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Salary Costs of Employment Vulnerability in Benin

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Abstract

This article assesses the wage costs of employment vulnerability in Benin with a twofold objective. It is (1) to build a measure of job vulnerability to assess its effect on the wages and (2) to test the hypothesis of existence of compensatory mechanisms concerning the most vulnerable jobs. Based on data from the Integrated Modular Survey on Household Living Conditions (EMICoV-2015), three main conclusions emerge from the results: (i) vulnerability affects wage levels; (ii) the effect of vulnerability on wages is non-linear; and finally (iii) there is no wage compensation for the most vulnerable workers.

Keywords: Employment; Vulnerability; Salary; Working conditions

JEL classification: C21; D31; D24; D28; J81

Introduction

While it is evident that unemployment issues are important in developing countries, concerns about the quality of professional integration should not be overlooked. Indeed, in many cases, it is wrongly considered that employed economic agents are in a secure situation. Obviously, there are factors that subject these workers to levels of insecurity. Most of the time, the analysis of the labour market is more oriented in developing countries towards questions of job creation. This refers in an alternative way to the problem of unemployment, which should not, however, mask other aspects related to employment such as remuneration, security, satisfaction, quality or even the vulnerability of employment. However, these aspects are important in the labour markets of developing countries given the configuration of these markets. Indeed, these countries are characterized essentially by two factors: a preponderance of jobs in the informal sector and a low level of protection of labour rights. These two factors result in being a source of vulnerability for workers. According to whether we are looking at job volatility, earnings erosion, compliance with labour standards, exposure to workplace hazards or more wide of social risks, a very large and growing proportion of the workforce in developed and developing countries has become vulnerable to various risks in the workplace and in the labour market [1]. Neoclassical theory postulates that the labour market functions uniformly thus leading to the achievement of a unique equilibrium. But such a theoretical conclusion is not consistent with the functioning of labour markets especially in developing countries because of the coexistence of several sectors operating in a heterogeneous way. This market configuration is close to the theoretical predictions of the segmentation theory developed [2]. Indeed, segmentation theory presents the market as operating according to two segments: a primary and a secondary. These segments are characterized by low inter-segment mobility and high intra-segment mobility. The primary segment consists of secure jobs protected from competition rules. On the other hand, jobs in the secondary segment are vulnerable, insecure and with a low level of remuneration. Often the terms "vulnerable" or precarious jobs and "vulnerable workers" are often used interchangeably, but a distinction should be made between the two concepts. Indeed, even if it is obvious that a vulnerable job predisposes the worker to be more vulnerable, it is still important to distinguish the characteristics of the job from the characteristics of the worker. Thus, vulnerable employment is attributable to types of contractual labour relations that predispose these workers to

vulnerability. Define vulnerable work is often classified as casual or non-standard work [3]. Vulnerable workers are defined as employees working under the threat of adverse physical and psychosocial working conditions. Vulnerability is therefore a forward-looking concept that makes it possible to identify the workers most exposed at work to deprivation of labour resources and more generally to malaise at work [4]. In the same sense, define vulnerability as the personal situation of an individual which allows or does not allow him to substitute one endowment (capacities) by another in a context of exogenous shock. Analyses vulnerability in terms of a lack of socioeconomic security in working relationships. The security of employment relationships and working conditions are the two important elements that the notion of vulnerability seeks to capture. From a theoretical point of view, the theory of compensatory differences developed by, predicts wage heterogeneity as a mechanism of wage compensation [5]. Indeed, this theory indicates that the salary appears as a bonus paid for the benefit of workers performing the most arduous tasks in return for the disutility's they suffer. In this logic, the most vulnerable workers should receive a good level of wages. This theoretical prediction remains an interesting proposition to be tested in the case of the labour markets of developing countries and in Benin in particular. It is such verification that is the subject of this article. The purpose of this article is twofold. First, it assesses the wage costs of job vulnerability and second, it tests the validity of the compensatory differences hypothesis. The contribution of this article lies on two levels. At a first level, the article contributes to producing knowledge on a subject with little information in developing countries in general and in Benin in particular. At a second level, the article adopts a fairly varied methodological approach to test the validity and robustness of the effects obtained. The remainder of the article is divided into six parts. The second part presents a synthesis of the economic theories underlying the analysis of the vulnerability of employment; the third part discusses the elements of measurement of the vulnerability of employment in the empirical literature; the fourth part briefly analyses the employment situation on the labour market in Benin; the fifth part discusses the methodology of the article; the sixth part presents and discusses the results and the last part concludes the article.

