

# How can one make work decent? Evidence from a trade-union led intervention in Zambia\*

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## **Abstract**

This paper presents the results of the impact evaluation study of a trade-union led cooperation project in Zambia. Exploiting a unique panel dataset of individuals and firms, our study is the first attempt to assess how a training of shop stewards affects the working relationship between the union, employees and employers. We use a difference-in-difference model to estimate the impact of the efficiency of the trade union project activities on the quality of labor relations and health and safety outcomes in Zambia. The results show that the incidence of discrimination on wages and the assignment of workplace duties have decreased significantly as a result of the training. While workers might use a different avenue other than the union to address complaints on work scheduling inconsistencies, the workplace training has significantly improved the communication channels between the union and the employer on its strategies and views of the working relationship. On many outcomes, however, there was no impact.

Key words: labor market, developing countries, unions, regulation, decent work, difference-in-differences.

JEP: J30, J51, J81, O12

## Introduction

Despite the fact that decent work is a key goal in international policy discussion, there is very little solid evidence concerning causal links of policy interventions that are targeted to improved work conditions on relevant outcomes. The main aim of this study is to provide an impact evaluation of the development cooperation activities of the Finnish Trade Union Solidarity Center (SASK) in Zambia that are aimed at improving the efficiency of trade unions and the quality of labor relations. Kangasniemi and Pirttilä (2015) reported the findings from the baseline study, whereas the present study also contains material from a follow-up survey that took place in 2016.

Through this impact evaluation, this study seeks to assess the relevance, effectiveness and sustainability of the SASK co-operation projects and to determine changes in the industrial relations triggered by these co-operation projects. The quality of industrial relations is measured by employee perceptions on wages, occupational health and safety concerns, attitudes towards unions and the role of unions as the workers' voice. These are factors that may, furthermore, be related to other outcomes such as working conditions and the capacities of trade unions. The main focus therefore is to assess whether the goals and objectives of the SASK project with the local unions have been achieved within the project parameters and to evaluate the sustainability of the co-operation.

The traditional view of unions in conventional economic research is that they act as monopolists in the labor market; their primary goal is to raise members' wages at the expense of unorganized labor and of the efficient functioning of the economy. The direct adverse consequence of this action is to distort the distribution of income and subsequent loss of employment due to the union wage premium. Within this framework, unions extract monopoly gains from the employers by constraining the labor supply, which translates into a compensation structure for their members that is above competitive levels. Contrary to this view, however, is the assertion that unions have beneficial economic and political effects achieved through collective bargaining. Such effects include better management, an increase in the development and retention of skills, the provision of information, improved morale and pressure on the management to be more efficient in its operations. The unions are therefore seen to provide a collective "voice" for workers at the workplace for communicating with the management. Thus one must consider these differing views in order to accurately evaluate the aggregate welfare effects of the labor unions on employee benefits,

The goals of trade unions, and their strategies and activities, vary across countries. However, the core activities of trade unions include bargaining for wages and work in the areas of conditions of employment, working conditions and health and safety issues. Unions play a role both in negotiating employment protection and labor rights such as working time, gender equality and leave entitlement and in enforcing those rights at the workplace. Because unionized workers are likely to be more informed, they are more likely to benefit from their legal rights such as workers' compensation and to join voluntary social insurance programs such as unemployment insurance. Unions are intermediary institutions that provide a possible complement to the legislated benefits and protections. Collaborative efforts by the unions and employers may contribute to improving the industrial relations environment together with other institutions such as the government. The impact evaluation of the SASK project assesses how co-operation with SASK has strengthened the positive linkages between union activity and outcomes at the workplace.

The collective voice effect of unions as described in Freeman and Medoff (1984) emphasizes the potential roles unions play in improving communication between employers and employees. Where employees have a union voice to express their opinions they are offered an important and tangible alternative to quitting, as grievances can be aired freely and made subject to union and management

resolution. This leads to possible improvements in the conditions of work that precipitated the grievance. The voice of workers can therefore act as a change-oriented communication channel intended to improve working conditions and job satisfaction as well as to improve the industrial relations climate. However, in order to effectively influence labor rights and working conditions, unions must be strong, competent and capable of negotiating. The voice effect may be particularly important in developing countries with weak institutional capabilities for enforcing labor laws and lack of coverage of social security.

The rest of the paper is organized as follows. Section 2 reviews the activities of unions in Zambia and the development cooperation project of the Trade Union Solidarity Center of Finland (SASK) in Zambia. In section 3 we discuss the research methodology which guides our empirical analysis. Section 4 describes how the data were obtained in both the baseline and follow-up surveys. In section 5 we present the descriptive analysis of the trends of some key outcomes between the baseline and follow-up surveys. Section 6 includes the estimation of the treatment effect, a discussion of the results and robustness checks. Section 7 provides the conclusion.

## **2. Union activity in Zambia**

The Constitution of Zambia guarantees the fundamental rights of freedom of association. The Industrial and Labor Relation Act provides the legal framework for the rights of workers to form or join a union, the freedom to participate in collective bargaining and the rights to strike. Zambia has ratified all the International Labor Organization (ILO) conventions, but there is still need for improvement in achieving the decent work agenda of the ILO. The unemployment rate stands at 7.53% of the total labor force (ILO 2016), and the majority of employment in the Zambian economy is in the informal sector, or informal enterprises and various types of self-employment. In addition to those working in the informal sector, a part of the formal sector employment is also informal<sup>1</sup>. This is an issue of major concern, as those informally employed are naturally prone to lower wages and job security as well.

Zambia is experiencing a weakened current account deficit due to falling commodity prices, most importantly copper. The current account deficit stands at 3.4% of GDP in 2014 from 0.8% of GDP in 2013 (World Bank 2015). The fiscal deficit has also widened due to fallen mineral exports. This situation is further exacerbated due to recurring domestic factors, among others, which include rising government wage bills, the power crisis, and large expenditure on infrastructure and subsidies. To finance these fiscal deficits, the government of Zambia resorts to borrowing in the international debt markets, which results in increases in the country's debt to GDP ratios (World Bank 2015). The growth forecast for Zambia looks grim for the coming years due to global risk factors that include the slow growth and the depressed demand in China, which is one of Zambia's main trading partners. Prices and exports to China are projected to fall and worsen the term-of-trade. Countries with large external and fiscal imbalances are expected to be the most vulnerable to these factors (World Bank 2015).

In Zambia, the construction sector has been recording steady growth, mainly due to the growing infrastructural needs of the economy and the mining industry. Investment by multinational enterprises and other private companies in this sector have also increased. Employment opportunities are projected to grow in this sector. The challenge facing Zambian trade unions is the high prevalence of casual and temporal employment contracts. Allegations concerning the use of child labor and the non-payment of wages or salaries are very common (African Labor Research

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<sup>1</sup> CSO defines the formally employed as those who are covered by social security and who, in addition, have a written contract, are entitled to paid leave, pay income tax or are members of a trade union (CSO 2015)

Network (ALRN) 2003). The presence of multinational enterprises, and hiring of migrant workers in the construction sector, present authorities and unions with the challenge of improving workers' working conditions and labor rights. This sector therefore represents many of the typical concerns of the labor market in developing countries.

