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## Compliance with labour regulations in West African countries: A multi-dimensional and dynamic analysis

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# ► Compliance with Labour Regulations in West African Countries

A Multi-Dimensional and Dynamic Analysis

Authors / Thierno Malick Diallo, Lucas Ronconi





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## Abstract

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This paper provides measures of compliance with labour regulations that vary across space, time, and type of regulation, allowing for a rich analysis of worker vulnerability. We compute a multidimensional index of labour violations that covers minimum wages, leave benefits and social security in eight West African countries (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo), and measure the persistence of labour violations experienced by employees over time (2019 to 2022). Overall, we find that 88% of employees in the region experience multiple violations of their labour rights. When restricting to longitudinal data, we observe that the multidimensional labour violations index is persistent over time, with only 21.5% of employees changing status over the three-year period. These results highlight the need to foster both workers' wellbeing and the rule of law in West Africa.

## About the authors

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## ► Introduction

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Decent working conditions for all workers is a central objective of modern societies. To achieve this objective, governments implement labour regulations that provide protections to workers. Much of the academic and policy discussions have centred on how much labour protection is granted by the law, also called the level of labour protection. Some of the key contributions supporting the view that labour protection increases welfare are Galli and Kucera (2004), Deakin and Sarkar (2008), Deakin et al. (2014), and Adams et al. (2019); while others argue that the effects are mostly negative (Botero et al., 2004; Djankov and Ramalho, 2009; Heckman and Pages, 2004).

However, how the law is observed in practice – the degree of compliance – has paradoxically received less attention. This is particularly problematic in low-and-middle-income countries (LMIC), where there is usually a large gap between statutory requirements and their effective implementation (Diallo and Ronconi, 2024). Noncompliance with labour protections undermines the credibility of governments and respect for the law. More importantly, it hurts the well-being of workers and their families. Noncompliance with legally mandated labour benefits is the focus of the paper. We use the terms ‘violation’ as synonymous with noncompliance.

We compute a multidimensional index of labour violations that covers minimum wages, leave benefits and social security in eight West African countries (Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo); and measures the persistence of violations over time. That is, we cover variation in compliance across space, time, and type of regulation. This allows for a much richer analysis of worker vulnerability.

Because informality is a dominant feature of the labour market in these countries, the initial literature was not concerned with labour violations, but rather with the low productivity of the informal sector, which was understood as a manifestation of poverty and underdevelopment. For this reason, early definitions of informality (or rather, the informal sector) included subsistence self-employees (own-account workers) as well as employees working in small firms, regardless of access to labour benefits (Hart 1973; Tokman 1978). More recently, research on informality has begun estimating the extent of violation of workers’ rights, measured either as the share of employees without contributions to legally mandated social security, or as the share of employees with earnings below the minimum wage (Williams and Schneider (2016), Gindling et al. (2015), Rani et al. (2013), and Ronconi (2010)). Few of these studies, however, have covered African countries due to data restrictions; but this is changing thanks to the work of Bhorat et al. (2015, 2017) who cover Kenya, Namibia, Mali, South Africa, Tanzania, Uganda, and Zambia; and Badaoui and Walsh (2022) who cover Burkina Faso, Côte d’Ivoire, Mali, and Niger. See also the estimates in ILO (2020) for the whole continent.

Having precise estimates of compliance is a clear improvement in our understanding of informality. But a common characteristic of this literature is the focus on only one dimension at a time (typically minimum wages or social security). This is limited from a policy perspective since additional statutory protections, such as leave benefits, hours of work, safe and healthy working conditions, and protection against unfair dismissal, are of concern to workers. Once we take this broader perspective several questions emerge. Do labour violations co-occur? Are the same workers who suffer wage theft also excluded from social security and paid leave; that is, are workers subject to multiple violations of their rights? To answer these questions, it is necessary to analyse many dimensions and their distribution across workers.

This is the approach followed by Bhorat et al. (2021). They develop the ‘Multidimensional Labor Violation Index’ (MVI) by adapting the methods used in the multidimensional poverty literature, or MPI (Alkire and Foster, 2011; Alkire and Santos, 2013). The idea is simple; just as poverty has many dimensions beyond low income (such as education, food and housing), so does labour violation. Thus, the MVI is an index that covers several labour rights and benefits. Bhorat et al. (2021) apply the methodology to South Africa using data from the Quarterly Labour Force Surveys in 2014. The data allows compliance to be explored through minimum wages, leave benefits, written contracts, unemployment insurance and hours worked. The authors find substantial inequality in the distribution of violations.

Our key contribution to this incipient literature is to add the time dimension. By following workers over time, we can explore the persistence of labour violations. Do we observe many transitions, wherein workers’ labour rights are violated at  $t$  but then enjoy better working conditions at  $t+1$ ? Or are violations more structural and persistent over time, wherein workers whose rights are violated upon entering the labour market remain in that status for the rest of their professional life? This is a key aspect of inequality that, to the best of our knowledge, has not been explored in the context of multidimensional labour violations.

Empirically, in this paper we: (1) use microdata to compute individual-level measures of compliance covering several labour benefits (i.e., minimum wages, paid leave and social security), allowing the construction of a multidimensional index; (2) cover eight West African countries (Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo) at two points in time (2019 and 2022); (3) compute a matrix of transitions in labour status for those workers that are followed over time, measuring the persistence of violations; and (4) econometrically explore how compliance varies across workers’ and firms’ characteristics, sectors, and occupations.

This paper attempts to contribute to the literature on compliance with labour protections. First, for many African countries, there is very little to no research measuring the extent of compliance with labour regulations beyond the minimum wage (such as social security, parental leave, or paid vacation). Second, some countries we cover – such as Benin, Guinea-Bissau, and Togo – are heavily under-researched in the fields of Labour and Development Economics (Das et al. 2013). Third, computing multidimensional indexes is conceptually important since it allows exploring whether nonregistered workers are, at least to some extent, compensated for lack of access to social security by receiving other fringe benefits and/or higher wages.

In terms of policy recommendations, the paper aims to identify specific sectors and occupations where compliance is particularly low, thereby guiding policymakers to target their efforts more effectively. By including the time component, the research explores structural issues; and by incorporating a comparative analysis across multiple West African countries, the research can also provide insights into regional patterns and best practices that can be adopted by policymakers to enhance labour standards.

