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Trade union movement and labor market in the Ivory Coast

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Abstract---This article aims to shed light on the existence of a relationship between trade union activities and overall unemployment (male and female unemployment) in the Côte d'Ivoire labor market. Using Denton's method, we converted our annual data covering 2011-2021 into quarterly data. Furthermore, an ARDL model indicates that trade union action within companies is a growing source of overall unemployment in Côte d'Ivoire. In other words, this unionisation rate, which can be used to estimate employees' bargaining power vis-à-vis employers, is hindering the decline in the overall unemployment rate (for both men and women) in the Côte d'Ivoire labor market. In fact, a 1% increase in union membership leads to a 2.58% increase in the overall unemployment rate (1.40% for male job seekers and 2.27% for female job seekers). Thus, in terms of economic policy implications, the introduction of a policy aimed at encouraging competition in product markets in order to eliminate the negative effects of trade unions will indeed be very beneficial for job seekers.

Keywords---union activities, global unemployment, labor market, Denton's method, ARDL model.

INTRODUCTION

In the labor market, strikes, which often dominate public attention, are by and large just one episode in economic life. Their recent increase can be explained by temporary causes. Indeed, every time a new social law comes into force, its application provokes conflicts. This is all the more true when, in one fell swoop, regulations are introduced that are as diverse as they are new in the relationship between employees and employers. Today, Dunlop's (1944) analysis of the nature of trade union objectives is the frame of reference for the economic analysis of trade unionism. In Dunlop's view, the trade union is a monopoly whose main purpose is to obtain the best wages and working conditions for the majority of employees in a company.

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So any period of wage readjustments is considered to be a period of strikes, and once the imbalance has been absorbed, peace is restored. However, the same cannot be said of 'unemployment'. We know that unemployment often persists after the causes that gave rise to it, because these technical, economic, or even political causes modify the social environment and leave a residue, sometimes large, of permanent unemployment. In today's labor market, unemployment is one of the indicators of labor market performance that highlights inequalities. The unemployment rate is also one of the indicators of tension in the labor market, which marks the imbalance between supply and demand.

In developing countries, and Côte d'Ivoire in particular, the unemployment rate calculated using the standard norm according to the 2017 Integrated Regional Survey on Employment and the Informal Sector (ERI-ESI) is estimated at 3.3% and has not varied much over the period 2012-2022, i.e. 3.78% on average, including 3.33% for men and 4.44% for women (World Bank, 2023). However, according to this report, this rate is low and irrelevant for characterizing the employment situation; hence, it does not necessarily reflect the structure of economies in developing countries (DCs).

Furthermore, to adapt the concept of unemployment to certain countries, the thirteenth conference of labor statisticians proposed that *'[...] in situations where conventional means of job search are not very appropriate, where the labor market is largely unorganized or limited in scope, where the absorption of the labor supply is, at the time under consideration, insufficient, or where the proportion of self-employed labor is significant, the standard definition of unemployment may be applied by dispensing with the search criterion'* (International Labour Office, 2004). This recommendation, which is now taken into account when calculating the unemployment rate in the broad¹ sense in Côte d'Ivoire, shows that a significant proportion of the unemployed who are available for work do not participate in the labor market. By way of illustration, the unemployment rate in the broad sense, which is nothing more than a composite measure of the under-utilization of the workforce, stands at 19.7%, including 17.3% for men and 23.8% for women, according to data from ILOSTAT (International Labour Organization Statistics).

On the labor market, the unemployment rate depends firstly on the demand for labor from companies wishing to hire, and secondly on the supply of labor from all those wishing to work. Thus, in the absence of regulation, the equilibrium wage corresponding to zero structural unemployment equalizes labor supply and demand. However, the presence of trade unions whose sole objective is to increase wages has a positive effect on insider employees (increased purchasing power) to the detriment of all others who are unable to find a job or who are made redundant as a result of higher wages. That said, as soon as the wage becomes higher than the equilibrium wage, for a reason independent of natural supply and demand, an imbalance is created between the supply of labor and the demand for labor. So the question that arises is this:

¹ Harmonized unemployment in the broad sense, presents several complementary indicators relating to unemployment (underemployment linked to working hours and the potential labor force).