The role of the trade unions in conditions where poverty, inequality and the lack of rights are rife is to ensure income security and to negotiate and undertake collective agreements that improve and strengthen their members' conditions of work. Optimally, they could also participate in the development of social security systems, represent their members in grievance situations and reach constructive solutions with employers. Subsequently, members respond to an effective union with greater loyalty. Unions can also have, however, negative spillover effects on outsiders if, for instance, higher pay leads to lower demand for labor input.

Casual work occurs whenever workers are employed in a temporary, seasonal or otherwise non-permanent and involuntary part-time capacity.<sup>2</sup> In the 2012 Labour Force Survey the number of employees with temporary or casual, contract-type employment formed 19% of the total number of paid employees, and the majority of them worked outside the actual informal sector<sup>3</sup> (Harasty, Kwong and Ronnås 2015). The Zambian government has banned casual labor and unjustified termination of contracts of employment by employers following the amendment of the Employment Act, but of course the extent of informal work depends on the conditions for firms to create formal sector jobs. It is illegal for an employer to engage an employee on a casual basis in a job that is of a permanent nature. The government is currently in the process of reviewing most of the labor laws that aim at job protection and addressing inconsistencies. Despite these efforts by the government to protect workers, the majority of paid workers are in precarious jobs (temporary, part-time and seasonal contracts), with job instability being higher among women (ILO 2012). The presence of informal and temporal employment is considered to be an issue of major concern, as it hinders the respect for and monitoring of workers' rights, weakens job security and increases income disparities. It makes it more difficult for workers to unionize to ensure that their labor rights are being safeguarded.

The National Union for Building and Engineering and General Workers (NUBEGW) is the union representative of workers in the construction sector in Zambia. Of these members 94.5% are men and 5.5% are women. Currently the number of companies covered by the union stands at 134. Union density in Zambia is very low, partly due to the high rate of informal employment and the provision of the Industrial and Labor Relations Act, which provides for an exemption in the formation of trade unions at establishments that employ less than 25 workers, as well as workers of public security institutions (ILO 2012). The presence of multinationals in the Zambian economy has been argued to have increased the mobility of production and labor. Multinationals control an increasing proportion of the industrial sectors. Their size and strategic role provide them with bargaining powers in the setting of wage levels and working conditions, but these firms are sometimes suspected of labor rights violations, poor health and safety working conditions and weak job security – while the evidence can also point in the opposite direction (OECD 2008).

Globalization of the labor market coupled with population growth and the rural/urban disparities in employment opportunities have resulted in work-related migration within developing countries.

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<sup>2</sup> Casual work relates to informal relations between employers and their employees, whereas informal work is a wider concept, also capturing other types of informal employees, unpaid family workers, informally self-employed people and subsistence farmers.

<sup>3</sup> In addition, there are other types of precarious employment, fixed term contract, seasonal and part time employees. It is notable that a significant share of employees with a permanent contract also work informally.



According to NUBEGW, this is an issue of major concern. The spread of HIV/AIDS among migrant workers due to the seasonal nature of the construction sector and the relocation of workers from their own homes is another major worry.

## **2.1 The Trade Union Solidarity Center of Finland (SASK) Project in Zambia**

The Trade Union Solidarity Center of Finland (SASK) is the development cooperation and solidarity organization of the Finnish trade union movement. SASK project activities include training, recruiting members, campaigning, encouraging inter-union cooperation and networking, as well as helping partner organizations improve upon their project management, finance and administrative capacities. The essential element of this cooperation is to create an independent, strong union movement, to promote freedom of association, the rights to collective bargaining and the improvement of the shop steward system. The main aim of SASK's cooperation is therefore to strengthen the operative capacities of partner unions to enable them to provide effective channels for its members to exert influence, improve the working conditions of their members and to be an advocate for social justice and change.

In accordance with its strategy, SASK works to strengthen the trade union movement in developing countries with a special focus on the right to decent work as defined by the International Labor Organization (ILO). Even though core labor rights are internationally recognized as a part of the human rights issue, they are often being violated. SASK believes the core labor rights can best be monitored through labor relations and cooperation. According to SASK, a functioning trade union can have a significant role in the promotion of socially sustainable development in the form of the equitable distribution of income and act as a counterweight to structures and practices that cause inequality in society. An effective trade union movement can therefore be a vehicle for increased stability and security in a society. Through development cooperation, the trade union movement in the developing world can create a broad-base interaction between unions and the civil society at large.

The long-term goal of SASK is the advancement of social justice and democracy in the selected program countries. SASK therefore works to create change in organizations, their operating capacity and competence and to strive to provide opportunities for specific groups of working people to improve their livelihood and wellbeing. To widen the gender perspective in the operation of unions and in representing workers' interest SASK emphasizes the role of women in the working environment. Equal participation by women and men strengthens democracy within the trade union movement, which enriches and diversifies the work carried out by the unions. In addition to achieving these objectives, the work carried out in Zambia included assessing, monitoring and providing training to shop stewards on occupational health and safety challenges designed to boost awareness of such issues at the workplace.

In achieving these goals and objectives, SASK adopts the actor-based theory of change approach where changes and results in the operational areas of its programs are constantly being assessed and evaluated. Though the focus of the training in Zambia is occupational health and safety, increased union presence could create improved awareness and attitude towards certain labor issues like wage perception, trust in unions, accident prevention and labor rights. Thus the main focus and objective of the study is to measure the impact of the SASK project in Zambia..

## **3. Research methodology**

The primary purpose of this report is to present the results of the impact evaluation of the SASK cooperation work in the construction sector in Zambia. The intervention carried out after the

baseline included training union representatives in specific establishments on health and safety issues. The cooperation also involved improving organizational capacity at the union level that could result in improved awareness of labor issues at the sectoral level.

This study also seeks to measure the perception of union presence and their role in achieving workers' rights, the health and safety concerns of workers and the union voice effect as the outcomes that the project could possibly have impacted on at the establishment level. Intuitively, in the absence of other confounding factors, any observed differences between the treated and the control group are likely to have occurred because of the treatment. The aim of the empirical analysis is therefore to estimate this difference by comparing the growth or change of the variables of interest between treated and non-treated groups during the follow-up period.

We use the difference-in-difference approach to control for permanent differences in the characteristics between the treated and control firms. That means that we run regressions of the form:

$$y_{i,f,t} = \alpha_f + \beta after_t + \gamma treated * after_{f,t} + \delta X_{i,t} + e_{i,f,t}$$

where  $y_{i,f,t}$  is the outcome variable measured at the individual  $i$  level in firm  $f$  at the time  $t$ ,  $\alpha_f$  refers to the firm fixed effects, the variable *after* refers to the period after the intervention (endline), *treated\*after* measures the treatment impact, and  $X$  is a set of individual level time varying controls, and  $e$  is the i.i.d. error.

As always in studies utilizing the difference-in-differences approach, we can identify the causal impact of the intervention when there are no other time-varying effects that influence the treated and the control firms in a different way during the follow-up period. While we do not have data from earlier years to verify the parallel trends assumption, we are not aware of any other differences affecting the firms in a different way. The Zambian trade union did not have the means to start operations in all the firms in the sample as such; they were to choose the firms subject to the intervention randomly. Though we have a panel of firms, the interviewed individuals are almost always different in pre- and post-intervention samples.