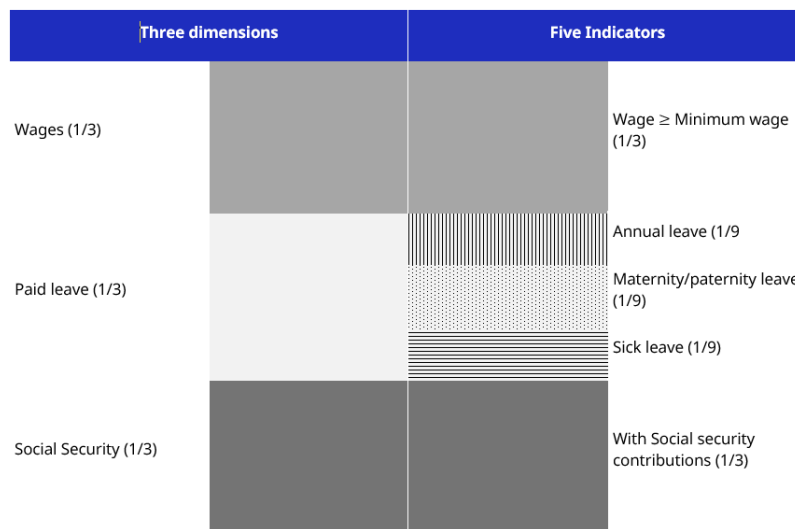
The paper is organized as follows: In section 2.1 we describe the construction of the multidimensional labour violation index; in sections 2.2 and 2.3 we describe the two inputs used to empirically operationalize the index: (i) household surveys and (ii) legal analysis. In section 3 we present the estimates of labour exclusion using the whole sample of stacked household surveys, as well as an econometric analysis of its determinants. The section also analyses persistence using longitudinal data.

## ► 1 Methodology and Data

### Multidimensional Labour Violation Index (MVI)

The MVI uses the worker as the unit of analysis. The construction of the index is simple. A worker is categorized as suffering a violation for a given legally mandated labour benefit if she/he fails to receive it. We do this categorization by comparing real working conditions (obtained from household surveys), with labour standards (set in the labour codes and laws). We explain the details in the next section. Then, we create a multidimensional Index<sup>i</sup> variable, where the worker <sub>i</sub> is assigned a ‘violation score’, defined as the weighted sum of the number of violations of laws mandating labour benefits. Following the MPI literature, we assign equal weighting to each of the three dimensions we cover (i.e., wages, paid leave, and social security); and each labour indicator within the dimension is also weighted equally. Figure 1 illustrates the weighting scheme, and equation (1) defines the formula.

► Figure 1 – Multiple Violations Index (MVI) weighting



$$Index_i = \sum_j^5 l_j w_j \quad (1)$$

For each worker in the sample *i*, the *Index* is a weighted sum of the five labour indicators (*l<sub>j</sub>*) where the weights (*w<sub>j</sub>*) are described in Figure 1. Then, and following the MPI literature, we categorize an employee as ‘multiply deprived’, if her/his score exceeds the 0.5 threshold.

An important clarification note is necessary here. Settling the threshold is inherently normative. Choosing a value close to 0 implies categorizing as ‘multiply deprived’ workers who do not receive one, or more, legally mandated labour benefit. This threshold could be justified and motivated by noting that workers are usually more vulnerable than employers; and by emphasizing the concept of “rule of law” wherein violating the law is intrinsically wrong. In this paper, however, we *ad hoc* set the threshold at a much higher value, 0.5, implying that even some workers who are unlawfully denied benefits from two out of five regulations are categorized as not ‘multiply

deprived'. We follow this approach simply because the prevalence of violations of workers' rights is so high in Western Africa that choosing a lower threshold implies having an almost empty set of not 'multiply deprived' workers, making the categorization almost useless. Finally, we compute the overall *Violation Rate*, which is defined as the share of employees that are multiply deprived.

The next two subsections present the two key inputs we use to construct measures of compliance with labour standards: (1) the harmonised household survey conducted in 2019 and 2022; and (2) legal analysis of labour regulations in the eight African countries we cover.

## Household Survey

The Harmonised Survey of Household Living Conditions (*Enquête Harmonisée sur les Conditions de Vie des Ménages*, EHCVM) was conducted in two rounds across the West Africa Economic Monetary Union (WAEMU) countries: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. The first round took place in 2018/19, and the second round in 2021/22. The data was collected by each national statistical agency, using a harmonised questionnaire. The collected data is a nationally representative sample of approximately 20,000 individuals per country and year. More details are available in the Appendix.

Particularly crucial for our study is that the individual-level data includes an extensive labour module, which provides rich information about working conditions in the WAEMU region. Another advantage is that some of the sampled households and individuals are tracked over time.

Our analysis is based on two different samples. First, we examine the legal coverage using a cross-sectional approach and focusing on household members over the age of 15 in each survey round. The analysis is in section 3. Second, we focus on the dynamic nature of labour compliance by constructing a panel data set that consists of household members above 15 years of age who work as employees across the panel rounds. For this purpose, we retain individuals for whom we have two observations over time to investigate the dynamics. This is shown below in section 4.

Table 1 presents basic demographic characteristics for individuals aged 15 to 64 who participate in the labour force. The sample is obtained by appending all eight countries and years of the EHCVM survey.

► **Table 1. Labour force descriptive statistics, WAEMU countries (2019 & 2022)**

Variable	Obs.	Mean	Std. Dev.	Min	Max
Age	231,334	35.9	12.79	15	64
<b>Gender</b>					
Male	231,334	.528	.499	0	1
Female	231,334	.472	.499	0	1
<b>Education</b>					
Primary education or less	199,516	.925	.264	0	1
Secondary education	199,516	.057	.232	0	1
Tertiary education	199,516	.018	.135	0	1
<b>Location</b>					
Urban areas	228,884	.386	.487	0	1

Variable	Obs.	Mean	Std. Dev.	Min	Max
Rural areas	228,884	.614	.487	0	1
<b>Occupational status</b>					
Senior manager	104,701	.016	.124	0	1
Skilled workers	104,701	.151	.358	0	1
Unskilled workers	104,701	.833	.373	0	1
<b>Employment sector</b>					
Public sector	231,265	.038	.192	0	1
Private sector	231,265	.962	.192	0	1
<b>Industry type</b>					
Agriculture	231,334	.53	.499	0	1
Mining	231,334	.008	.089	0	1
Manufacturing	231,334	.113	.317	0	1
Services	231,334	.348	.476	0	1

Source: Own calculations using EHCVM 2018/19 and 2021/22. Notes: The table includes data for individuals who participate in the labour force in the eight WAEMU countries (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo), in the two years when the EHCVM survey was conducted (2019 and 2022).