- Is there a causal link between union density and overall unemployment in the broad sense?

The general aim of this study is to shed light on the existence of a relationship between trade union activity and overall unemployment in the broad sense (male and female unemployment) in the Côte d'Ivoire labor market. As a hypothesis, we postulate that trade union action within companies represents a source of growth in the overall unemployment rate in the broad sense in Côte d'Ivoire.

I- TRADE UNION ACTION AND UNEMPLOYMENT AMONG MEN AND WOMEN IN THE LABOUR MARKET

The literature on the role of trade unions in the labor market in the persistence of unemployment for both men and women can be analyzed both theoretically and empirically. The different unemployment rates for men and women are generally understood as the supply of labor not absorbed by demand.

1.1- Theoretical and empirical contribution between trade union activities and unemployment of men and women in the labor market

1.1.1- Theoretical

This article is based on the theory of trade unions (Hicks, 1932), the theory of wage bargaining (Dunlop, 1944), the theory of the efficiency wage, and the insider-outsider theory.

a- Trade union theory

Initially, the trade union theory was developed by Hicks J. (1932) with his industrial conflict thesis. This theory stipulates that the existence of a union places workers in a position of strength by granting them market power which allows them to intervene in wage setting. For these workers, the union was seen as a means of managing common interests. A few years later, it was further developed with the work of Dunlop (1944).

b- Theory of wage bargaining

Even today, Dunlop's thinking (1944) on the nature of union objectives constitutes the frame of reference for economic analysis in terms of the representation of union preferences. In his discussion of the nature of trade union objectives, Dunlop sees the trade union as a monopoly in the sale of workers' services. As a result, the union faces a negative labor demand curve, which forces it to choose between the wage rate and the level of employment it wishes to achieve.

Furthermore, Dunlop's orthodox or traditional approach presents the union as an agent that maximizes its members' income, subject to the constraints of the firm's labor demand curve.

Neoclassical economists have given trade unions the objective, not without difficulty, of maximizing the wages of their members, and have now attempted to model trade union activities. That said, they mainly consider two of them: collective bargaining and strikes. In fact, in their analysis of collective bargaining, they distinguish two families of models that differ in terms of the bargaining themes envisaged, such as the 'right to manage' model, which assumes that only

wages are subject to negotiation, with the company unilaterally determining the level of employment (Nickell and Andrews, 1983).

Consequently, in this perspective, unemployment is attributable to the wage surplus obtained by the union. On the other hand, the efficient bargains model shows that unions and employers jointly negotiate wages and employment (McDonald and Solow, 1981). Under these conditions, union action can have a positive influence on the level of employment.

c- Origin and course of strikes

As a reminder, the generally accepted hypotheses are that, on the one hand, the union seeks to maximize an objective or subjective value; that is, the expected value of its members' income throughout the collective contract; and that, on the other hand, the firm tries to maximize the present value of the future flow of its profits (Shorter and Tilly, 1974). In the context of bilateral monopoly analysis, the pioneering work of Hicks (1932) consisted of estimating the bargaining power of the two adversaries, using a worker resistance function and an employer concession function, respectively reflecting the wage rate that the union is prepared to accept rather than continue or initiate a strike, and the wage rate that management is prepared to pay to prevent a strike from occurring or continuing.

d- The efficiency wage theory

The efficiency wage theory considers that the level of wages can affect productivity. The efficiency wage theory seeks to explain the existence of involuntary unemployment by taking into account the personnel management problems faced by companies employing labor. In this approach, companies have imperfect information on the characteristics and intentions of workers. They are therefore prepared to pay high wages to attract and retain the best employees and to encourage them to work efficiently and optimally. Unemployment, which results from a wage level higher than that compatible with full employment, in turn, reinforces the incentive for employed workers to make an effort.