In addition to firm-fixed effects we controlled for age group dummies, education level dummies, sex and tenure. Responses were recorded on a five-point Likert scale, but some were recoded as 0/1 indicator variables (agree or not) to further control for the level of responses that might mean the same.<sup>4</sup>

Before we proceed to the actual analysis, we briefly comment on the balance of the background variables at the baseline. As Table 1 shows, firms' employees are reasonably similar but there were some differences between the treated and the control group in background characteristics. This is why we always control for these variables in the regression analysis.

| Variable(s)        | Mean Control | Mean Treated | Diff   | t    | Pr(T>t) |
|--------------------|--------------|--------------|--------|------|---------|
| Age group1 ( <18 ) | 0.026        | 0.025        | -0.001 | 0.08 | 0.9357  |

<sup>4</sup> The recoded variables were the following: Employees' attitude on trade union activities in Zambia, relative wage perception by employees, discrimination at the workplace, labor rights violations, accidents and illness. The results are not dependent on this change, since the significance level of the outcome variables are qualitatively similar when coded as a continuous variable instead of 0/1 variable.



|                                      |        |        |        |      |           |
|--------------------------------------|--------|--------|--------|------|-----------|
| Age group2 (19-25)                   | 0.093  | 0.068  | -0.025 | 0.9  | 0.3678    |
| Age group3 (26-35)                   | 0.362  | 0.435  | 0.073  | 1.5  | 0.1347    |
| Age group4 (36-45)                   | 0.306  | 0.286  | -0.02  | 0.44 | 0.658     |
| Age group5 (46-55)                   | 0.142  | 0.106  | -0.036 | 1.08 | 0.2786    |
| Age group6 (>56)                     | 0.071  | 0.081  | 0.01   | 0.38 | 0.7077    |
| Tenure                               | 14.071 | 19.665 | 5.594  | 0.41 | 0.6829    |
| No education                         | 0.004  | 0      | -0.004 | 0.77 | 0.4389    |
| Some primary education (1-7)         | 0.026  | 0.05   | 0.024  | 1.29 | 0.199     |
| Completed primary education (1-7)    | 0.067  | 0.124  | 0.057  | 2.02 | 0.0441**  |
| Some secondary education (8-12)      | 0.235  | 0.23   | -0.005 | 0.12 | 0.901     |
| Completed secondary education (8-12) | 0.209  | 0.261  | 0.052  | 1.24 | 0.2159    |
| Some college/university education    | 0.272  | 0.155  | -0.117 | 2.82 | 0.0051*** |
| Completed college/university         | 0.175  | 0.168  | -0.008 | 0.2  | 0.8391    |

Table 1. Balance of background variables at the baseline.

#### 4. Baseline and Follow-up Survey

In June 2014 and February 2015 a baseline survey was conducted in Zambia. A follow-up survey was carried out in August 2016 after the intervention had taken place. In the baseline phase of the study 31 firms were covered in the first period and in the second round 20. The randomization method was used in selecting volunteers in 16 of the companies and, in the rest, the convenience sampling method was applied. 34 companies in total provided responses on the union, employee and human resource questionnaires during the baseline survey. 44 companies participated in the follow-up survey. In this report we rely mostly on the employee data.

The questionnaire consisted of questions designed to measure individual characteristics, their perceptions of the working environment, conditions of work, opinion and trust of trade unions and the industrial relations with the employer. The cooperation work with SASK has a potential impact on several of these issues, that is, the implications of the ‘voice’ effect in the work set-up, trust between employees, union and management, roles of the trade unions and unionism in Zambia and on training and productivity enhancement measures. Responses were obtained from 852 employees.

#### 5. Descriptive analysis of the development between the baseline and endline surveys

This section is intended to give an overall picture of the levels and trends in the data we used. Of the respondents 83% are employees from the construction sector and the remaining from the transport sector. Union members’ coverage was 69%. Skilled blue collar workers constitute 55% of the respondents with 29% being unskilled blue collar workers and the remaining 16% representing professionals and managers. The average age of the respondents was 38.3 years and only 8% were women. The median salary category was 2,000-2,500 ZMW a month in the endline survey.

##### 5.1 Opinion of workers on union activities

68% of the respondents surveyed belong to a union. The reasons given for not joining a union varied among employees. In the baseline survey, 54% of non-union members did not consider the weakness and fragmentation nature of unions to be of any major importance in their decisions not to join the union. This number was 74% at endline. This change might also point to other intervening variables as causes of non-membership, such as the decline of the Zambian economy. In the endline survey 77% believe the union works towards improving their members’ conditions of service. At baseline only 72% of respondents held similar views (Figure 1). Overall, union members at the various establishments have a positive outlook towards their union in the area of their impact on wages of all members, employers’ strategies and the provision of information on worker’s rights.

Only about 40% of employees in the endline survey believe the union works towards helping casual workers and for the unemployed worker the number is about 30% and these shares are not much higher than at baseline.

The follow-up survey indicates that the perception of workers on union activity has improved, albeit marginally. Workers agreed that unions have had an impact on members' conditions of service and wages, and on all workers as well as on unions being a source of information on workers' rights and employees' views (Figure 1). At the endline, workers did not observe any improvement in the union as a source of information to address employers' strategies. On the question of the overall importance of the union as a source of information, 77% at baseline agreed this was the case. In the endline survey this number rose to 80%, which indicated a small increase of 3%.