The average age, and particularly the average level of human capital (education, skills and experience), is low compared to the labour force in other countries.<sup>1</sup> Also, the share of the workforce residing in urban areas, and the size of the public sector, are both relatively small. Measuring education is complex in the region because many Muslim individuals attend a *madrassa* institution instead of a formal school. While children attending a *madrassa* institution may learn several other topics beyond the religion of Islam, they may report “no primary education” in the household survey, or do not answer the question, since they did not attend a formal school.

In Table 2 we restrict the sample to employees and present their basic demographic characteristics. The first important aspect to note is that employees represent a small share of the labour force in all analysed countries, starting from as low as 10% in Niger. Even in Senegal, the country in the region where employees reach the maximum level of 30% of the labour force, it is still much lower than in other parts of the world. This is because most workers in West Africa are engaged in subsistence agriculture or precarious self-employment.

<sup>1</sup> See World Development Indicators <https://databank.worldbank.org/source/world-development-indicators> and ILOSTAT <https://ilostat.ilo.org/data/>.

► Table 2. Characteristics of Employees, WAEMU countries (2019 &amp; 2022)

Sample	Female		Secondary educ. or more†		Share em- ployee	No. Employees surveyed
	Mean	SD	Mean	SD		
Benin						
2019	0.381	0.486	0.380	0.486	0.164	3,175
2022	0.410	0.492	0.320	0.466	0.166	2,800
Burkina Faso						
2019	0.355	0.479	0.239	0.423	0.138	3,303
2022	0.366	0.482	0.200	0.401	0.262	1,799
Côte d'Ivoire						
2019	0.296	0.457	0.236	0.425	0.231	5,853
2022	0.318	0.466	0.229	0.420	0.181	3,413
Guinea-Bissau						
2019	0.336	0.472	0.380	0.485	0.209	4,164
2022	0.331	0.471	0.508	0.500	0.179	3,033
Mali						
2019	0.269	0.443	0.323	0.468	0.220	3,239
2022	0.248	0.432	0.288	0.453	0.236	2,433
Niger						
2019	0.222	0.416	0.304	0.460	0.105	1,624
2022	0.233	0.423	0.279	0.448	0.099	1,398
Senegal						
2019	0.280	0.449	0.168	0.374	0.338	6,959
2022	0.278	0.448	0.194	0.395	0.261	4,574
Togo						
2019	0.316	0.465	0.498	0.500	0.144	1,925
2022	0.386	0.487	0.551	0.498	0.136	1,274
WAEMU Total						
2019	0.308	0.282	0.450	0.499	0.198	30,242
2022	0.318	0.300	0.458	0.471	0.187	20,724

Source: Own calculations using EHCVM 2018/19 and 2021/22. Notes: †The education variable is only available for 33,099 employees in the whole sample.

Women are less represented in salaried employment. While they represent almost half (47%) of the whole labour force, the share of employees that are female is less than one third. Education, as discussed above, is not easy to measure because of the existence of the madrassa institutions. This is a reason why Senegal, a country with a relatively large Muslim population, appears to have very low levels of formal education attainment (i.e., less than 20% of employees with secondary education or more). Employees, compared to other members of the labour force, are substantially more educated (i.e., the share with secondary education or more is below 10% in the whole labour force as shown in Table 1, compared to almost 45% among employees as shown in Table 2).

## Legal Analysis

This section determines the legal coverage, as well as the level, of each of the labour regulations available in the household survey. We first present some general clarifications and then analyse each labour regulation in each country. Since the EHCVM was carried out in 2018/2019 and 2021/22, the legal analysis focuses on the legal coverage applicable during both time frames.

- For minimum wages (MW), we focus on the statutory minimum wage, that is, the minimum floor set by the government. We do not cover the wages set via collective bargaining. For employees who report working fewer hours than the regular workweek, we assume they are legally entitled to a MW that is proportional. For example, if the MW is \$100 per week, the regular workweek is 40 hours, and the employee reports working 30 hours per week, then, we assume that the MW for that worker is \$75 per week.
- In most countries, the labour code provides for paid annual leave for all workers after one year of actual service. Therefore, our analysis of compliance (with respect to this benefit), only includes employees with one year or more of tenure.<sup>2</sup>
- We exclude severance pay from the analysis –despite being compulsory for most employees in the region –since the information in the household survey is insufficient to precisely determine coverage.

In all cases, the main source of information we use is each country's legislation. We also analysed several ILO documents and databases to determine legal coverage including EPLex and ISSA; and Wage Indicator data.<sup>3</sup> In case of doubts, we consulted with legal scholars.

## Benin

- Statutory minimum wage is determined as a monthly wage. It is based on the legal working hours, which are 46 hours per week for agricultural workers and 40 hours per week for all other workers. From 2014 to 2022 the MW was 40,000 CFA West African Franc per month.
- Annual Paid Leave: The labour code (article 158) provides for paid annual leave for all workers after one year of actual service.
- Maternity/Paternity Paid Leave: Employed women are entitled to 14 weeks of maternity leave with full pay. There is no specific law mandating paternity leave.
- Paid Sick Leave: The labour code provides for paid sick leave for all workers (duration and amount of payment depends on the length of service).
- Contributions to Social Security: All employees are entitled except agricultural workers.<sup>4</sup>

<sup>2</sup> It is not obvious whether to include or not employees with less than one year of tenure. On the one hand, an employee with less than one year of tenure who reports receiving “no annual paid leave” in the survey, should be categorized as a case of non-compliance. This is because every worker –regardless of tenure– is entitled to (proportional) annual paid leave. For example, if a worker is dismissed before completing one year of service, he or she is entitled to receive an amount of money proportional to the time worked during the year. On the other hand, it is quite likely that an employee with less than one year of tenure reports in a survey that she/he does not receive annual paid leave simply because she/he never received it in that job (regardless of her/his expectation about the future behavior of the employer). We take a conservative approach and restrict the analysis to employees with one year or more of tenure.

<sup>3</sup> The links are EPLex <https://eplex.ilo.org/en/legal-coverage>; ISSA <https://www.issa.int>; and Wage Indicator <https://wageindicator.org/labour-laws/labour-law-around-the-world/minimum-wages-regulations>

<sup>4</sup> See <https://www.issa.int/node/195543?country=807>



## Burkina Faso

- From 2012 to 2023 MW was 34,664 CFA West African Franc per month. During that time MW was the same for farm and non-farm workers. Since 2023, MW is 45,000 CFA per month (or 260 CFA per hour) for non-farm workers, and 240 CFA per hour for farm workers. Apprentices are excluded from the minimum wage provisions. The standard working day is 8 hours, 40 per week.
- Annual Paid Leave: Yes. Employees are entitled to paid leave at the rate of two and a half calendar days per month of actual service, unless more favourable provisions are made in collective agreements or in the individual contract (art. 156).
- Maternity/Paternity Paid Leave: Women are entitled to fourteen weeks of maternity leave. The provisions relating to maternity leave in the labour code cover all women except civil servants, magistrates, military personnel, and local authority employees (who have better benefits). There is no specific provision for paternity leave.
- Paid Sick Leave: The labour code provides for paid sick leave for all employees (duration and amount of payment depends on the length of service).
- Contributions to Social Security are compulsory for all employees.