Thus, efficiency wage theories give firms full power over the labour market; their application to the functioning of the primary sector therefore assumes that firms alone decide to set up internal markets. Bargaining theory, on the other hand, gives employees considerable, sometimes total, power in determining wages; the formation of internal markets is therefore essentially the responsibility of employees.

e- Insider-outsider theory

The insider-outsider theory is a theoretical model of New Keynesian economics which explains certain rigidities in hiring on the labour market by its segmentation into two parts. This theory is based on a bipartition of the labor market between two groups with opposing characteristics and interests. On the one hand, there are the insiders, who are employees with a stable contract (an open-ended contract).

On the other hand, the outsiders, represent the precarious or unemployed workers who have no job stability. Through this theory, they explain employment and unemployment through a conflict of interests between people who are already in work (insiders) and people who are unemployed or about to enter the labor market, young people (outsiders). In other words, this theory attempts to explain

why wages do not fall, or even continue to rise, in the presence of high unemployment. Thus, insider-outsider models can simultaneously explain the existence of wage norms, involuntary unemployment, and the economic role of workers' unions (Lindbeck and Snower, 1988).

1.1.2- Empirically

In the literature, there is considerable work that has studied the relationship between union activity and unemployment. Some works defend the existence of a relationship between these two variables, while others reveal the non-existence of any relationship.

a- Existence of a relationship between trade union activities and unemployment

Hardly a day goes by without some expert telling us that many economies are on the verge of disintegration unless their labor markets become more flexible. In their work, Jimeno and Rodriguez-Palanzuela (2002) have shown that the rate of unionization increases overall unemployment, but not unemployment among prime-age men. Similarly, Bertola et al (2002b) revealed in their work on the comparative analysis of employment results for the United States that the rate of unionization reduces the relative unemployment of young people but increases the relative unemployment of older workers and women.

Furthermore, Nickell and Layard (1999) conclude that union action within companies has a positive impact on unemployment. To this end, they recommend that encouraging competition in product markets is an essential policy for eliminating the negative effects of unions. In his work, Scarpetta (1996) shows that the unionization rate has a positive impact on unemployment. However, this rate is not always significant for long-term unemployment.

At the same time, Nickell et al (2005) present an empirical analysis of unemployment trends in OECD countries from the 1960s to the 1990s. Their results indicate that the rate of unionization increases unemployment and reinforces the beneficial impact of wage coordination on unemployment.

These various studies therefore show the existence of a relationship between the unionization rate and the unemployment rate for both men and women in the labor market. However, several studies show that the labor market institutions that have an impact on unemployment are not necessarily union activity.

b- No relationship between union activity and unemployment

To see to what extent it is possible to defend the claim that dramatic long-term changes in labor market institutions influence the evolution of unemployment, Fitoussi et al (2000) presented an empirical analysis of unemployment patterns in OECD countries over the period 1960 to 1990. The labor market institutions they used are the usual suspects in Oswald's (1997) quotation, namely generous benefits, union power, taxes, and wage inflexibility. To this end, his results show that the unionization rate does not have an impact on unemployment, as the latter is not significant.

In addition to this finding, the work of Baker et al (2005) on labor market institutions and unemployment has shown that there is no impact of the unionization rate on unemployment. However, it is found that the coverage rate increases unemployment. There is also a positive interaction between union density and bargaining coordination.

Similarly, Bassinini and Duval (2006) studied the impact of structural policies and institutions on aggregate unemployment. They found that the tax wedge, the average benefit replacement rate, and anti-competitive product market regulation worsen aggregate unemployment, while employment protection legislation and union density are statistically insignificant. Thus, through this work, we see that union activity does not necessarily affect unemployment.