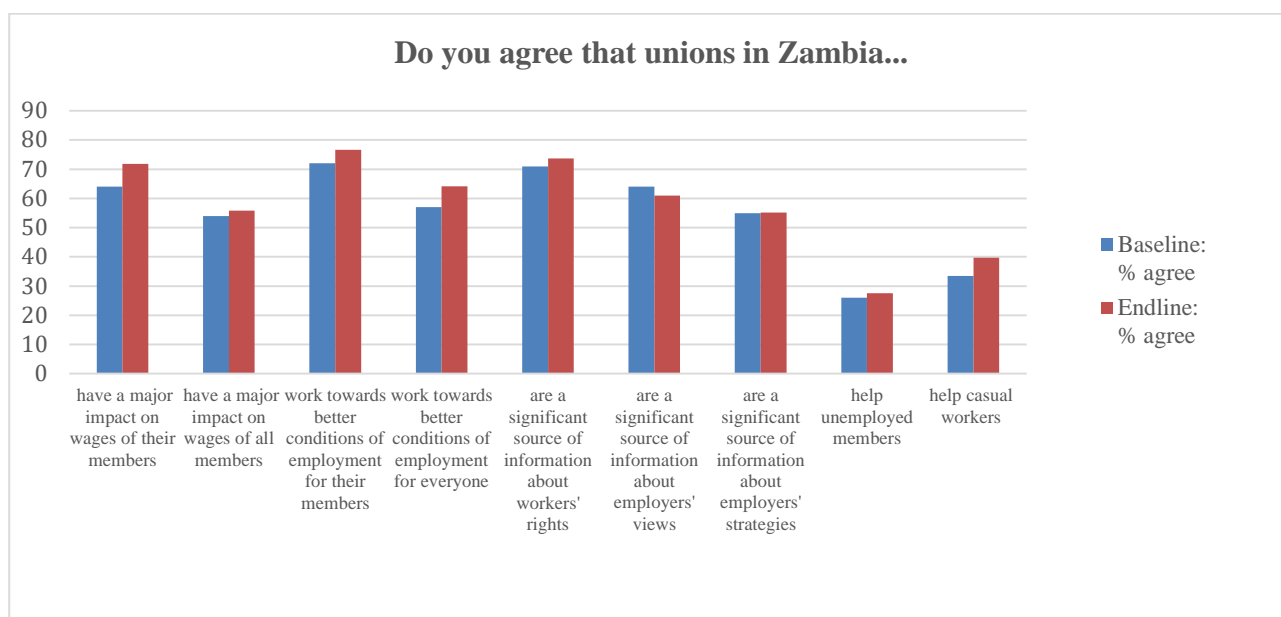


Figure 1. Employees' attitudes to trade union activities in Zambia

## 5.2 Wage satisfaction and quality of work

Economists have long been interested in the possibility that individuals care about both their absolute income and their income relative to others.<sup>5</sup> According to Mathewson (1969), workers occasionally hold the view that they are worth more than the management is willing to pay them. Clark and Oswald (1996) assert that there is a systematic correlation between measures of relative income and reported job satisfaction and on health and longevity (Marmot, 2004). Of the respondents surveyed at endline, 71% feel their wages to be lower than other employees in the same establishment. This number was 60% at the baseline. 80% of workers also felt their wages to be lower when compared to workers with similar jobs in other establishments in the same industry during the endline survey. At baseline this number was 75%. While 82% also believe their wages to be lower than the general wage level of workers in the same region in Zambia at endline, only 68% felt the same at baseline (Figure 2). The perception of the adequacy of one's own wage seems to have worsened over time. With this low perception of the relative wage differential among employees it is therefore not surprising that 36% of respondents in both the baseline and the endline survey find their wages to be inadequate to support their households (Figure 3).

<sup>5</sup> Akerlof and Yellen (1990) provide an extensive review of the literature (mostly outside economics) on the impact of relative pay comparisons.

Despite the fact that wages are perceived to be relatively low by the employees, most (57%) of respondents at endline find it unlikely that they might resign from their job in the next twelve months. This number was 52% at baseline, a change from baseline to endline of the respondents' view of their resignation intentions of about 5%. This may indicate either that the worker feels he/she might find it difficult to obtain a similar job outside the establishment or that the job security the present employment offers and other job related benefits compensate for the low wage.

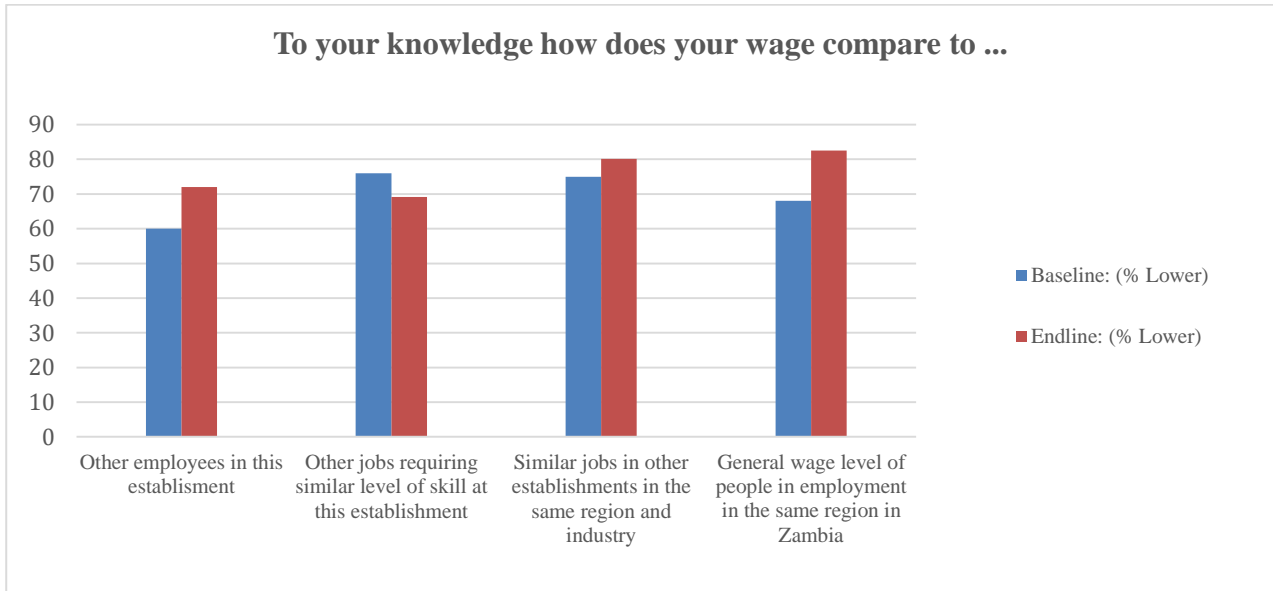


Figure 2. Relative wage perception by employees

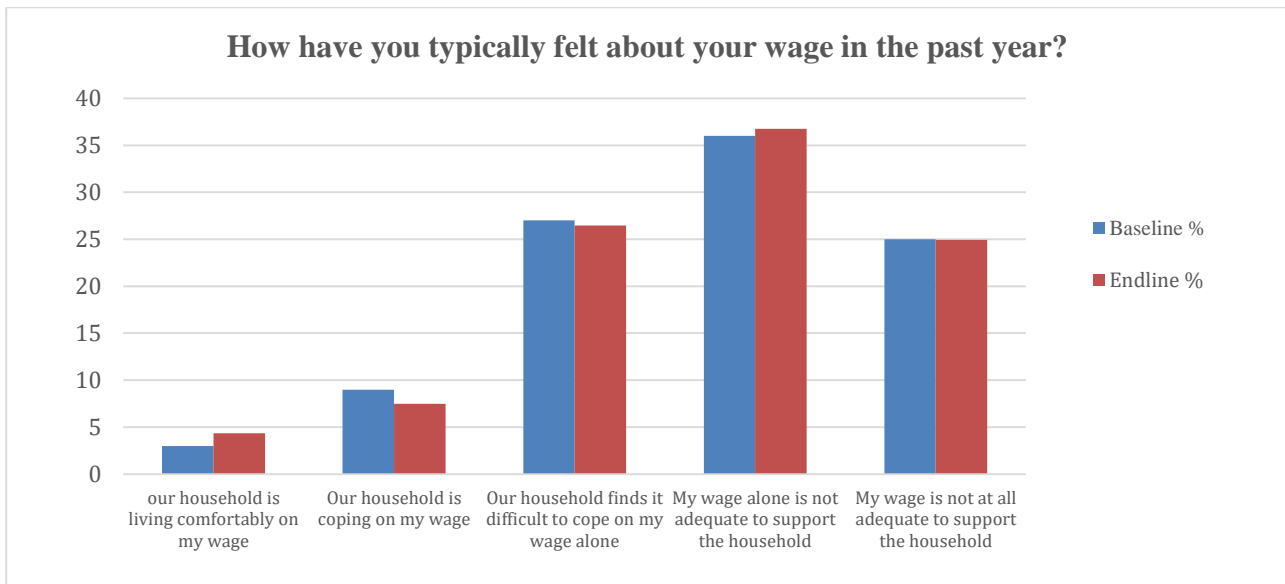
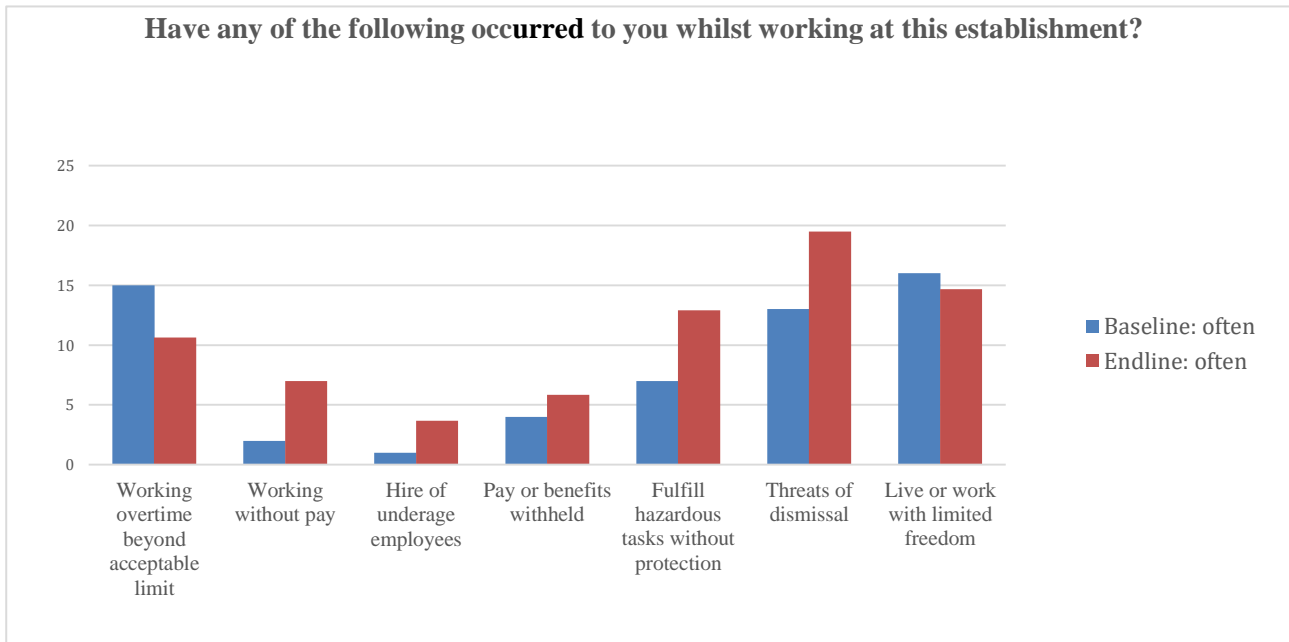