## Côte d'Ivoire

- MW from 2014 to 2023 was (for non-agricultural sectors) 60,000 CFA West African Francs per month. In the agricultural sector it is 36,000 CFA per month and has not been revised since 1994. The standard workweek is established at 40 hours.
- Annual Paid Leave: Employees are entitled to paid leave at the rate of 2.2 working days per month of actual service.
- Maternity/Paternity Paid Leave: Female employees are entitled to paid maternity leave of fourteen consecutive weeks, including six weeks before the expected date of delivery and eight weeks after the date of delivery. There is no paternity leave.
- Paid Sick Leave: Employees must be paid compensation equal to the amount of remuneration during the absence, within the normal limit of the notice period. If the illness requires long-term treatment, the employer must provide pay for a period of twelve months. EPLex notes no legal exclusion in Cote d'Ivoire in 2019 based on firm size and sector of activity.
- Contributions to Social Security are compulsory for all employees.

## Guinea-Bissau

- MW was 19,200 CFA in 2018 and increased to 59,000 CFA in 2022 (Africanews). The minimum wage should be supplemented with a bag of rice per month. The standard working week is 40 hours. For workers under 16 years, the MW is 60%; for workers 16 and 17 years old, it is 80%.
- Annual Paid Leave: It applies to all employees. If a fixed-term contract is below one year, then 2 days of paid leave for each month of work are required.
- Maternity/Paternity Paid Leave: Women are entitled to 60 days of paid maternity leave. There is no statutory paternity leave.
- Paid Sick Leave: Employees are entitled to paid sick leave (duration and amount of payment depends on the length of service).



- Contributions to Social Security: Employees are entitled to this benefit under Law 2/1986, which does not apply to public employees who have a specific regime with the same, or better benefits.

## Mali

- The current minimum wage in Mali is CFA 40,000 per month since January 2016. The standard working week is 40 hours.
- Annual paid leave: The labour code provides annual leave to an employee after 12 months of service. Source: §148-162 of the Labour Code, 1992 (Law No. 92-020 of the 23 September 1992); §86 (11 & 23) & 133 (6) of the Decree n° 1655/MEFPT-SG regarding special provisions in the application of the labour code.
- Maternity/Paternity Paid Leave: Female employees are entitled to 14 weeks of maternity leave, upon properly documented request, after nine months of continued service with an employer. Male employees are entitled to 3 days of fully paid paternity leave on the birth of a child.
- Paid Sick Leave: An employee is entitled to sick leave upon presentation of medical certification (stressing the necessity of leave) by a doctor approved by the employer. During sick leave, 100% of the employee's earnings is paid during the first year of employment for a period of eight days to three months depending on the collective agreements or the type of employment.
- Contributions to Social Security are compulsory for all employees.

## Niger

- In 2024, the statutory minimum wage was raised to West African CFA francs 42,000 per month. Back in 2018 and 2022, when the surveys were carried out, the amount was CFA 30,047. Normal working hours vary by industry but generally start at 42 hours per week.
- The labour code provides for annual leave to all employees on completion of one year of service. An employee is entitled to 30 calendar days of paid annual leave at the rate of 2.5 calendar days per month. Schedule of annual leave is determined by mutual agreement between employee and employer.
- Maternity/Paternity Paid Leave: Female employees are entitled to 98 days (fourteen weeks) of fully paid maternity leave, including eight weeks of postnatal leave. There is paternity leave; immediately after delivery or miscarriage, male employees are entitled to one working day leave from work (consulted Africa Deployments Ltd).
- Paid Sick Leave: The labour code provides for paid sick leave for all employees (duration and amount of payment depends on the length of service).
- Contributions to Social Security are compulsory for all employees.

## Senegal

- In Senegal, the government divides employees into 2 categories: agricultural and non-agricultural. From 2018 to 2022, when the surveys for our study were carried out, the amount was CFA 302.89 per hour for the non-agricultural sector and CFA 213.39 per hour for the agricultural sector. No sector or firm size is legally excluded except for seafarers (who have higher MW). In Senegal, the standard working hours are 40 hours per week over a maximum of 6 days.

- Annual Leave must be provided to all employees on completion of one year of service. It is illegal to provide compensation in lieu of annual leave except in the case of termination of employment contract.
- Maternity/Paternity Paid Leave: Female employees are entitled to 14 weeks (98 days) of maternity leave including 8 weeks of post-natal maternity leave. For male employees, there is no provision in the law on paternity leave.
- Paid Sick Leave: The labour code provides for paid sick leave for all employees (duration and amount of payment depends on the length of service).
- Contributions to Social Security are compulsory for all employees.

## Togo

- The current minimum wage in Togo is set at West Africa CFA francs 52,500 per month, an increase that came into effect on January 1, 2023. Before 2023, the minimum wage had remained unchanged for a decade at CFA 35,000 per month. Normal working hours are 40 hours per week.
- The labour code provides for annual leave to all workers on completion of one year of service. Employees may also enjoy this right (with reduced leave) after 6 months of service, on employer's consent.
- Maternity/Paternity Paid Leave: The labour code provides 14 weeks (98 days) of maternity leave to female employees, including 6 weeks of post-natal leave. The maternity leave is awarded with full pay. There is no provision in the law on paternity leave.
- Paid Sick Leave: The labour code provides for paid sick leave for all employees (duration and amount of payment depends on the length of service).
- Contributions to Social Security are compulsory for all employees.

## ► 2 Measures of Compliance

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### Descriptive statistics

In this section we present measures of compliance using the whole cross-sectional sample of employees aged 15 to 64 in the eight WAEMU countries during the two analysed years (2019 and 2022). The sample includes almost 50,000 individuals. In the next section we restrict to employees who are followed over time (i.e., longitudinal sample).

Table 3 shows the level of non-compliance with each of our five measures separately, for each country and year. The measures pertain specifically to a worker's primary employment and are legally mandated.