Wage Cost of the Employment Vulnerability: The Contributions of Mincer (1974) and the theory of compensating wage differentials

Mincer argued that the positive relationship between an individual's education and subsequent income can be understood to reflect the effects of increased education on productivity [6]. This relationship is not straightforward or simple. Schooling and education are not synonymous, the educational content of time spent in school varies from superb to miserable. It is therefore not surprising that there are correlations between the level of education, measured in years spent in school, and the income of individuals, although positive, are relatively weak. However, when one takes the average of the wages on the groups of people different in their levels of education, the clear and strong differences emerge. This definitively established human capital as a determinant of remuneration. Human capital can be understood in two ways, either through education or through experience. There is indeed a close relationship between education and experience in that it is possible to make a trade-off between spending time in school and spending time working to gain experience. This link therefore underlines the obvious fact that from a theoretical point of view, experience is also a determinant of both employment and salary. The idea that experience also determines pay was taken into account in salary equation. It should be noted that this analysis of has remained in the logic of neoclassical theory by treating the formation of wages within a certain framework. This is only true when the labour market operates under the assumptions of competition. But the segmentation theory developed has shown that several employment segments can coexist in the same market, obeying different operating modes. Thus, the secondary segments are associated with vulnerable and poorly protected jobs. Labour supply decisions are based on the trade-off between labour income and the cost of that same labour. Thus, at the optimum, the wage differences correspond to the marginal rate of substitution between consumption and working conditions. On the other hand, the firm's decision to request is based on the trade-off between the need to pay compensation to workers in relation to the arduous or dangerous nature of the tasks to be performed and the need to improve working conditions. Developed the theory of hedonic prices aims to account for the wage differentials between individuals of the same qualification [7]. Hedonic prices are the implicit prices revealed to economic agents through the observed prices of differentiated products with specific characteristics associated with them. The basic idea of this theory is that jobs that are associated with poor working conditions compensate for this disadvantage by increasing the wage rate. The heterogeneity of wages can then be illustrated based on jobs with varying degrees of hardship. According to his preferences, an economic agent is ready to accept a riskier job if it is compensated by a high remuneration [8]. The arduous nature of the work has a very broad connotation because it encompasses aspects such as work accidents, occupational diseases, and a degraded work environment. The trade-off is therefore done at this level, between the risks associated with the job and the level of remuneration. If the worker receives non-monetary benefits from his employer (holidays, pensions, etc.), his salary may turn out to be low. Thus, in this type of job, the economic agent seeks

to maximize his utility by minimizing the arduousness of his work. In this new demand system, goods are of three kinds: leisure, non-monetary characteristics of employment, and marketable goods that can be consumed. Companies, for their part, are making a trade-off between the costs of equipment that would provide safer working conditions on the one hand and the bonuses and benefits they must grant to workers who accept these risky jobs on the other hand. Under certain assumptions (homogeneity of individuals, heterogeneity of work environments, perfect information in relation to wages and working conditions, perfect mobility on the labour market), wages differ between workers but all have the same utility. Thus, to encourage workers to agree to work in poor conditions, companies must offer high wages. The relaxation of the assumption of homogeneity of worker preferences certainly introduces uncertainty into this reasoning.