Figure 3. Employees' perception of the adequacy of their wages

### 5.3 Health and safety concerns and labor rights violation

Figure 4. Employees' experiences of labor rights violations

The ILO Constitution sets forth the principle that workers are entitled to work in environments where issues of sickness, disease and injury arising from their employment are properly controlled.



The ILO estimates the economic burden of the poor occupational safety and health practices at 4 per cent of global gross domestic product (GDP) each year, but contends that these tragedies can be minimized through the implementation of sound prevention, reporting and adequate inspection practices. To determine how efficient issues of health and safety are handled in the various establishments in Zambia employees were asked if they had experienced or had witnessed any harmful workplace practices and violations, accidents and job related illnesses in the last 18 months (Figure 4, Figure 5 and Figure 6).

In the endline survey the main labor right violation experienced by employees is the threat of dismissal (Figure 4). About 19% of respondents assert they have experienced this threat often from their employers. This number represents a percentage which is higher than that recorded at baseline of about 13%. While 13% agreed at the endline that they often work on hazardous tasks without protective clothing, the number was 7% at baseline. 15% of respondents in the baseline survey did indicate to have often worked overtime beyond acceptable limits. This number was 11% in the endline survey. On working on jobs with limited freedom, 16% during the baseline survey agreed they had experienced this phenomenon often. However, the number of these occurrences at the endline was 15%. On the questions of accidents or illness at the workplace the majority of respondents during both the baseline and the endline, about 67%, claimed none of these had happened to them and only 12% had experienced an injury, but not an injury of a permanent nature. Accidents that led to a permanent injury had the same incidence at both the baseline and the endline survey at about 4% and with less than 2% leading to permanent disability (Figure 5 and Figure 6).

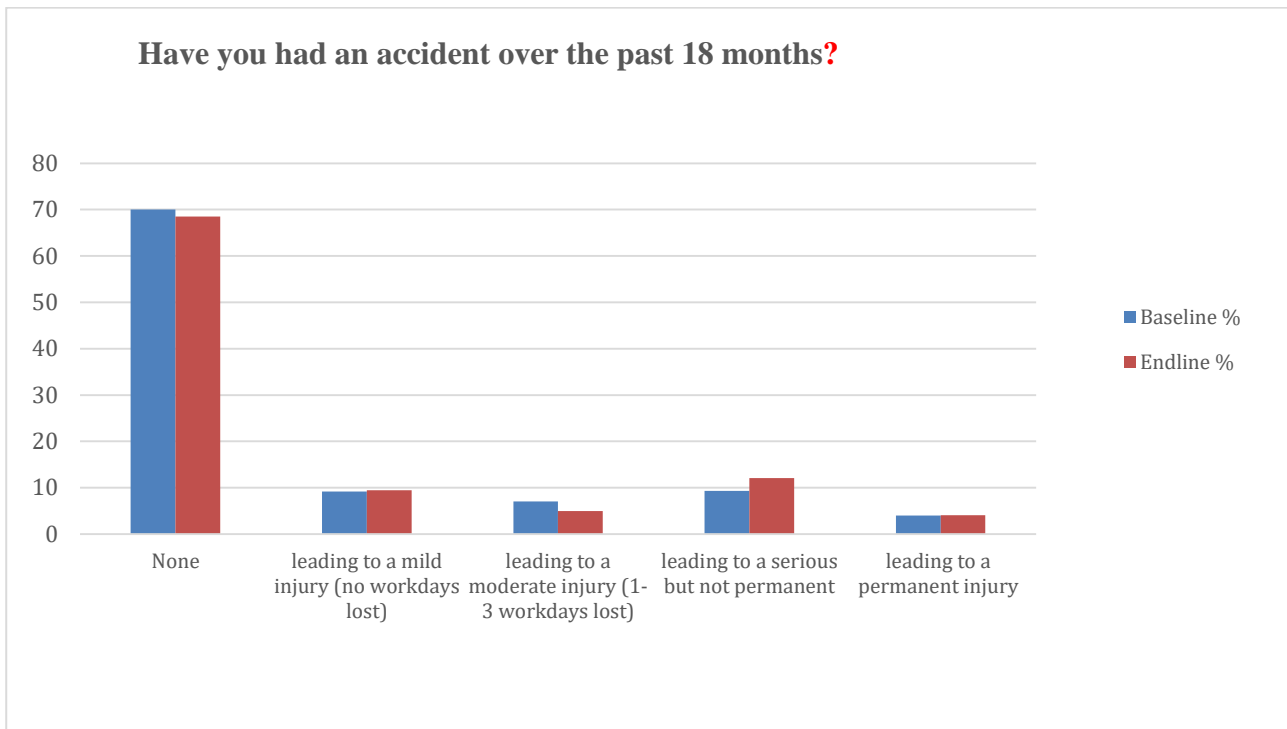


Figure 5. Employees' experiences of workplace accidents.