For capturing *Minimum Wage Violations*, we use the prevailing monthly minimum wage set by each country, combined with the standard working hours. For the leave benefits, we use survey questions that ask respondents a simple 'yes/no' question for each type of leave entitlement and whether the employee has completed 12 months of service to qualify for paid annual leave. To assess *Social Security* contributions, we use a straightforward question asking respondents to indicate with a 'yes' or 'no' whether their employer contributes to social security.

The results show that labour standards are systematically violated in all eight countries. The share of employees with legally mandated annual leave is only 25%, and access to the other mandated leaves as well as social security is even lower.

Our findings for minimum wage violations are similar to previous estimates. Using household survey data from the 2010s, ILO (2020) estimates that 21% of employees earn less than the minimum wage in 11 African countries (Cameroon, Cape Verde, Côte d'Ivoire, Egypt, Gambia, Madagascar, Malawi, Namibia, Niger, Tunisia, Tanzania).

► Table 3. Prevalence of labour law violations in West African countries (%)

	Paid below minimum wage	No paid annual leave	No sick leave	No social security contribution	No maternity/paternity leave
<b>Benin</b>					
2019	27.9	67.0	79.1	83.3	80.0
2022	20.6	71.6	73.1	86.7	79.6
<b>Burkina Faso</b>					
2019	22.4	63.7	72.2	78.9	67.2
2022	18.2	74.9	79.8	85.7	76.0
<b>Côte d'Ivoire</b>					
2019	37.0	77.2	76.2	85.7	79.2
2022	20.9	76.8	72.6	86.3	77.6
<b>Guinea-Bissau</b>					
2019	3.8	74.1	81.4	94.8	85.2
2022	21.4	68.7	83.5	94.6	82.7
<b>Mali</b>					
2019	20.8	68.4	66.8	79.4	76.7
2022	11.1	77.5	79.0	89.6	83.4
<b>Niger</b>					
2019	20.0	58.1	69.0	87.5	77.3
2022	15.2	68.8	78.7	86.9	81.4
<b>Senegal</b>					
2019	21.8	80.1	84.3	93.0	83.2
2022	16.1	81.6	87.6	95.3	86.4
<b>Togo</b>					
2019	33.2	67.3	73.6	84.7	74.9
2022	24.3	69.3	74.1	84.6	79.4
<b>WAEMU total</b>					
2019	25.7	71.5	76.6	77.0	81.2
2022	22.7	74.2	79.7	80.8	83.5

Source: Own calculations using EHCVM 2018/19 and 2021/22.

Minimum wage violations are usually lower than other violations of labour regulations largely because the standards are set quite low. For example, the statutory minimum wage (PPP) does not provide an income matching the poverty line of US\$5.50 (PPP) per day in Guinea-Bissau, Niger and Togo (ILO, 2020).

Figure 2 presents the *Index* of multidimensional labour violations covering all countries and years. We find a clear spike at 0.67, indicating that almost 60% of employees receive only one third of mandated labour benefits. The most usual combination is that the employee gets a salary above the legal minimum but does not receive any of the three paid leaves, nor contributions to social security. The other spike occurs at 1, indicating that 20% of employees are excluded from all the analysed standards. Applying the 0.5 threshold to categorize each employee as 'multiply

deprived' or not, implies that the estimated overall *Violation Rate* equals 88% in the region. This analysis could be complemented with the *Adjusted Headcount Ratio*.

