSD (2014), « Evolutions économiques récentes ».
10. ANSD (2016), ENES
11. ANSD (2017), ENES
12. Arrow K.J., 1973, « Higher Education as a Filter », *Journal of Public Economics* », 2, (3), juillet, pp.193-216.
13. BAD (2014), « La Stratégie du capital humain pour 2014-2018 », Communications Development Incorporated, Washington, D.C.
14. BAD (2017), « Stratégie pour l'Emploi des Jeunes en Afrique », Conférence Ministérielle Régionale sur l'Emploi et l'Entreprenariat des Jeunes en Afrique.
15. BAD (2017), « Perspectives Economiques Africaines en2017»
16. Becker G. S, (1993), « Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education », the University of Chicago Press.
17. Becker, Gary S.,(1964) « Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education », University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Available at SSRN: <https://ssrn.com/abstract=1496221>.
18. Berman, E., Bound, J., Machin, S., (1998) « Implications of skill-biased technological change: international evidence », *Q. J. Econ.* 113, 1245-1279.
19. Bernard Decaluwé, André Lemelin & David Bahan (2010), « Endogenous Labour Supply with Several Occupational Categories in a Bi-regional Computable General Equilibrium (CGE) Model », *Regional Studies*.
20. Boutin D. (2010), « La transition des jeunes camerounais vers le marché du travail », Document de travail, DT 152/2010, Groupe d'Economie du Développement Lare-Efi, Université Montesquieu Bordeaux IV. 29 p.
21. Brilleau A., Roubaud F., Torelli C. (2004), « L'emploi, le chômage et les conditions d'activité dans les principales agglomérations de sept Etats membres de l'UEMOA : principaux résultats de la phase 1 de l'enquête 1-2-3 de 2001-2002 », DIAL, Document de travail DT/2004/06.
22. Bruyère M. et lemiStre P., (2005), « Trouver un emploi en rapport avec sa spécialité de formation une situation rentable ? », Des formations pour quels emplois, coord. J-F. Giret, A. Lopez et Rose J., préface C. Thélot, ed. La Découverte.
23. CABRAL F. J. et al., (2014), « Diagnostic sur l'emploi des jeunes au Sénégal », ICEJA, Mai.
24. Camara Ibrahima, (2011), « Human capital and the process of integrating young people into the labor market: The case of the township of ABOISSO », World statistical Congress, Dublin (Session CPSO55).
25. Carl Shapiro and Joseph E. Stiglitz, (1994), « Equilibrium Unemployment as a worker Discipline Device », *The American Economic Review*, Vol. 74, No. 3 (Jun., 1984), pp. 433-444, American Economic Association.
26. Chirache S. (2014), « Eléments de synthèse sur la relation formation-emploi », Éducation & formations n° 85.
27. Cloutier, M.-H., Cockburn, J., Decaluwé', B., (2008), « Education and poverty in Vietnam: a computable general equilibrium analysis », CIRPE'E Working Paper 08-04, CIRPEE, Quebec.
28. CNUCED (2017).
29. Conférence internationale du Travail, (2012), « La crise de l'emploi des jeunes: Il est temps d'agir », Bureau international du Travail Genève, Première édition.
30. Doeringer P, Piore M. (1971), « Internal labour markets and Manpower analysis », Heath Lexington Books.
31. Emmanuelle Nauze-Fichet et Magda Tomasini, (2002), « Diplôme et insertion sur le marché du travail : approches socioprofessionnelle et salariale du déclassement », ÉCONOMIE ET STATISTIQUE N° 354.
32. Eurostat (2016), « Statistical approaches to the measurement of skills », Luxembourg: Publications Office of the European Union.

33. Eurostat (2016), « *Statistical approaches to the measurement of skills* », Luxembourg: Publications Office of the European Union.
34. Gambin, L., Hogarth, T., Murphy, L., Spreadbury, K., Warhurst, C., Winterbotham, M., (2016), « *Research to understand the extent, nature and impact of skill mismatches in the economy* » Prepared for the Department for Business, Innovation and Skills.
35. Giesecke, J.A., Tran, N.H., Meagher, G.A., Pang, F., (2011), « *Growth and change in the Vietnamese labor market: a decomposition of forecast trends in employment over 2010-2020* », COPS General Paper G-216, Monash University, Melbourne.
36. Gilbert BENHAYOUN et Steve BAZEN (1995), « *Salaires-Education au Maroc* », *Revue Région & Développement* n° 1-1995.
37. J. Gaude (1997), « *L'insertion des jeunes et les politiques d'emploi-formation* », Copyright Organisation internationale du Travail, Première édition
38. James Andrew Giesecke, Nhi Hoang Tran, Gerald Anthony Meagher & Felicity Pang (2015), « *A decomposition approach to labour market forecasting* », *Journal of the Asia Pacific Economy*, 20:2, 243-270, DOI: 10.1080/13547860.2014.964964 .