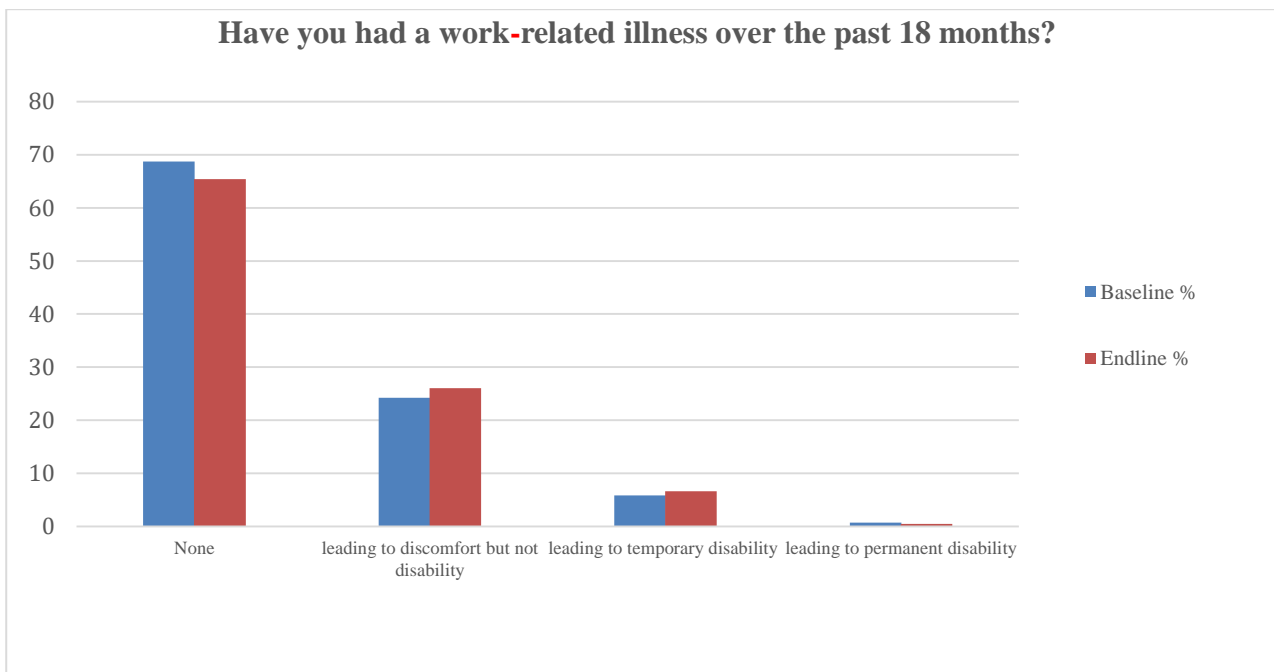


Figure 6. Employees' experiences of work-related illness

#### 5.4 The union role as the workers' voice

The European Commission (2012), among others, acknowledges that employees' involvement in the affairs of a company and participation in the board is vital in the long-term success of the firm. For example, in 19 European countries (18 European member states plus Norway), workers are

granted the right to be represented on the board of directors or the supervisory board of their company with decision-making powers. To examine the extent to which the union acts as the employees' voice at the workplace in Zambia the questionnaires contain several questions that boarders on whether complaints and grievances as well as suggestions on workplace improvements by workers were channeled through to the union, human resources or to other parties.

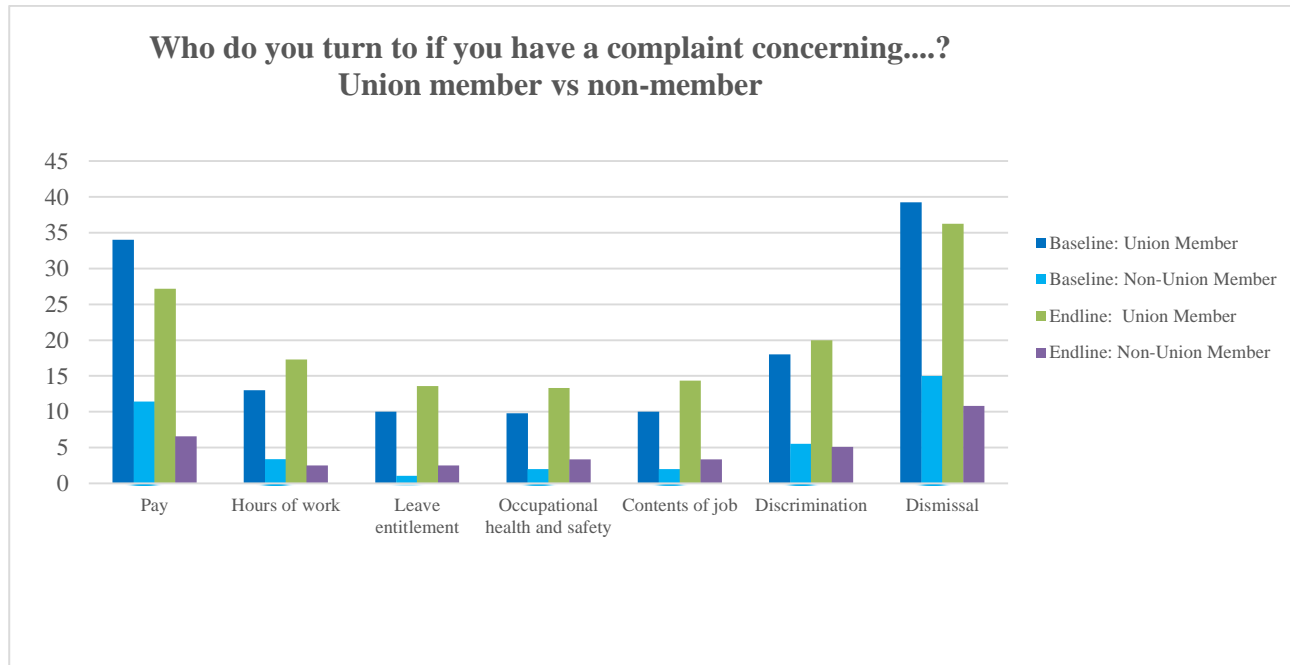


Figure 7. The union as the employees' point of contact in case of complaints or grievances.

According to the information in Figure 7, in the baseline survey about 66% of union members do not turn to the union in matters concerning pay but more often to other parties (the company HR and supervisor being the most common point of contact). On the issue of dismissals, in both the baseline and endline surveys more than 35% of union member respondents indicate they turn to the union for assistance. Additionally, on the incidence of discrimination, 18% of respondents at baseline claimed to have experienced it. This number is 20% at endline. Overall, only a small number of respondents, less than 18% of both union members and non-union members during the baseline and endline surveys avail themselves of union help on issues such as hours of time worked, leave entitlement, occupational health and safety, and contents of the job.

Based on interviews of union representatives either in the baseline or the endline survey, over 60% of union members make the union the first point of contact in most cases of workplace complaints and suggestions. Equally relevant is the assertion by employers' representatives that a cordial relationship exists between them and the union representatives. Over 46% of all employers' representatives interviewed for either the baseline or the endline surveys claim to have received complaints from the union.

On questions on the integrity and honesty of management, 43% of union representatives had a positive view of management in terms of these attributes. 54% of union representatives rated the dealings with management in their everyday interactions to be good and professional. And 80% of union representatives have witnessed improved working conditions since the intervention. In over 73% of the companies surveyed it was acknowledged that in most cases there were regular meetings between staff and the management, which indicated an important dialogue channel between the

employees and the employers. This suggests that, in addition to the union, other platforms exist for the worker and the employer to improve the channels of communication.