► Figure 2 – Multidimensional Labour Violations Index, whole sample

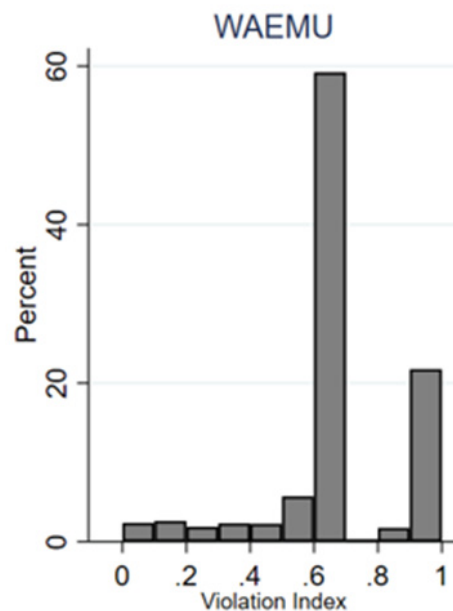
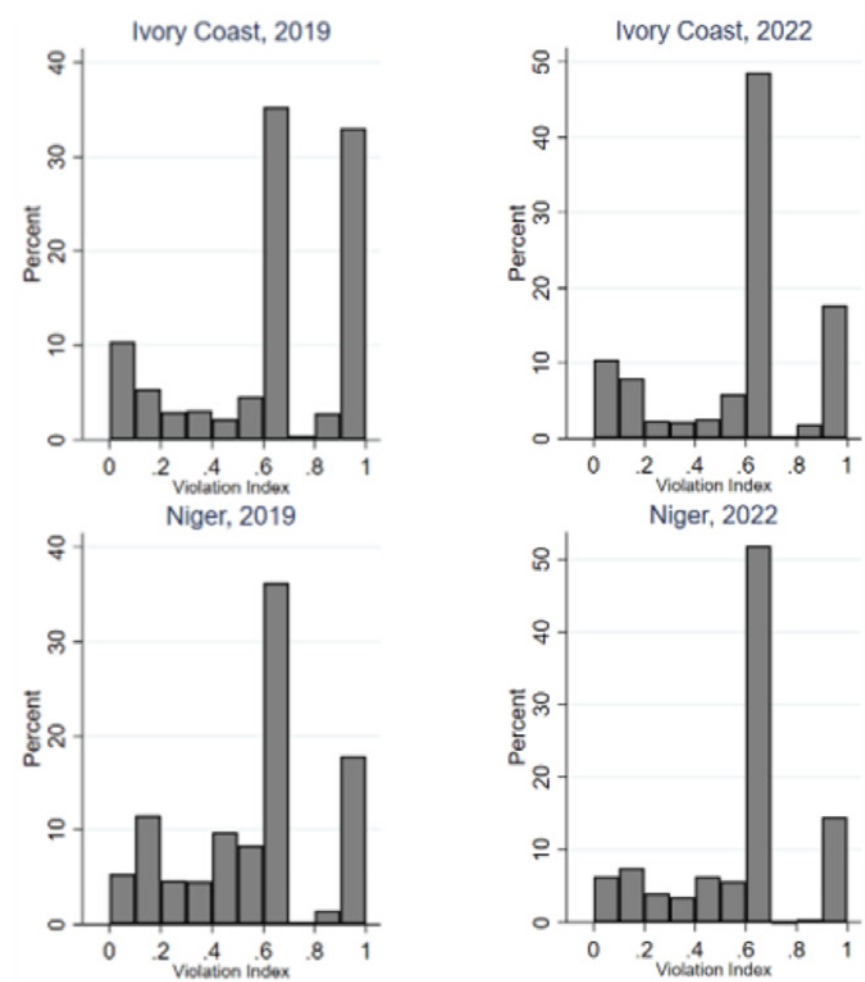
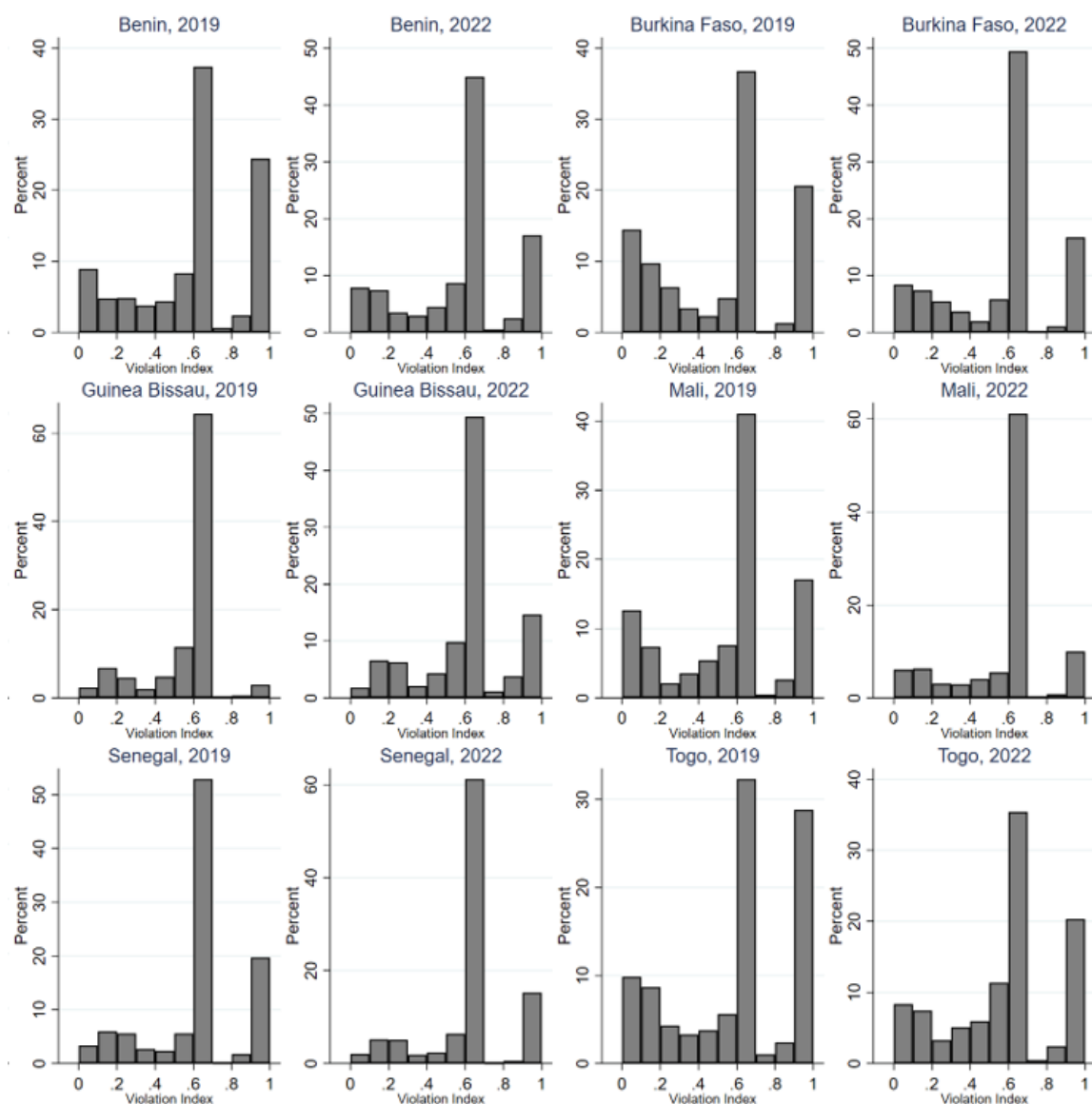


Figure 3 presents the *Index* for each country-year separately. The figures have several core similarities. In every country-year sample the main spike occurs at 0.67; and in all cases most employees are severely excluded from labour benefits. The distribution of the index is always strongly negative (or left-skewed). An interesting difference is that some countries present a third spike, although smaller, at 0, producing a W-shaped curve distribution of labour violations. This is not the case, however, in Guinea-Bissau, Niger and Senegal.

► Figure 3 – Multidimensional Labour Violations Index, by country-year





## Econometric analysis

In this section we econometrically explore how the multidimensional labour exclusion *Index* varies across workers' and firms' characteristics, sectors, occupations, and countries. The basic model we estimate is in equation 2:

$$Index_i = \alpha + \beta Worker\_C_i + \delta Firm\_C_i + \varepsilon_i \quad (2)$$

where  $Worker\_C_i$  is a vector of worker's  $i$  characteristics including Age, Age squared, Sex (female=1), Educational attainment, and place of residence (rural=1);  $Firm\_C_i$  is a vector of characteristics of the firm and occupation where worker  $i$  is employed. We first run a regression where we include the whole sample of employees (and include country fixed effects); and then compute separate models for workers in each country. All models are computed using OLS with robust standard errors.

The results are in Table 4. All the results we find are consistent with findings for other developing countries (Kanbur et al., 2013). We find that there is a U-shaped relationship between age and the index of labour exclusions, wherein both young and old employees are more likely to suffer exclusions compared to middle-aged workers.

Women are more likely to suffer exclusions compared to men, although the results are not significant in all countries. Employees with more years of schooling, working in urban areas, and in the public sector are, as expected, significantly less likely to suffer labour violations. The only result that differs compared to LMIC in other regions, is that employees working in the manufacturing sector are not less likely to suffer labour violations compared to agricultural employees (Kanbur et al., 2013). Moreover, in some countries such as Burkina Faso, Guinea-Bissau and Senegal, working in the manufacturing sector is positively and significantly correlated with suffering from labour exclusion. This is mostly because in these countries there are more large and productive firms in the agricultural sector compared to the manufacturing sector.