2- RESEARCH METHODOLOGY

Highlighting the existence of a relationship between trade union activities and overall unemployment (male and female unemployment) in the Côte d'Ivoire labor market leads us to adopt a methodology that will enable us to achieve our objectives. Thus, this section firstly provides a detailed description of the variables and data sources, and secondly presents the model adapted to our data.

2.1- Description of variables

To gain a better understanding of the effect of trade union activities on the persistence of unemployment in Côte d'Ivoire for both men and women, we used seven variables, including one dependent variable (unemployment rate in the broad sense of the total population, male unemployment rate in the broad sense or female unemployment rate in the broad sense) and six independent variables (the unionization rate, public spending on education, foreign direct investment, official development assistance, inflation and the crude birth rate).

2.2- Data sources

This study for Côte d'Ivoire uses annual data covering the period 2011-2021. These data come from the World Bank database (World Bank, 2023), ILOSTAT (2023), the database of the International Labour Organisation, and the database of the National Statistics Institute (INS, 2023). This study period was chosen to avoid a series of variables with missing data. To this end, given that the period covering the annual data available to us is short, we proceeded to quarterly the data to have a large enough sample for our various estimates and enable us to arrive at sufficiently robust results.

▪ Denton's proportional method

The basic version of Denton's proportional method, mathematically, is given as follows:

$$\begin{aligned} \text{Min}\{x_1, \dots, x_T\} \sum_{t=2}^T \left(\frac{x_t}{z_t} - \frac{x_{t-1}}{z_{t-1}} \right)^2 \quad (1) \\ \text{s.t.} \sum_{t=1}^T x_t = y_p, p \in \{1, \dots, b\} \end{aligned}$$

The constraint makes it possible to express the equality between the sum of the quarterly data and the value of the annual account for each year indicated. Thus we have : t denotes time with $t = 4y - 3$ the rank of the first quarter of year y and $4y$ that of the fourth quarter of year y ; x_t represents the quarterly national accounts estimate obtained for quarter t ; z_t expresses the level of the indicator for quarter t ; y_p is the value of the annual account for year y ; β denotes the last year for which an annual benchmark is available and ; T denotes the last quarter for which quarterly data is available.

2.3. Descriptive characteristic

The above table shows that the variables used in this study are normally distributed (Prob. Jarque-Bera < 5%) except the variables CHOMF, SYND, DEP_EDU, IDE, INF, and NAIS. In this case, heteroscedastic modeling would be more appropriate in the presence of ARCH effects.

Table 1: Variables used in our study

	CHOM	CHOMH	CHOMF	SYND	DEP_EDU	IDE	APD	INF	NAIS
Mean	17,591	14,491	22,208	9,504	3,951	1,270	9,111	1,395	35,958
Median	17,500	14,050	22,800	9,600	3,804	1,164	7,624	0,987	35,959
Maximum	22,400	19,800	26,500	12,080	4,729	1,920	22,175	4,912	38,435
Minimum	15,000	12,000	19,100	7,650	3,240	0,822	5,098	-1,106	33,934
Std. Dev.	2,301	2,432	2,392	0,944	0,472	0,367	4,468	1,344	1,307
Skewness	0,823	1,169	0,194	0,248	0,481	0,528	1,471	0,696	0,108
Kurtosis	2,733	3,329	1,797	3,208	1,758	1,817	4,217	3,100	1,984
Jarque-Bera	4,750	9,526	2,728	0,496	4,218	4,298	17,323	3,333	1,842
Probability	0,092	0,008	0,255	0,780	0,121	0,116	0,000	0,188	0,398
Sum	721,235	594,150	910,545	389,675	162,025	52,080	373,586	57,200	1474,28
Sum Sq. Dev	211,799	236,628	228,875	35,657	8,931	5,416	798,772	72,309	68,330
Observations	41	41	41	41	41	41	41	41	41

Source: Author, based on data from Word Bank (2023), ILOSTAT (2023) and INS (2023)

2.4. Presentation of the basic model

This section endeavors to present, with great relevance, the choice of the model estimated within the framework of our study. It also makes it possible to present with great precision the choice of variables and then to indicate the sources of data collected about our variables within the framework of the study on trade union movements and the labor market in Côte d'Ivoire.