## 6. Results from the regression analysis

In this section, we present the actual results of the difference-in-difference (Diff-in-Diff) regression analysis. The difference-in-difference regression model is used to estimate the effect of the specific intervention or treatment (in this case, the SASK’s program implementation) by comparing the changes in the outcomes variables over time between the population that was enrolled in the program (the intervention group) and the population that was not (the control group). This is intended to determine the extent to which changes in the treatment group exceed those in the control group i.e., to measure the impact of the intervention. The linear probability model is used to avoid the incidental parameter problem.

We controlled for firm-fixed effects, age group dummies, education level dummies, sex and tenure. The outcome variable was a dummy variable (where 1 equals responses of agree and strongly agree and 0 otherwise) where possible to further control for the level of responses.

### 6.1 Evidence on the impact of union voice

| Variables    | (1)<br>complaints<br>on pay | (2)<br>complaints<br>on hours of<br>work | (3)<br>complaints<br>on leave<br>entitlements | (4)<br>complaints on<br>occupation<br>health and<br>safety | (5)<br>complaints<br>on contents<br>of job | (6)<br>complaints on<br>discrimination | (7)<br>complaints<br>on dismissal |
|--------------|-----------------------------|--|---|--|--|--|-----------------------------------|
| Diff-in-Diff | 1.904*                      | -1.478*                                  | -0.224  | 0.232  | 0.410                                      | -0.0873                                | 0.768                             |
|              | (0.986)                     | (0.816)                                  | (0.462)                                       | (0.906)  | (0.827)                                    | (0.589)                                | (0.628)                           |
| Observations | 839                         | 823                                      | 821   | 822  | 823  | 792                                    | 822                               |
| R-squared    | 0.182                       | 0.145                                    | 0.180   | 0.139  | 0.139                                      | 0.164                                  | 0.200                             |

Dependent variable: Union as the first point of contact. The control variables include sex, age group dummies, education level dummies, tenure, firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 2 shows the difference-in-difference estimate for the treatment group post training. Alternatively, it presents the average treatment effect of intervention on respondents’ views about the role of unions.

Table 2 provides the estimates of the impact on the respondents’ opinion on whether the complaints and grievances of employees are channeled through to the unions. Controlling for firm fixed effects, on complaints concerning salaries, workers tend to make the union the first point of contact and the difference in the effect between the treatment group and the control group at endline is positive and statistically significant. This is logical, as having a positive perception about the union could probably also imply the worker is more receptive to the union in resolving his/her grievances. On the issue of complaints concerning the number of hours worked, most workers had a negative view of the union as the first point of contact, and the impact of the treatment is significant. This result is not perhaps that surprising, since the questionnaire included other alternatives as a source of contacts like the immediate supervisor, the human resource department and the line manager. In situations concerning hours of work the immediate supervisor or line manager controls the log detailing the number of hours worked. It is therefore more prudent to seek clarification from the immediate supervisor or the line manager for immediate rectification of such anomalies than



choosing the union as the first point of contact on such matters. The results of the intervention also indicate that employees have a positive view of the union and make the union the first point of contact on issues relating to occupational health and safety, and complaints about the contents of the job, and on dismissal concerns. When it comes to the impact of the treatment on complaints about leave entitlements and discrimination, the coefficient of the treatment effect is not statistically significant.

## 6.2 Do you agree that unions in Zambia...

| Variables    | (1)<br>have a major impact on wages of members | (2)<br>have a major impact on wages of all employees | (3)<br>work towards better conditions of employment for members | (4)<br>work towards better conditions of employment for everyone | (5)<br>are a significant source of information about workers' rights | (6)<br>are a significant source of information about employers' views | (7)<br>are a significant source of information about employers' strategies | (8)<br>help unemployed members | (9)<br>help casual workers |
|--------------|--|--|---|--|--|---|--|--------------------------------|----------------------------|
| Diff-in-Diff | 0.108  | 0.195  | 0.0159  | -0.0635  | 0.0124   | 0.230**   | 0.240**  | 0.124                          | 0.0690                     |
|              | (0.0985)                                       | (0.122)  | (0.0929)  | (0.107)  | (0.114)  | (0.115)   | (0.0916)   | (0.0916)                       | (0.0924)                   |
| Observations | 760  | 760  | 803   | 799  | 797  | 786   | 780  | 787                            | 770                        |
| R-squared    | 0.155  | 0.147  | 0.168   | 0.123  | 0.155  | 0.175   | 0.174  | 0.119                          | 0.166                      |

Dependent variable: Perception of union activities in Zambia. The control variables include sex, age group dummies, education level dummies, tenure and firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 3. Difference-in-difference regression analysis of the perception and views of workers on union activities in Zambia

Table 3 presents the results on the employees' attitude towards union activities. The questions were about whether unions were an important source of information and whether they had an impact on the wages of members, casual workers and the unemployed member. Controlling for firm fixed effects and using a dummy variable (where 1 equals responses of agree and strongly agree and 0 otherwise) as an outcome variable, the results in Table 3 indicate that workers in the treated companies have a more positive attitude compared to otherwise similar workers in untreated companies and before the treatment towards the union on issues such as the provision of information on employers' views and on employers' strategies. The impact of the intervention is statistically significant. This is logical, as this suggests that the union serves as a discussion platform that enhances the exchange of information between the employer and the workers. On working towards improving the working conditions of members and their wages, the help of the unemployed member as well as casual workers and the provision of information on workers' rights, the impact of the treatment effect is positive and insignificant. The treatment seems to have a slightly negative impact on perceptions of the union in working towards improving the working conditions of employment for everyone. However, the coefficient of the treatment effect is insignificant.

## 6.3 Wage satisfaction and quality of work

A difference-in-difference regression analysis was also carried out to determine the impact of the treatment on the perception of the adequacy of employees' wages relative to other peoples' wages. The explanatory variables are again sex, age group dummies, education level dummies and tenure. We created an outcome variable as a dummy variable to represent 1 for responses of significantly

lower and lower and 0 otherwise. Controlling for firm fixed effects, results in table 4 indicate that workers perceive their wages post treatment to be lower compared to the wages of employees' requiring similar levels of skills in the same establishment. Similarly, the treated workers regarded their wages to be lower than the general wage level and to employees' wages in other establishments in the same region

| Variables    | (1)<br>Other employees in<br>this establishment | (2)<br>Other jobs requiring<br>similar level of skill<br>at this establishment | (3)<br>Similar jobs in other<br>establishments in the<br>same region and<br>industry | (4)<br>General wage level of<br>people in employment in<br>the same region in<br>Zambia |
|--------------|---|--|--|---|
| Diff-in-Diff | 1.000<br>(0.816)                                | 0.872<br>(0.882)   | 0.903<br>(0.810)   | 0.849<br>(0.921)  |
| Observations | 827   | 834  | 832  | 820   |
| R-squared    | 0.125   | 0.126  | 0.120  | 0.133   |

Dependent variable: Relative wage perception. The control variables include sex, age group dummies, education level dummies, tenure and firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 4. Difference-in-difference results of employees' perception of their relative wage.

in Zambia compared to similar workers in non-treated establishments or before the treatment. The coefficients obtained from these responses are very large but statistically insignificant. This suggests that the treatment had no significant impact on the perception of workers regarding their wages compared to other workers in the establishment and to workers in other establishments in the same region in Zambia.

