

## Leaders in Social Movements: Evidence from Unions in Myanmar<sup>†</sup>

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*Social movements are catalysts for crucial institutional changes. To succeed, they must coordinate members' views (consensus building) and actions (mobilization). We study union leaders within Myanmar's burgeoning labor movement. Union leaders are positively selected on both ability and personality traits that enable them to influence others, yet they earn lower wages. In group discussions about workers' views on an upcoming national minimum wage negotiation, randomly embedded leaders build consensus around the union's preferred policy. In an experiment that mimics individual decision-making in a collective action setup, leaders increase mobilization through coordination. (JEL D91, J38, J51, O15)*

Social movements have been catalysts for many institutional changes: the eight-hour-day movement in the nineteenth century, the suffragettes in the early 1900s, the civil rights movements in the 1950s, and the green movement in this century (della Porta and Diani 2020), to name but a few. To succeed, social movements must coordinate their members' views and collective actions. Coordinating views requires building consensus around common objectives and tactics among diverse members. Once a consensus is built, coordinating actions requires mobilizing members to participate in activities that have high private costs and uncertain public benefits (Ganz 2010). But unlike in more commonly studied organizations—such as firms and bureaucracies—monetary incentives, contracts, and hierarchies are often unavailable to align views and to motivate members in social movements.

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In the absence of these organizational tools, leaders may play critical roles. We think of leadership as “the ability to induce others to follow absent the power to compel or to provide formal contractual incentives . . . . A leader is someone with followers, who follow voluntarily” (Hermalin 2012, p. 433). Economic theory suggests that leaders may act as coordinators in both consensus building and mobilization. For example, leaders may build consensus among a group by providing information about the state of the world or payoffs that coordinate views (Hermalin 1998; Caillaud and Tirole 2007; Dewan and Myatt 2008). They may mobilize group members by communicating that a high-cooperation equilibrium is to be played (Loeper, Steiner, and Stewart 2014). To date, however, empirical evidence on leaders’ roles in consensus building and mobilization outside the lab remains scarce due to measurement and identification challenges. On the measurement side, it is difficult to observe many leaders performing the same task. On the identification side, it is difficult to distinguish if a given individual influences others (i.e., is, in fact, a leader) or if their behavior reflects underlying group dynamics—a version of the well-known “reflection problem” (Manski 1993).

This paper presents experimental evidence that union leaders in the burgeoning labor movement in Myanmar act as coordinators in both members’ views (consensus building) and actions (mobilization).

The labor movement in Myanmar is broadly representative of the struggles in organizing labor in newly industrializing countries (see, e.g., Visser 2019). We collaborate with the Confederation of Trade Unions in Myanmar (CTUM), the largest confederation of labor unions at the national level, during the months preceding the revision of the national minimum wage. The CTUM represented workers’ interests in the national minimum wage setting process. In the run-up to the planned May 2020 negotiations, it organized weekend sessions with workers employed in 17 garment factories with CTUM-affiliated unions to discuss the minimum wage and to gather systematic information on workers’ skills and living costs. We helped the CTUM to organize the discussions and to conduct the surveys. This allowed us to embed multiple experiments to examine (i) whether and how union leaders build consensus around the minimum wage level and (ii) whether and how they mobilize workers to participate in privately costly activities for the common good.

In each factory, the union leadership is structured around an elected union president and executive committee that negotiate with the factory management and coordinate activities with the confederation. Below these formal roles, several line leaders (LLs) interact with and mobilize workers and gather and channel their concerns. LLs have many traits in common with, and many eventually become, (formal) leaders of the movement. The survey sessions organized in partnership with CTUM provided a unique opportunity to characterize the types of individuals who emerge as leaders in labor movements, adding to our scant understanding of selection into leadership roles in social movements. The greater number of LLs also allowed us to conduct two field experiments to investigate how leaders influence workers’ views and behavior in the context of a high-stakes, real-world collective action effort with uncertain payoffs—the CTUM’s negotiation on the national minimum-wage level—while avoiding many of the risks associated with mobilization around, for example, factory strikes or street protests.

Our first main finding is that union leaders differ from workers—both union members and nonmembers—along key traits that psychologists and organizational

sociologists associate with the ability to influence others (Judge et al. 2002). Union leaders also stand out on other traits identified as relevant for political selection (Caselli and Morelli 2004; Dal Bó et al. 2017). Union leaders are more extroverted, less neurotic, and more conscientious compared to workers. They have greater grit and locus of control and are more altruistic. Union leaders have more work experience but earn substantially less compared to workers, both unconditionally and even more so after controlling for demographics, ability, skills, and personality traits. In the Myanmar context, leadership roles in the union movement appear to come at significant private costs—a view echoed in workers' and leaders' surveys.<sup>1</sup>

We then present results from two field experiments to explore leaders' roles as coordinators. In our first experiment on consensus building, we randomly embedded Ls in group discussions about workers' preferred and expected minimum wage levels. To mimic naturally occurring behavior, leaders were not announced or given specific instructions. In groups with Ls, we randomized whether the leader was from the workers' own or a different factory. This allows us to examine the importance of leaders' social connections (Bandiera, Barankay, and Rasul 2009) or their formal role (Aghion and Tirole 1997) in the union in determining their effects. Motivated by the political science literature, we test whether leaders aggregate workers' views and build consensus around the median worker's view (Black 1958) or whether they align workers' views and build consensus around their unions' views (Lenz 2012). We find evidence of the latter: leaders increase consensus around their unions' preferred minimum wage levels by 22 percent. We cannot reject that the effects are the same for own versus external leaders, indicating that leaders' social ties or formal roles alone cannot explain the results. Additionally, examining heterogeneity by leaders' traits shows that leaders' charisma is important for their ability to achieve consensus, further highlighting that social ties and formal authority are not the primary drivers. Textual analysis of the discussion transcripts reveals how leaders increase convergence in views among workers and how they impact group dynamics. The transcripts show that leaders rarely invoke their formal role in the discussions. Instead, leaders introduce information to the discussions that align workers' views with the union's position. While in doing so they partially crowd out workers' speech, groups with leaders are rated as more active by the field team, and following the discussions workers reported higher engagement and the perception that the group achieved consensus.