2.4.1. Econometric model based on the Nickell (1999) approach

This approach, developed by Nickell (1999), presents a dynamic model which explains unemployment as follows:

$$u_{i,t} = \beta_0 + \beta u_{i,t-1} + \gamma' X_{i,t} + \pi_i t_i + u_i + \rho_t + \varepsilon_{it} \quad (2)$$

u_{t-1} corresponds to the unemployment rate explained by its previous value ; X , labor market institutions (unemployment benefit duration, unionization rate, employment protection, tax-welfare wedge, unemployment benefit replacement rate); t_i , the deterministic trend for country i ; u_i , fixed effects specific to country i ; and ρ denotes time indicators.

2.4.2- Model specification

This study is part of a time series framework covering the period from the first quarter of 2011 to the first quarter of 2021. This document aims to highlight the impact of trade union action on overall unemployment in the broad sense (male

and female unemployment) in Côte d'Ivoire. The unionization rate, which is the ratio of the number of union members to the total number of employees, is used to estimate the bargaining power of employees vis-à-vis their employers.

Unlike the work of Nickell (1999), which focused on developed countries, this study first focuses on a developing country context. Then it considers the realities of developing economies, specifically Côte d'Ivoire, using the broad unemployment rate (the composite measure of labor underutilization), rather than the unemployment rate in the strict sense. Thus, this paper modifies equation (2) to the following format:

$$= \alpha_0 + \sum_{i=0}^{p0} \gamma_i u_{t-i} + \sum_{i=1}^{p1} \beta_i X_{t-i} + \varepsilon_{it} \quad (3)$$

u_{t-i} corresponds to the unemployment rate explained by its previous values; X , the labor market institution (the unionization rate); and, ε_t , the error term.

2.4.3- Choice of model

This study shows that after performing the stationarity tests, the variables are integrated into order 0 and 1. Given that our variables are integrated of different orders (0 and 1), this renders the Johansen and Engel and Granger cointegration tests ineffective, as the application of these tests requires that the different variables from our study are all integrated of order 1. However, the optimal cointegration test for our study is that of Pesaran et al. (2001). In other words, by the ARDL approach, the lagged (dependent) explained variables and the lagged (independent) explanatory variables can be introduced into the model. Thus, our model is as follows:

$$\begin{aligned} \Delta chom_t = & \alpha_0 + \sum_{i=1}^p \alpha_{1i} \Delta chom_{t-i} + \sum_{i=0}^{q1} \alpha_{2i} \Delta synd_{t-i} + \sum_{i=0}^{q2} \alpha_{3i} \Delta dep_edu_{t-i} + \sum_{i=0}^{q3} \alpha_{4i} ide_{t-i} \\ & + \sum_{i=0}^{q4} \alpha_{5i} apd_{t-i} + \sum_{i=0}^{q5} \alpha_{6i} inf_{t-i} + \sum_{i=0}^{q6} \alpha_{7i} nais_{t-i} + \beta_1 chom_{t-1} + \beta_2 synd_{t-1} \\ & + \beta_3 dep_edu_{t-1} + \beta_4 ide_{t-1} + \beta_5 apd_{t-1} + \beta_6 inf_{t-1} + \beta_7 nais_{t-1} + \varepsilon_t \end{aligned} \quad (4)$$

With Δ denoting the first difference operator ; α_0 , the constant; $\alpha_1, \dots, \alpha_7$: the short-term effects; $\beta_1, \dots, \beta_7$: the long-term dynamics of the model; $\varepsilon \sim iid(0, \sigma)$: the error term (white noise).