#### 6.4 Health and safety concerns and labor right violations.

| Variables    | (1)<br>Working<br>overtime<br>beyond<br>acceptable<br>limits | (2)<br>Working<br>without<br>pay | (3)<br>Hire of<br>underage<br>employees | (4)<br>Pay or<br>benefits<br>withheld | (5)<br>Fulfill<br>hazardous<br>tasks without<br>protection | (6)<br>Threats of<br>dismissal | (7)<br>Work with<br>limited<br>freedom |
|--------------|--|----------------------------------|---|---------------------------------------|--|--------------------------------|--|
| Diff-in-Diff | -0.0188<br>(0.0993)  | 0.0586<br>(0.0633)               | 0.0585<br>(0.0451)                      | 0.0581<br>(0.0649)                    | 0.0795<br>(0.0736)   | -0.0219<br>(0.127)             | -0.0785<br>(0.116)                     |
| Observations | 824  | 821                              | 814                                     | 813                                   | 811  | 817                            | 818                                    |
| R-squared    | 0.238  | 0.343                            | 0.136                                   | 0.289                                 | 0.205  | 0.254                          | 0.202                                  |

Dependent variable: Health, safety and labor rights violations. The control variables include sex, age group dummies, education level dummies, tenure and firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 5. Difference-in-difference results of employees' experiences of labor rights violations

Table 5 reports the results for the respondents' view on the excessive use of overtime, working without being paid, hire of underage children, pay or benefits withheld, the carrying out of fulfilling of hazardous work without protection, threats of dismissal and working with limited freedom. While the prevalence of working overtime and the threat of dismissal by the employers and working

with no freedom seem to have decreased as a result of the treatment, the coefficient of the treatment from these three responses is generally very small and statistically insignificant, and suggests an impact of only about 1% - 2%. As shown in columns 2-5 the estimated treatment effect is positive, suggesting that the treatment actually increased the share of employees reporting to have worked without pay, the use of child labor, pay and benefits being withheld and working without adequate protection. Such impacts could also be a result of employees being more aware and vigilant regarding such violations. However, the impact of the treatment on these three variables is statistically insignificant.

#### 6.4.1 Accidents and illness at the workplace

The prevention of workplace accidents remains a key priority of unions. Accident prevention and training programs that emphasize direct contact with the target groups can have a positive impact by helping to lower the frequency and severity rates of workplace accidents. To determine the frequency of accidents in the workplace in Zambia, employees were asked whether they had experienced an accident in the previous 18 months. Table 6 provides the results of the impact of the treatment on respondents' views on workplace accidents in their establishments. The impact of the treatment seems to be negative, but not statistically significant.

| Variable     | (1)<br>Accidents | (2)<br>Illness |
|--------------|------------------|----------------|
| Diff-in-Diff | -0.135           | -0.000740      |
|              | (0.110)          | (0.101)        |
| Observations | 846              | 846            |
| R-squared    | 0.148            | 0.148          |

Dependent variable: Discrimination at the workplace. The control variables include sex, age group dummies, education level dummies, tenure and firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 6. Difference-in-difference results of employees' experience of workplace accidents and illness.

Similarly, in Table 6 the incidence of illness post treatment has decreased by less than 1%. Health and safety training programs did not seem to generate significant reductions in accidents and illness rates.

#### 6.5 Discrimination of employees at the workplace

| Variables    | (1)<br>discrimination on wages | (2)<br>discrimination on other elements of pay | (3)<br>discrimination on performance assessment | (4)<br>discrimination on recruitment | (5)<br>discrimination on promotions | (6)<br>discrimination on assignment of duties | (7)<br>discrimination of co-workers | (8)<br>discrimination by superiors |
|--------------|--------------------------------|--|---|--------------------------------------|-------------------------------------|---|-------------------------------------|------------------------------------|
| Diff-in-Diff | -0.399*                        | 0.0902   | -0.0823   | 0.170                                | -0.0485                             | -0.349*                                       | 0.0503                              | -0.0994                            |
|              | (0.200)                        | (0.180)  | (0.184)   | (0.170)                              | (0.171)                             | (0.206)                                       | (0.195)                             | (0.208)                            |
| Observations | 131                            | 122  | 123   | 120                                  | 122                                 | 120   | 125                                 | 128                                |
| R-squared    | 0.137                          | 0.223  | 0.203   | 0.239                                | 0.187                               | 0.249   | 0.198                               | 0.133                              |

Dependent variable: Discrimination at the workplace. The control variables include sex, age group dummies, education level dummies, tenure and firm fixed effects. Robust standard errors clustered at the firm level in parentheses.

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

Table 7. Difference-in-difference results of discrimination at the workplace.

Discrimination is an insidious and shifting phenomenon that can be difficult to quantify and to be addressed meaningfully; this is because newer forms of discrimination are being added to the long-recognized patterns such as those based on sex, race and religion. The dataset includes questions on discrimination on wages, other elements of pay, performance assessment, recruitment decisions, promotions, the assignment of duties, general treatment by co-workers and general treatment by superiors. Controlling for the firm fixed effects the results in Table 7 show that the incidence of discrimination on wages and on assignment of duties is significantly lower after the treatment in the establishments participating in the intervention. The estimated treatment effect on the incidence of discrimination on performance assessment, on promotions and on the general treatment by superiors is also negative but the impact is statistically insignificant. The estimated treatment effect on the incidence of discrimination on other elements of pay, on recruitment and on general treatment by co-workers is positive, but the coefficients of the impact of the treatment are statistically insignificant.

## 7. Conclusions

Using individual and firm level data, this study examined the impact of the Trade Union Solidarity Center (SASK) development project in Zambia. The intervention carried out after the baseline was to train union representatives or target specific establishments at cluster level in a membership campaign. Equally expected is the spillover effect of the training in improving the organizational capacities, the attitude towards unions, the perception on wages and the improved awareness of labor issues by workers likely to take place at the sectoral level. To achieve this, a difference-in-differences approach was used, to control for permanent differences in the characteristics between treated and non-treated firms.

We find that there are marked differences in the responses of employees when it pertains to complaints on wages and on work scheduling issues. While employees might choose to make the union the first point of contact on wage matters, in contrast, they might seek alternative sources (immediate supervisor, human resource department and line manager) to handle cases of work scheduling inconsistencies. The incidence of discrimination post treatment on the assignment of duties and on wages has decreased significantly. However, there was also a negative impact of the intervention on using the union as a first point of reference when dealing with complaints about working hours.

There is also an improved positive relationship and trust between the union and employees. These results suggest that there was a positive treatment effect on the perception of workers on union activities. Workers have a positive attitude towards the union on matters such as provision of information on employers' views and strategies, and the impact of the treatment effect is statistically significant. This implies that the union acts as a bridge between workers and the employers by providing a discussion platform that improves on the exchange of information.

The program reduced the perceptions of discrimination in wages or assignment of duties. The point estimates on many other outcomes (such as working overtime, threats of dismissal) were negative, but these impacts were not statistically significant. On the other hand, there were also undesirable (yet not significant) impacts.

Besides informing current debates about the impact of job training programs, we believe that the results have more general implications for the design and implementation of workplace programs

that seek to promote health and safety as an essential component of union efforts to achieve a decent working environment. This is because, job-training programs may be expected to have positive effects in informing workers about avenues and remedies available to them in addressing and resolving workplace issues and grievances.

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