Table 1: *Brief empirical synthesis of the elements of vulnerability.*

Authors	Variables and dimensions
Saunders (2003)	Low remuneration; non-standard employment (part-time, self-employment, no contract); non-unionized worker; excluded from collective agreements, employment protection rights and the national insurance system
Bewley & Forth (2010)	Lack of written contract; general unfavorable climate of labor relations; lack of a fixed-term or indefinite employment contract
Chaykowski (2005)	Full-time part-time job; absence of employment contract; job instability
TUC (2008)	Low remuneration; lack of academic qualification; absence of a permanent employment contract; Work at home ; undocumented migrants; informal work
Bazillier et al., (2015)	Employment relationship (employee, self-employment, family work); absence of a fixed-term or indefinite contract; size of the company ; type of business; responsibility for supervision of other employees; ability to decide on daily work planning; ability to influence political decisions of the organization of activities; the type of occupation (professional sector)
Bocquier et al., (2010)	Contractual insecurity (without a contract or having no payslip); employment status (self-employed and employed); ambulatory employment; type of employment (seasonal and permanent); unstable remuneration in relation to the frequency; visible involuntary underemployment (worker willing to work more); having a second job; instability in employment (worker having changed jobs without improving their status); unwanted job (the worker is dissatisfied with his job and would like to change it);
Greenan & Seghir (2017)	Poor physical working conditions; unfavorable social climate; atypical working time; high intensity of work; low work complexity
Adeniran et al., 2020	Self-employment; family work; domestic work; learning

This is because, since preferences are now individual, the issue of compensation will take on other forms and will differ from worker to worker. Theories based on an analysis in a non-competitive universe suggest that the differences in wages between apparently identical individuals tend more to reveal an absence of compensation such as the relative bargaining power of labour. Since job vulnerability is closely linked to working conditions, it appears that from the point of view of the theory of compensatory differences, vulnerable workers should be the best paid.

Brief Synthesis of Elements of Vulnerability in Empirical Measures

Unacceptable forms of work are described as including conditions which deny fundamental principles and rights at work, endanger the life, health, liberty, human dignity and safety of workers or keep households in conditions of poverty [9]. The issue of relative vulnerability, which is the comparison of the conditions faced by different groups of workers competing in the same labour market, has generated wide scientific interest. Differential vulnerability in the labour market may be based on education, age, family

responsibility, occupation, industry, well-being, and the absence or presence of labour market protections [10,11]. The notion of vulnerability thus refers to several aspects in the economic literature. Specifically, job vulnerability is linked both to intrinsic aspects of the job and to factors relating to the workers themselves. It is obvious that a one-dimensional measure of vulnerability cannot adequately capture the situation of workers. The most satisfactory approach to measuring vulnerability is therefore multidimensional. Vulnerable employment can be identified by reference to certain characteristics of employment linked to the risk of lack of decent employment [12]. Given the plurality of approaches to measures of employment vulnerability in the empirical literature, we present in Table 1 a summary of the dimensions generally encountered. Analysis of the table shows that the vulnerability measures generally take into account the following elements: working conditions, working environment, remuneration and protection of working rights (Table 1).

Presentation of Jobs on the Labour Market in Benin

We present some characteristics of the labour market in relation to the use of labour and the nature of jobs. The analysis presents seven indicators. Related to unemployment, labour underutilization, formal jobs, wage rates and finally hourly workload (Table 2). The first two indicators in Table 2 show that unemployment, in the sense of the International Labour Office (ILO), is not a major problem given the low rate observed according to the different decompositions. It is nevertheless important to note that its low level, unemployment affects more particularly individuals aged 15 to 34 years. Unlike unemployment, it appears that the underutilization of the labour force is a rather serious concern in the labour market. Indeed, the rate of labour underutilization is of the order of 17.6% for the entire market. Specifically, the indicators show that it is women and individuals aged 15 to 34 who are the most affected. The Beninese labour market is characterized by informality and informality and the dominance of jobs in the agricultural sector. Table 2 shows that the employment rate in the non-agricultural sector is of the order of only 7.4%. This rate remains very low given that the preponderance of informal jobs constitutes a potential source of non-respect for labour rights and consequently of vulnerability. This configuration of the labour market is consistent with the last two indicators in Table 2. Indeed, these indicators show that 10.5% of jobs are paid below the minimum wage and that around 41% of jobs correspond to excessive workloads.