3. RESULTS AND DISCUSSION

This section, devoted to presenting our various results, will enable us to draw conclusions and propose economic policy implications.

3.1- Dynamics of short- and long-term coefficients

Table (3) below shows that the various adjustment coefficients or recall forces « *cointEq(-1)* » are statistically significant (*Probabilité* < 0,05), negative, and between 0 and 1 in absolute value; this guarantees an error correction mechanism, and therefore the existence of a long-term relationship (cointegration) between variables.

3.1.1- Results of long-term estimates

The table below shows that there is indeed a causal link between the unionization rate and the overall unemployment rate in the broad sense of the term in the Côte d'Ivoire labor market. In other words, this rate of unionization, which makes it possible to estimate the bargaining power of employees vis-à-vis their employers, shows that this rate is a brake on the fall in the overall unemployment rate (for both men and women) on the Côte d'Ivoire labor market. In fact, a 1% increase in the unionization rate leads to an increase in the overall unemployment rate of 2.58% (1.40% for male jobseekers and 2.27% for women). Secondly, spending on education is a real driver of the fall in the unemployment rate for both men and women. However, this variable is not significant. As far as foreign direct investment is concerned, it has the effect of lowering the unemployment rate for the entire population on the labor market, since an increase of 1% leads to a fall in the unemployment rate of 3.265% for men and 5.780% for women in the Ivorian economy.

In the same way as foreign direct investment, official development assistance helps to reduce the overall unemployment rate. In fact, a 1% increase in official development assistance reduces the unemployment rate by 0.272% for the total population. More specifically, this 1% increase represents a fall in the unemployment rate of 0.419% for men and 0.252% for women.

Furthermore, unlike foreign direct investment and official development assistance, for example, inflation causes an increase in overall unemployment in the Côte d'Ivoire labor market. That said, a 1% increase in inflation leads to a 0.509% rise in unemployment among men and a 0.143% rise among women. Finally, the birth rate also contributes to the rise in unemployment overall. A 1% increase in the birth rate leads to a 0.387% rise in unemployment among men and a 0.349% rise among women in the Ivorian economy.

Table 2: Estimation results for long-term coefficients

Variables	Coefficients		
	Total unemployment	Male unemployment	Female unemployment
<i>Constant</i>	13,310*	9,189*	11,985*
<i>tsynd_t</i>	2,578**	1,397*	2,267**
<i>dep_edu_t</i>	-0,304	-0,536	-0,353
<i>ide_t</i>	-3,332*	-3,265***	-5,780*
<i>apd_t</i>	-0,272**	-0,419***	-0,252*
<i>inf_t</i>	0,204*	0,509**	0,143**
<i>nais_t</i>	0,271*	0,387*	0,349***

Source: Author, based on data from ILOSTAT (2023), INS (2023), and Word Bank (2023)

3.1.2. Results of short-term estimates

The results indicate that the unionization rate, in the long term, leads to an increase in the overall level of unemployment in the short term. Also, the effect of foreign direct investment remains, in the long term, negative in the short term; in

other words, this effect favors a fall in the unemployment rate in the economy as a whole.

Table 3: Estimation results for short-term coefficients

Variables	Coefficients		
	Total unemployment	Male unemployment	Female unemployment
$cointEq(-1)$	-0,154**	-0,192**	-0,098**
$D(chom_{t-1})$	0,551**	-	-
$D(chom_{h_{t-1}})$	-	0,495**	-
$D(chom_{f_{t-1}})$	-	-	0,509**
$D(tsynd_t)$	0,012	-0,426***	0,258
$D(tsynd_{t-1})$	0,271**	0,242*	0,277
$D(dep_edu_t)$	0,480	0,103	0,735*
$D(ide_t)$	-1,835***	-3,474***	-0,570*
$D(ide_{t-1})$	0,860**	0,842**	-
$D(apd_t)$	0,310***	0,432***	0,218***
$D(apd_{t-1})$	-0,179**	-0,173**	-0,143**
$D(inf_t)$	0,393**	0,098*	0,622***
$D(nais_t)$	0,042	5,474**	-5,183***
$D(nais_{t-1})$	-	-	2,535**