Finally, a positive finding is that, after controlling for observables, the coefficient for the year 2022 dummy is negative and statistically significant for most countries, indicating that labour violations have declined over time, although the size of the reduction is rather modest.



► Table 4 – Estimates of the determinants of Multidimensional Labour Violations Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	WAEMU	Benin	Burkina Faso	Côte d'Ivoire	Guinea-Bissau	Mali	Niger	Senegal	Togo
<b>Age</b>	-0.012***	-0.012***	-0.017***	-0.010***	-0.003**	-0.016***	-0.011***	-0.012**	-0.014***
<b>Age square</b>	0.0001***	0.0001***	0.0002***	0.0001***	0.00001	0.0002***	0.0001***	0.0001***	0.0001***
<b>Female</b>	0.013***	0.017	0.052***	0.022***	-0.012*	0.023***	0.013	0.028***	-0.003
<b>Education</b>									
Secondary	-0.105***	-0.103***	-0.135***	-0.159***	-0.0266***	-0.127***	-0.140***	-0.134***	-0.0724***
Tertiary	-0.153***	-0.128***	-0.128***	-0.209***	-0.0683***	-0.168***	-0.125***	-0.180***	-0.114***
<b>Rural</b>	0.015***	0.014	0.018	0.011	0.024***	0.002	0.078***	0.011*	0.059***
<b>Occupational status</b>									
Skilled workers	0.038***	0.070**	0.008	0.054**	0.055***	0.075***	0.030	0.015	0.069*
Unskilled workers	0.181***	0.182***	0.185***	0.261***	0.177***	0.177***	0.131***	0.115***	0.275***
<b>Employed private sector</b>	0.274***	0.290***	0.309***	0.311***	0.223***	0.323***	0.261***	0.243***	0.304***
<b>Sector activity</b>									
Mining	-0.006	0.011	-0.024	-0.050	0.010	-0.017	-	0.017	0.312***
Manufacturing	0.038***	-0.006	0.045**	0.010	0.056***	0.032**	0.017	0.044***	0.057*
Services	0.054***	-0.026*	0.054***	0.067***	0.035***	0.039***	0.039**	0.081***	0.024
<b>Year 2022</b>	-0.008***	-0.060***	-0.012	-0.068***	0.070***	0.001	-0.023*	0.002	-0.044***
<b>_cons</b>	0.551***	0.617***	0.545***	0.436***	0.335***	0.501***	0.493***	0.571***	0.507***
<i>N</i>	32,334	2,531	2,526	6,787	5,500	4,393	1,675	7,478	1,594
<i>R</i> <sup>2</sup>	0.520	0.503	0.599	0.578	0.478	0.626	0.598	0.473	0.539

Notes: Each column represents a different regression. In all cases the dependent variable is the multidimensional Index of labour violations. The regression in column (1), which uses the whole sample, includes country FE. The omitted categories are: 'Primary education or less'; 'Senior managers'; and 'Agriculture'. \* Statistically significant at the 10%, \*\* at the 5%, \*\*\* at the 1%.

### ► 3 Persistence

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In this section we explore a critical dimension of worker's vulnerability that is usually not available in the literature: the persistence of multiple labour violations over time. This is a central aspect of inequality, since it allows exploring whether employees who suffer (or who do not suffer) multiple violations remain in that situation for many years; or whether transitions in and out of labour violation are frequent.

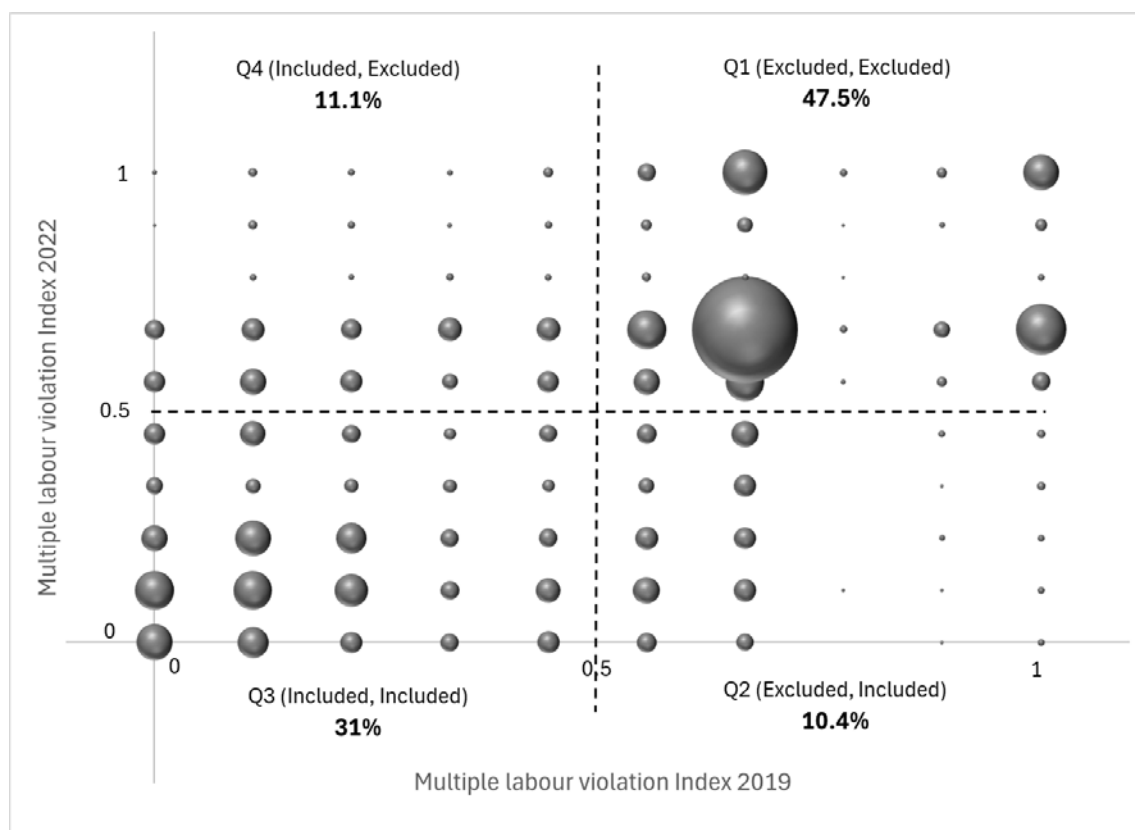
We restrict the dataset to the longitudinal sample of workers who were employed as employees in both 2019 and 2022. The sample size is 4,516 employees. The sample shrinks substantially compared to the stacked cross sections for several reasons: First, interviewers attempted to interview in 2022 only half of the individuals surveyed in 2019. Second, only some of them were still residing in the same household three years later. Third, many of those who were surveyed in both years, changed their labour status from employee in 2019 to a different status in 2022 (such as self-employed, unemployed or out of the labour force).