Methodology

This article has two purposes. Analyse the effect of vulnerability on wages and test the hypothesis of compensating differences.

Construction of an employment vulnerability index for Benin (IVEB)

The notion of job vulnerability is difficult to measure from just one aspect. An overview of the literature shows that it is a multidimensional notion even if the dimensions it incorporates are not universal. The approach adopted here follows this logic. The reasons for the choice of dimensions are obvious. It is first and foremost a question of statistical availability and then aspects of interest which are the subject of the study. The variables we have chosen for the vulnerability measure are quite similar to those used. These dimensions are in line with a definition of employment vulnerability which takes into account the aspects that can constitute a source of employment instability.

The dimensions selected for the Benin employment vulnerability index (IVEB)

The measurement of vulnerability does not follow a unique approach in the literature. Studies thus use different dimensions even if certain dimensions can often appear in several studies. Two reasons fundamentally justify this plurality of approach in the literature. The first is that important vulnerabilities in one environment may not have the same significance in other environments. The second reason is linked to data limitations which make it not possible to follow the same approaches to measuring vulnerability from one country to another. Despite this plurality of approach, a criterion must nevertheless guide the choice of dimensions / variables to be taken into account in measuring job vulnerability. Indeed, this criterion relates to the fact that the variables selected must be clearly defined, well measured and verifiable if necessary. In view of these different aspects, we have retained three dimensions for 14 variables in the measurement of vulnerability. Elements retained in these different dimensions are found in the variables retained. Thus, the dimensions retained for the IVEB are as follows:

First dimension: working conditions

The first dimension taken into account relates to working conditions. It takes into account the various risks to which employees are directly exposed at their workplace and within the framework of their professional obligations. This dimension includes eight variables addressing different types of professional inconvenience to workers. According to, these job inconveniences have a negative impact on the well-being of employees and must therefore be associated with a salary increase. They also generate health and safety risks.

Second dimension: social work environment

The work environment is an important element in the development of workers. As such, a bad working environment can affect the psychology and the satisfaction of the workers vis-à-vis their jobs. This second dimension has four variables related to aggression and discrimination. Show that perceived discrimination has a significant negative effect on mental and physical health because it produces both significantly higher stress responses and interacts with the adoption of unhealthy behaviours or the non-adoption of healthy behaviours.

Table 2: *Trends in employment in the labor market in Benin.*

Indicators	Cotonou	Other urban	All Urban	Rural	Benin
ILO unemployment rate	4.6	2.9	3.2	1.5	2.3
Men	4.7	3.0	3.3	1.4	2.3
Women	4.5	2.7	3.0	1.6	2.3
ILO unemployment rate					
15 – 34 years	7.5	4.2	4.7	2.6	3.5
35 years and over	2.9	1.8	2.0	0.6	1.2
Labor underutilization rate (%)	19.2	20.0	19.9	15.8	17.6
Men	17.5	16.4	16.6	12.0	14.1
Women	20.9	23.7	23.2	19.6	21.3
Labor underutilization rate (%)					
15 – 34 years	27.6	27.6	27.6	21.6	24.2
35 years and over	13.6	12.8	13.0	10.1	11.5
Percentage of formal jobs in the non-agricultural sector	11.2	9.0	9.4	4.6	7.4
Men	16.5	14.7	15.1	8.9	12.8
Women	6.2	3.6	4.1	1.7	3.0
Wage rate lower than the minimum wage (%)	16.8	10.1	10.8	14.1	12.7
Men	12.9	8.7	9.2	11.5	10.5
Women	22.1	11.7	12.7	17.1	15.2
Excessive working hours (more than 48 hours per week)	44.7	42.8	43.1	38.2	40.4
Men	47.7	45.4	45.8	42.3	43.3
Women	41.7	39.9	40.2	34.9	37.3