39. To link to this article: <http://dx.doi.org/10.1080/13547860.2014.964964>
40. Jovanovic B. (1979), « *Job matching and the Theory of Turnover* », *The Journal of Political Economy*, n° 87.
41. Le Rhun B., Pollet P. (2011), « *Diplôme et Insertion professionnelle* », *France Portrait Social*, Édition 2011.
42. McKinsey Global Institute (2012), « *The world at work: Jobs* », *Pay and skills for 4.5 billion people*, available at: www.mckinsey.com/mgi
43. McKinsey (2012), « *Education to Employment: Designing a system that works* », available at: mckinseysociety.com/education-to-employment.
44. McGregor & J. Kim Swales (2016), « *The external benefits of higher education* », *Regional Studies*, DOI: 10.1080/00343404.2016.1172062.
45. Michel Vernières (1997), « *L'insertion professionnelle-Analyse et Débats* », *Economica* .
46. Mincer J., (1974), « *Schooling, Experience and Earnings*, Columbia University Press », New York..
47. Mircea Vultur (2003), « *L'insertion sociale et professionnelle des jeunes «désengagés»*. *Analyse du programme d'intervention de La Réplique* », Institut national de la recherche scientifique Urbanisation, Culture et Société.
48. Mohammed BOUGROUM, Aomar IBOURK et Ahmed TRACHEN (2002), « *L'insertion des diplômés au maroc: trajectoire professionnelle et déterminants individuels* », *Revue Région et Développement* numéro 15.
49. Njikam G., Tchoffo R., Mwaffo V. (2005), « *Caractéristiques et déterminants de l'emploi des jeunes au Cameroun* », *Unités Politique de l'emploi/Département de la stratégie en matière d'emploi*. 91 p.
50. Nordman C., Pasquier-Doumer L. (2012), « *Vocational Education, On-the-Job Training and Labour Market Integration of Young Workers in Urban West Africa* », *Document de travail UMR DIAL*. 42 p.
51. OCDE (1998), « *L'investissement dans le capital humain : Une comparaison internationale*, Paris.
52. OCDE (2012), « *Quel est l'impact du niveau de formation sur les taux d'emploi ?* », *Regards sur l'éducation 2012 : Panorama*, Éditions OCDE.
53. OIT (2012), « *Tendances mondiales de l'emploi* ».
54. Rabah Arrache, (2002), « *Quelques éléments sur l'analyse du processus d'insertion professionnelle* », *Bibliothèque nationale du Québec*.
55. *Rapport du FMI*, (2010), « *Sénégal: Rapport d'étape annuel sur le Document de stratégie de réduction de la pauvreté* », 700 19th Street, N.W. Washington, D.C. 20431.
56. Riley J-G., 1976, « *Information, screening and human capital* », *American Economic Review*, 66 (2), mai, pp. 254-260.
57. SNDES (2012), « *Stratégie Nationale de Développement Economique et Social* ».
58. Spence M. (1973), « *Job Market Signaling* », *The Quarterly Journal of Economics*, n° 87.
59. STANKIEWICZ F., (2003), « *Des compétences de la firme aux compétences des salariés – Le point de vue non autorisé d'un économiste du travail* » *Revue d'économie industrielle*, 102, 1^{er} trimestre 2003, pp. 55-68.
60. Thaw, M. (2019), “ *DETERMINANTS OF LABOR MARKET PARTICIPATION IN SENEGAL*”, *International Journal of Business Economics and Management Research* Vol. 10, Issue 3, March 2019 Impact Factor: 6.857 ISSN: (2229-4848). <http://skirec.org/category/ijbembr/current-ijbembr/>
61. Thierfelder, K., Robinson, S., (2002), « *Trade and the skilled / unskilled wage gap in a model with differentiated goods* », *TMD Discussion Paper 96*, IFPRI, Washington, DC.
62. Thomas et Defebvre Eric (2014), « *L'impact causal de la santé sur le maintien en emploi quatre ans plus tard* », *Document de travail N° 01-2014*.
63. Thurow L., 1975, « *Generating inequality* », *New-York, Basic Books*.
64. <http://www.ilo.org/public/french/bureau/stat/isco/isco08/index.htm>
65. Verbic, M., Majcen, B., Cok, M., (2009), « *Education and economic growth in Slovenia: a dynamic general equilibrium approach with endogenous growth* », *Munich Personal RePEc Archive Paper No. 17817*. *Institute for Economic Research, Ljubljana*.
66. Vincens (1998), « *L'insertion professionnelle des jeunes, quelques réflexions théoriques* », *formation-emploi*, n°61, CEREQ, France.