Source: Author, based on data from ILOSTAT (2023), INS (2023), and Word Bank (2023)

3.2- Discussion of the results

The results obtained in this study reveal that variables such as the unionization rate ($tsynd$), foreign direct investment (ide), official development assistance (apd), inflation (inf), and the birth rate ($nais$) are statistically significant as determinants of the unemployment rate (total, men and women) in the broad sense of the term in the Côte d'Ivoire labor market. Also, the signs associated with the different coefficients of each variable do not vary according to gender. This finding makes it possible to verify the robustness of our estimates and the stability of our coefficients.

Firstly, the positive relationships between the unionization rate and unemployment levels for men and women imply that the action of employees who are union members within companies increases unemployment in the Ivorian economy. This finding is consistent with the 'insiders-outsiders' theory, which attempts to explain why wages do not fall, or even continue to rise, in the presence of high unemployment.

Assuming that the agents involved behave rationally, we generally deduce that the unions will try to maximize the net gain for workers resulting from the agreement on better conditions (this net gain being the difference between the value of the changes in working conditions obtained and the costs incurred to obtain them) and that the companies, wanting to maximize their profits, will try to minimize the cost resulting from this agreement.

It should also be noted that this cost to the company is divided into two components. The first component is always present since it is the cost of improving the working conditions agreed to in the agreement. In other words, this component is a function of the gap between what the company has given to workers and what it can pass on to consumers. As for the second, it is occasional and derives from the definitive loss of net income occurring when a strike was necessary to reach the agreement. As a result, this analysis shows that the two components are not independent, since the cost of improving working conditions generally decreases when the company bears the cost of a strike.

Furthermore, insofar as economic conditions modify the conditions under which unions attempt to maximize the net gain to workers from the agreement and those under which firms seek to minimize the cost of the agreement, strike activity may be strongly influenced by economic conditions; consequently affecting unemployment. Clearly, the finding shows that insider-outsider models can simultaneously explain the existence of wage norms, involuntary unemployment, and the economic role of workers' unions (Lindbeck and Snower, 1988). Thus, our results, which show that the unionization rate recorded in Côte d'Ivoire is seen as an obstacle to the eradication of male and female unemployment in the labor market, are in line with the results found by Nickell et al. (2005), the IMF (2003) and Bertola et al. (2002b).

Also, the negative relationship between foreign direct investment and the overall unemployment rate reveals that when foreign direct investment increases, the overall unemployment rate (men and women) in the broad sense decreases. This finding can be explained by the simple fact that some of this investment, focused on labor-intensive manufacturing industries, generates more opportunities for job creation (Chudnovsky et al., 1999). The jobs created are all the more important when new companies are created rather than simply mergers or acquisitions of existing companies.

In addition, there is evidence that, on average, multinational companies pay much higher wages and provide much better working conditions than local companies. All other things being equal, this leads to an increase in the supply of labor, which in turn translates into lower unemployment. Also, the transfer of ideas, technologies, and skills are among the most important potential benefits provided by these investments. Our results are in line with those of Widia et al (2019), Alkofahi (2020), and Behanzi and Konté (2022), who have shown that the inflow of foreign direct investment favors job creation in the sectors that receive it and in the economy concerned. In other words, the influx of these investments enables companies to further increase their production capacity. This, in turn, increases their demand for labor, to match the labor factor to their new level of capital while optimizing their production.

In addition, the relationship between official development assistance (ODA) and changes in overall unemployment in the broad sense shows that ODA helps to reduce unemployment slightly. Official development assistance (ODA), which refers to all the funding provided by public bodies in the most favored countries, helps to improve living conditions in low- and middle-income countries through sectors such as health, education, infrastructure, and economic activities.