Third dimension: security and employment law

The last dimension relates to job security. Indeed, an important characteristic of vulnerable jobs is the low level of job protection. This aspect is even more important when we take into consideration the configuration of the labour market in Benin, which is predominantly informal. This represents a source of vulnerability for jobs. To give an example, more than 75% of jobs in Benin are not covered by any form of employment contract. In order to take into account this particularity of the labour markets of developing countries, we have retained two variables. These variables relate to paid holidays and the protection of pension rights. The table 3 presents a summary of vulnerability indicators (Table 3).

IVEB aggregation

The aggregation technique chosen in this study is consistent with that used. Indeed, once the dimensions are identified, it is a matter of aggregating them to make an index that will be considered as the measure of vulnerability. In this sense, two questions arise. The first is that of weighting. Should all sub-aspects of vulnerability be given equal importance? This debate does not have a universal response. This is moreover in line with the debate on the weighting of multidimensional indices in general. In

this article, we have chosen to adopt an equal weighting. Indeed, an unequal weighting of the different components of the composite indicator can bias the results because individual preferences and by extension the responses depend on the individual context. The second question is which method to use. In our case, this is the summons. Each variable entering into the composition of the index is binary. Thus, the coding of binary variables is such that a low value of the index means low vulnerability.

Starting from the variables (D) selected, the index is as follows:

$$\text{IVEB}_{\text{i}} = \sum_{\text{d=1}}^{14} \alpha_{\text{d}} D_i^d$$

Since we have opted for equal weighting, then $\alpha_i = \frac{1}{14}$ In order to have values between 0 and

1, this index is standardized by the Maxi-Min method, the formula of which is:

$$IVEB_i = \frac{ObservedValue - MinimumValue}{MaximumValue - MinimumValue}$$

Parameter estimation and identification strategy

Estimating a wage equation poses some econometric problems that we discuss in this subsection. Indeed, two problems arise. It is a kiss of selection and a kiss of endogeneity. To correct for these biases, we adopt a three-sequence approach corresponding to three estimates. A first sequence where we solve the selection problem; a second sequence where we solve the endogeneity problem and finally a final sequence where we simultaneously correct the endogeneity and selection biases. Two variables are endogenous in the estimates: these are education and IVEB.

Sources of Endogeneity

Endogeneity of the IVEB

The vulnerability index is potentially endogenous in the wage equation. The unobservable factors that are correlated with the state of vulnerability may just as well explain the salary. An employee for various reasons may decide to take a very vulnerable job in order to benefit from a higher salary. If these factors affect both vulnerability and earnings, then the effect of vulnerability on earnings could be under or overestimated if we do not control for the endogeneity of the index.

Endogenous schooling

The main assumptions of the basic Mincer model are as follows:

1. All individuals are the same except for their difference in education and training. In other words, Mincer assumes that all individuals have identical abilities, have equal opportunities, and were raised in a similar environment.
2. Only the cost of education is the income lost due to the additional education. In other words, there are no direct costs of tuition.
3. In addition to points 1 and 2, all the assumptions of a standard linear model must also be fulfilled in order to have the true impacts of the various explanatory factors on the estimated wages and to make correct and reliable inferences.

Schooling is endogenous in Mincer's model because of the violation of the first hypothesis. According to Bhatti (2012), the violation of Hypothesis (1) is obvious because different people cannot be the same with respect to some of their unobservable characteristics from different sources like social environment, location and family background, etc. For example, aptitude can be seen as a determinant of wages in the labour market and on the other hand, it can also be correlated with education. In other words, the more capable people tend to achieve a higher level of education and these same people are likely to be more productive in their jobs and therefore they will be better paid. Since aptitude is an unobserved variable, education will be correlated with the error term of the wage equation and the resulting coefficients will be biased. In such a situation, the application of OLS does not lead to having the true estimators and the inferences under these conditions will be false.