Using the longitudinal sample, we know for each worker  $i$  the value of the multidimensional labour violations *Index* in both 2019 and 2022. Considering that the *Index* can adopt ten different values (0, 0.11, 0.22, 0.33, 0.44, 0.56, 0.67, 0.78, 0.89, and 1); then, there are a total of 10 possible transitions.

Figure 4 illustrates the matrix with the 100 possible transitions (or cells). The horizontal axe captures the MVI *Index* in 2019, and the vertical axe the MVI *Index* in 2022. The size of the bubble indicates the number of individuals in each cell. The cell (0.67; 0.67) captures a large share of workers, indicating that many employees suffered 0.67 violations in 2019, and remained in the same grim situation of 0.67 violations three years later.

We divide Figure 4 into four quadrants based on the number of exclusions suffered in 2019 and 2022. Quadrant 1 (top-right) includes all individuals who suffered multiple violations in both years ( $Index_{it} > 0.5$ ;  $Index_{it+1} > 0.5$ ). Regrettably, this is the most frequent quadrant with 47.5% of the sample. Moving clockwise, quadrant 2 includes all those individuals who suffered multiple violations in 2019 but were 'included' (or more precisely, not multiply deprived) in 2022. They represent 10.4% of the sample. Quadrant 3 includes those employees who are always in the inside; they represent 31% of the sample; finally, quadrant 4 (*Included; Multiply Deprived*) represents 11.1% of the sample. Overall, the findings indicate that the multidimensional labour violations index is quite persistent over time, with only 21.5% of employees changing status over time.

► Figure 4 – Persistence of Multiple Labour Violations Index (MVI) over time



The persistence of labour violations is similar for female and male employees. As shown in Table 5, almost half of female and male employees are severely deprived in both years, and only 23% of females and 21% of males change status over the three years period.

► Table 5 – Persistence of MVI by sex

Quadrant (2019, 2022)		Females	Males	Total
Q1	Violated, Violated	42.8%	48.8%	47.5%
Q2	Violation, Compliance	10.8%	10.2%	10.4%
Q3	Compliance, Compliance	34.2%	30.1%	31.0%
Q4	Compliance, Violated	12.1%	10.9%	11.1%

Regrettably, the longitudinal sample size is not large enough to allow for a statistically meaningful breakdown of the data by some of the other variables used in the previous sections such as country and education. Moreover, the longitudinal sample includes very few employees from Burkina Faso and Côte d'Ivoire. This implies that the results should be interpreted with caution when it comes to its external validity.

## ► Conclusion

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This paper proposes, and implements, a deeper examination of workers' vulnerability. Following the multidimensional poverty literature, and an incipient literature in labour economics, we explore the violation of workers' rights with respect to five labour statutory entitlements (minimum wages, annual leave, sick leave, parental leave, and social security). We add the time dimension to the analysis, a key component that allows exploring the persistence of noncompliance over time.

We implement the metrics to a sample of workers in eight of the most vulnerable countries of the world: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo; and at two points in time 2019 and 2022. The findings confirm the extremely limited reach of labour standards in the region. The share of employees who do not have access to each legally mandated benefit is around 80%, except for the minimum wage. The estimated multidimensional index of labour violations shows a highly unequal situation wherein 88% of the sample is 'multiply deprived'. The distribution of the index is W-shaped and strongly negative (or left-skewed).

A similar picture results from the analysis of persistence over time. Only 20% of the sample transitions from a status of violation to compliance (or vice versa) over a three-year period. The other 80% remains in the same situation, exacerbating the problem of inequality.

We think that this paper opens new avenues of inquiry, so we finish with suggestions for future research. One aspect to further explore is understanding better the 20% of employees who change status over time (i.e., those in quadrants 2 and 4 in Figure 4). Did they change jobs or was there an upgrading / downgrading in their current position? Another aspect, more methodological, involves computing an *Adjusted Headcount Ratio*, determined by the proportion of employees considered 'multiply deprived', multiplied by the average deprivation score of 'multiply deprived' workers. A similar analysis can be applied to the minimum wage. This would allow considering how much lower the salary is of the worker whose rights are violated compared to the minimum wage. Finally, we think is important to consider the effects of non-compliance with labour rights on citizenship and development. How do workers who persistently suffer multiple labour violations react? Do they negatively reciprocate against the employer or against the state? Evidence from Latin America suggests that workers whose labour rights are violated react, not only against the employer as predicted by efficiency-wage theories (Shapiro and Stiglitz, 1984), but also against the state by not complying with their civic duties (Ronconi and Zarazaga, 2015). Are similar effects observed in Africa? Beyond intellectual curiosity, it is necessary to foster both workers' wellbeing and the rule of law in West Africa.

## Appendix - EHCVM

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The Harmonized Survey on Household Living Conditions (EHCVM) is a joint initiative of the UEMOA Commission and the World Bank. The beneficiaries are the eight UEMOA countries: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. The first edition of the survey took place in 2018/2019, and the second in 2021/2022. In each edition, the data was collected in two waves to capture the seasonality. The first wave usually took place between September and December, and the second wave occurred between April and July. Each wave covered half of the sample.<sup>5</sup>

Example for Burkina Faso: The Burkina Faso EHCVM 2018/19 is implemented by the National Institute of Statistics and Demography (INSD). It is a nationally representative survey of 7,000 households. The survey uses two main instruments: a household/individual questionnaire, and a community-level questionnaire.

The Burkina Faso EHCVM-2 2021/22 is the cross-sectional component of the second edition of a nationally representative household survey. The BFA EHCVM-2 2021/22 is based on a sample of households from a new sampling frame compared to the first edition of the BFA EHCVM-1 2018/19 and it includes a total of 7,176 households.

The panel sample of the Burkina Faso EHCVM-2 2021/22 Panel Survey corresponds to half of the households interviewed in EHCVM-2 2018/19. Households were tracked within the enumeration area (EA). In other words, EHCVM-1 households that have left their EA of origin were not surveyed. A total of 585 EAs were selected (half (293) for the first wave and half (292) for the second wave). Within each EA, 6 households out of the 12 surveyed in 2018 were surveyed. The final size of the panel sample is 3,227 households, of which 1,647 were interviewed in the first wave and 1,580 in the second wave.

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<sup>5</sup> All the data is publicly available at: <https://microdata.worldbank.org>

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