However, we must continue to reduce corruption and bad governance so that this official development assistance, made up of grants or loans at advantageous rates, is truly effective in reducing unemployment. This result is in line with that of Matsumoto (2022) who showed that ODA increases the employment rate, hence reducing the unemployment rate.

Also, at the same time, the positive relationship between inflation and unemployment shows that rational workers who are well-informed about the rise in generalized prices realize that their real wages are falling and will therefore take steps to increase nominal wages to compensate for this rise in prices. Consequently, the increase in real wage demands from insiders tends to reverse the fall in unemployment. Thus, contrary to the work of Niken et al (2023) who found an inverse relationship between inflation and the level of unemployment, our result is consistent with that of Lahcen et al (2022) who showed the existence of a positive long-run relationship between inflation and unemployment.

Ultimately, the positive relationship between the birth rate and the unemployment rate shows that population growth does not represent a source of technological innovation or stimulation of aggregate demand to reduce unemployment. Rather, the results show that population growth leads to strong pressure on limited existing resources, resulting in a lower rate of job creation and, in turn, a higher unemployment rate in the Ivorian economy. However, our results contradict those of Cavallini (2024), who finds an inverse relationship between the unemployment rate and the birth rate.

CONCLUSION AND RECOMMENDATIONS

This article aimed to shed light on the existence of a relationship between trade union activities and overall unemployment (male and female unemployment) in the Côte d'Ivoire labor market over the period from the first quarter of 2011 to the first quarter of 2021. Also, in the econometric approach, this research was based on an ARDL-type regression model (an Autoregressive Staggered or Distributed Lag model, developed by Pesaran et al., 2001 and aimed at evaluating the relationship between short- and long-term variables).

The analysis shows that the unionization rate favors an increase in overall unemployment (men and women) in the broad sense. In addition, foreign direct investment helps to reduce unemployment for both men and women. On the basis of these conclusions, we find that the presence of trade unions is also at the root of the rise in the unemployment rate in the broad sense for both men and women. The presence of trade unions whose sole objective is to increase wages has a positive effect on insider employees (increased purchasing power) and a negative effect on individuals (jobseekers) who are unable to find work or who are made redundant as a result of higher wages.

As an implication of economic policies, introducing a policy to encourage competition in product markets (or the main market is nothing more than the set of products that are technically identical to the product under study and directly competing) to eliminate the negative effects of trade unions, will be very beneficial for job seekers. Indeed, this competition policy will help to stimulate

entrepreneurship and productivity, broaden supply for consumers, lower prices, and improve the quality of goods and services. Establishing product market regulations that encourage competition can also help to improve productivity performance, particularly by stimulating innovation.

In addition, a regulatory approach beneficial to competition in product markets will increase investment. As an implication, producers operating under these conditions will have a much greater incentive to develop their production capacity when demand increases. Thus, by reducing monopoly rents, competitive product markets encourage wage moderation, especially in countries such as Côte d'Ivoire where trade unions play an essential role in wage negotiations; something that does not encourage outsiders to enter companies (increasing unemployment).

In addition, we believe that it is very important to rethink the definition of unemployment in Côte d'Ivoire, as Senegal has done. Indeed, judged to be too restrictive² for Côte d'Ivoire, given the labor market which is poorly structured for job-seeking, it would be appropriate to adapt to Côte d'Ivoire the definition of unemployment as used by the ANSD (Agence Nationale de la Statistique et de la Démographie) in the Senegalese context. This would mean retaining that 'an unemployed individual who is available, but is not looking for work for reasons deemed to be beyond his or her control, is counted among the unemployed and thus taken into account in determining the level of unemployment'.

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² As defined by the International Labour Office (ILO), the unemployed include any individual of working age who, during the reference period, was without work, available for work for two weeks, and actively seeking work during the four (4) weeks preceding the collection date.

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