Selection bias: Heckman's two-step model (1979)

The selection bias arises from the fact that the wage is observed only on economic agents with a job. So, there could be some common factors that explain their situation. Estimating a salary equation under these conditions, without taking this selection into account, leads to having biased parameters. To correct for such a bias, we have recourse to the selection model of [13]. The choice of the two-step selection model is in line with that made previously to model vulnerability and income [14]. In this model, we only correct the endogeneity of schooling by using an instrument constructed as the average of the years of schooling validated by stratum. This new variable is exogenous and allows for better results. The estimated equation is as follows:

$$\mathbf{Y_i = \beta + \lambda_1 IVEB + \lambda_2 IVEB2 + \Sigma X_i + \alpha E + \mu_i}$$

With: Y the natural logarithm of the wage; β the constant term; X a set of variables; E the average of the years of schooling validated by stratum and μi, the error term.

Correction of the endogeneity of the IVEB and of the schooling: estimator of IV2SLS (Instrumental Variables Two least Squares)

In this second estimate, we are only interested in the endogeneity of the two variables that are the IVEB and education. As in the previous case, we maintain the schooling instrument and we use the approach proposed to avoid an endogeneity bias [15]. This approach known as IV2SLS is a two-step process. First, we do a regression of the endogenous variable, which here is the IVEB, on all the instruments and the exogenous variables of the model. In the second step, the salary equation is estimated by regression replacing the IVEB with its predicted values obtained from the estimate in the first step. The equation we estimate looks like this: [16-30].

$$Y_i = a + b_1 IVEBP + b_2 IVEBP^2 + \Sigma X_i + cE + v_i$$

With: Y the natural logarithm of the wage; has the constant term; IVEBP the predicted value of IVEB; X a set of variables; E the average of the years of schooling validated by stratum and vi, the error term.

Table 3: *Summary of vulnerability indicators.*

Indicators/ Binary Variables	Definitions
Working conditions	
Standing	Work requires long periods of standing
Noise	Exposure to noise is a problem at work
Load	The work requires carrying heavy loads
Fume	Exposure to fumes in the workplace
Toxic products	Exposure to hazardous products
Work accident	Exposure to traffic accidents
Injuries	Exposure to the risk of injury at work
Infectious risks	Exposure to infectious risks at work
Social working environment	
Verbal aggression	Exposure to verbal abuse
Physical assault	Exposure to physical assault
Discrimination	Have suffered discrimination
Sexual harassment	Have experienced sexual harassment
Employment Security	
Paid vacation	Not benefiting from paid vacation
Pension rights	Not benefit from pension rights
Source author on EMICoV (2015) data	

Simultaneous correction of endogeneity and selection biases

In this last estimate, we correct for both biases simultaneously. To do this, we use the IV2SLS estimator described above with the addition of the inverse of the Mills ratio to correct for selection bias. Ultimately, the IVEB is instrumented by its predicted values, schooling by the averages of years of schooling validated by stratum and finally the selection bay is corrected by the inverse of the Mills ratio. This inverse is obtained from the estimation of a Probit model of labour market participation. The estimated equation is as follows:

$$Y_i = m + {}_{c1}IVEBP + {}_{c2}IVEBP2 + \Sigma X_i + {}_{c3}E + {}_{c4}IRM + W_i$$

With: Y the natural logarithm of the wage; m the constant term; IVEBP the predicted value of IVEB; X a set of variables; E the average of the years of schooling validated by stratum; MRI the inverse of the Mills ratio and wi, the error term.

Robust results

We adopted a sequential estimation approach in order to compare the results and thus test the robustness of the effects.

Hypothesis of the existence of compensating differences

The objective is to test the hypothesis of compensating differences. Indeed, according to the theory of compensatory differences, vulnerable work therefore associated with poor working conditions will be rewarded by an overvaluation of its remuneration. The wage differential paid compared to its equilibrium level then appears as a compensation that the firm pays to the employee. To test the hypothesis of the existence of

compensating differences, we adopted a method which is similar to that used previously.

The data

The main objective of the Integrated Modular Survey on Household Living Conditions (EMICoV) is to set up the bases for a permanent mechanism for monitoring and evaluating household living conditions in general and the poverty reduction program in particular. The specific objectives of this survey are, among others, the study of monetary poverty, the study of poverty in terms of living conditions, the study of subjective poverty, the determination of the level of unemployment in Benin and its determinants, measuring the extent of land conflicts in Benin, etc. Benin has 12 departments and each department is considered as an area of study where all the key indicators of the survey will be provided. A sample allocation specific to each department was applied. The allocation of each department was then distributed proportionally among the municipalities and according to the urban and rural environment. This corresponds to a stratification at the level of municipalities and by urban and rural environment. The EMICoV-2015 survey effectively reached 21,402 households in 920 enumeration areas. Table 4 presents description of variables (Table 4).

Table 4: *Description of the variables.*

Variables	Definition	Means	Standard deviation	Minimum	Maximum
Experience	Main job experience	12.99	10.00	0	50
Education	Number of years of education validated	2.92	1.90	0	14
Wage	Salary in main job in local currency unit	49.23	41.31	15	435
Hours	Number of working hours	40.39	16.32	6	90
Sex	Sex of individual Reference: female	-	-	0	1
Work	Continuous versus occasional work. Reference: continuous	-	-	0	1
Informal	Informal versus formal business	-	-	0	1
Sector	Activity sector Reference: agricultural sector			1	4
Population				**16827**	

Source: Author on EMICoV (2015) data

Standard errors in parenthesis *** p<0.01, ** p<0.05, * p<0.1

Results and Discussion

Job Vulnerability and Salary

The results show that the level of vulnerability affects wage formation on the labour market in Benin. Specifically, the intensity of vulnerability has a non-linear effect on wages. Despite the difference in sign of this nonlinear effect through the different estimates, this result reflects a contradiction with the theoretical predictions of the theory of compensatory differences. Indeed, the observed reversal of effect indicates that different levels of vulnerability may correspond to the same level of salary. In other words, it is possible that two agents, one with a low level of vulnerability and the other with a high level of vulnerability, have the same salaries. This would indicate that the level of wages is not fundamentally linked to the state of vulnerability of economic agents. Authors such as in a study on the effect of vulnerability on wages in the main cities of WAEMU also found a non-linear effect. The explanation for such a result certainly lies in the informal nature of most activities which increasingly marginalize vulnerable workers. With the quantity of employment comes great vulnerability. In this logic, vulnerable employment appears as a double penalty for the worker. In fact, the worker in a vulnerable job suffers initially, the disutilities of difficult working conditions and a deprivation of salary compensation in a second time (Table 5).

Is there a wage compensation mechanism for vulnerable workers?

To answer this question satisfactorily, it is necessary to relate wages and intensities of vulnerability. In accordance with the approach described in the methodology, Chart 1 shows the evolution of the level of wages according to the intensity of vulnerability. The wages used for Chart 1 are taken from the predicted values of the wages after estimating Equation 3 in Table 5. Analysis of the chart complements the analysis of the estimation results. Indeed, the graph shows a non-uniform variation in the trend between wages and vulnerability. This variation shows, considering the higher levels of vulnerability, a drop in the level of wages.

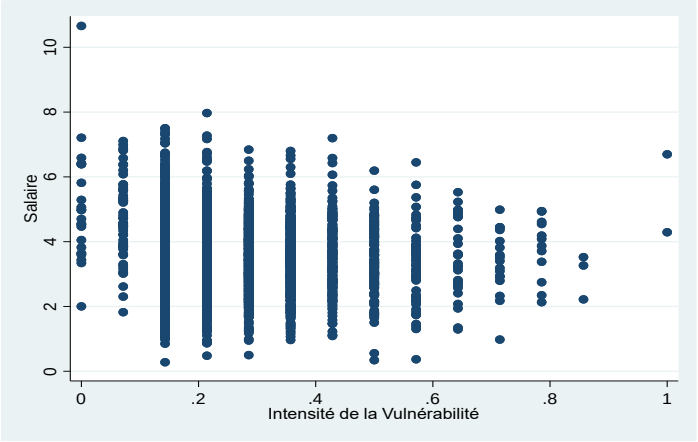
Table 5: *Effect of vulnerability on wages.*

Variables	Model 1: Selection Model	Model 2 : IV2SLS	Model 3 : IV2SLS
IVEB	**-0.743*** **(0.389)**	-	-
IVEB square	**1.589*** **(0.563)**	-	-
IVEB predicted values	-	**2.910*** **(0.302)**	**2.630*** **(0.340)**
IVEB predicted values squared	-	**-1.191*** **(0.014)**	**-1.056*** **(0.116)**
Sex (Reference: Female)	- 0.091*** (1.032)	0.021 (030)	0.004 0.039)
Education	0.405*** (0.025)	0.578*** (0.037)	0.567*** (0.045)
Experience	0.028*** (0.004)	0.096*** (0.006)	0.076*** (0.007)
Experience square	-0.000*** (0.000)	-0.003*** (0.000)	-0.002*** (0.000)
Full-time job	0.057* (0.032)	0.520*** (0.045)	0.405*** (0.55)
Informal Sector Company	-0.685*** (0.049)	0.103 (0.086)	0.019 (0.001)
Number of working hours	0.006*** (0.001)	0.008*** (0.001)	0.008*** (0.001)
Employment Sector (Reference: agricultural sector			
Tertiary sector, private company	2.124*** (0.216)	0.198 (0.342)	0.395*** (0.046)
Construction and Industry	2.497*** (0.237)	0.316 (0.343)	0.379*** (0.045)
Public administration	2.163*** (0.537)	0.107 (0.685)	0.033*** (0.105)
Inverse of Mills Ratio	-0.283* (0.160)	-	0.538*** (0.080)

Source: estimation with EMICoV (2015) data
Standard errors in parenthesis
**** p<0.01, ** p<0.05, * p<0.1*

Theoretically, if the data should support the compensatory difference theory, one should observe that jobs with high levels of vulnerability are associated with higher levels of pay. On the other hand, observation of the graph shows a spread of the wage trend at the level of high intensities of vulnerability. Considering, for example, the higher level of vulnerability, the colon on the graph shows that they are not associated with higher values of wages. This observation is valid for all vulnerability levels above 0.25. The main conclusion that emerges from this graph is that the large mass of wages is concentrated around low levels of vulnerability intensity. This calls into question the validity of the theory of compensatory differences for the labour market in Benin. Ultimately, there is no compensation for wages for the most vulnerable employed workers. This conclusion is logical with the stylized facts of the labour market in Benin which show that most of the jobs are in the informal sector characterized by a low level of protection of the right to work. In the same logic, it can be deduced that according to the theory of segmentation, jobs in the informal sector are those in the secondary segment, accumulating the bad attributes of the job.

Graph 1: *Evolution of wages according to the intensity of vulnerability.*



Source: author on EMICoV (2015) data

Conclusion and Policy Implications

What is the salary treatment of workers according to their degree of vulnerability? This is the question addressed in this article. To answer this question, a methodological approach in three stages was adopted. First, we constructed an employment vulnerability index based on fourteen indicators or variables. Next, we estimated a salary equation. This equation raised some econometric problems which were corrected by the appropriate methods. Finally, the salary values derived from the estimate were used to construct the graph to test the prediction of the theory of compensatory differences. Four main conclusions emerge from the results: (i) vulnerability affects the level of wages; (ii) the effect of vulnerability on wages is non-linear; and finally (iii) there is no wage compensation for the most vulnerable workers. In terms of public policies, it is necessary to strengthen the control measures of labour rights to offer more security to workers in the informal sector especially.

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