In our second experiment on mobilization, we invited workers to participate in an unannounced survey on living costs. Participation was privately costly because it required workers to sacrifice the remainder of their one and only weekend day. It conveyed a public benefit since the CTUM planned to use the data to campaign for its preferred minimum wage level. To mimic workers' participation decisions in collective actions such as protests, we introduced strategic complementarity by promising a substantial additional donation to the CTUM skills training center for each discussion group for which all workers attended the survey. To test for potential mechanisms, we randomly varied whether workers (i) were invited to the survey by

<sup>1</sup> Budde et al. (2024) examines the selection of German work councils' representatives. They find that these representatives are also positively selected in terms of wages but, crucially, not in terms of prosociality. Furthermore, in Germany, becoming a worker representative improves job security.

an LL, (ii) were informed about how many discussion group members were invited by an LL, and (iii) were told that an LL would observe their decision to participate.

Our experiments were in the field at the onset of the COVID-19 pandemic. The unexpected reduction in sample size implies that we are underpowered to tease out differences across treatment arms in the mobilization experiment. While the results should be interpreted cautiously, we find—again—that leaders play a coordinating role: moving from being informed that a leader would invite one group member only to being informed that they would invite all but one group member increases attendance by 36 percent. This indicates that leaders can be key in selecting and communicating the equilibrium to be played, which in this case involves all workers participating in the survey. In contrast, being invited by a leader alone does not increase attendance. Observation of the workers' choice by a leader also increases attendance, possibly due to a signaling channel rather than a sanctioning one.

This research contributes to three strands of literature. First, it contributes to an emerging empirical literature on the determinants of social movements' formation and growth. One stream of this literature focuses on how information about others' participation affects individuals' decisions to participate in protests, underscoring the importance of coordination (Enikolopov, Makarin, and Petrova 2020; Manacorda and Tesei 2020; González 2020). In a field setting, however, Cantoni et al. (2019) find evidence of strategic substitutability in protest turnout in the context of Hong Kong's democracy movement. Even if leaders do not serve a coordinating role, they may still foster mobilization through other channels (e.g., motivation and social pressure). A second stream focuses on how leaders affect individuals' decisions to participate. Dippel and Heblich (2021) and Cagé et al. (2023) provide evidence from different historical social movements that exposure to leaders increases participation. We complement this literature by conducting field experiments on leaders' roles in enhancing coordination in social movements, both in terms of members' views and actions. Our ability to study beliefs, which are central to coordination, and to identify causal effects to understand mechanisms aligns with Callen, Weigel, and Yuchtman's (2023) argument that these approaches are crucial for understanding drivers of institutional change.

Second, it contributes to the literature on leaders' roles in group decision-making and in overcoming collective action problems. A sizable theoretical literature focuses on forms of information provision by leaders that serve to coordinate beliefs and actions (Hermalin 1998; Caillaud and Tirole 2007; Dewan and Myatt 2008; Bolton, Brunnermeier, and Veldkamp 2013; Loeper, Steiner, and Stewart 2014; Akerlof and Holden 2016). Empirically, the literature primarily features lab experiments (Potters, Sefton, and Vesterlund 2007; Komai, Grossman, and Deters 2010; Sahin, Eckel, and Komai 2015). More recently, a limited number of field experiments have studied leadership in real-world settings, including local elected leaders and contributions to public goods (Jack and Recalde 2015), encouragement of endogenous leadership and team performance in an escape room challenge (Englmaier et al. 2021), and exposure to charismatic speeches and worker effort (Antonakis et al. 2022).<sup>2</sup> We contribute by providing evidence on leaders' personal traits and

<sup>2</sup>Grossman and Baldassarri (2012) and Deserranno, Stryjan, and Sulaiman (2019) use field experiments to examine how the selection procedure for leaders—formal elections versus less democratic processes—affects the groups' performance and the type of leader selected.

roles in influencing groups' views and actions, leveraging field experiments with many real-world leaders. Our experimental designs and data enable us to provide novel microevidence on the mechanisms through which leaders influence outcomes in the context of a burgeoning labor movement's effort to influence a high-stakes policy-setting process.

Third, this paper contributes to a growing literature on industrial relations and labor unions in developing countries (Freeman 2010; Tanaka 2020; Boudreau 2024; Macchiavello et al. 2020; Breza, Kaur, and Krishnaswamy 2024; Akerlof et al. 2020; Corradini, Lagos, and Sharma 2022). Workplace discrimination against union leaders appears to be widespread in developing countries. For example, the International Labor Organization (2024) and Human Rights Watch (Ijaz 2015; Kashyap 2015) report cases in Peru, Mexico, the Philippines, Algeria, Bangladesh, Cambodia, and Pakistan. Our evidence that union leaders are positively selected both on skills and prosociality is consistent with involvement in the movement entailing substantial private costs—perhaps because of workplace discrimination in Myanmar. Tanaka et al. (2019) find that factories with work committees led by elected worker representatives have a lower incidence of industrial disputes. We contribute experimental evidence that union leaders play important roles in shaping unions' effectiveness in achieving their objectives.

The rest of the paper unfolds as follows: Section I provides background information on our setting; Section II describes our research design; Section III compares union leaders to other workers along demographic, economic, and psychological characteristics; Section IV discusses the design and results of the consensus-building experiment; Section V does the same for the mobilization experiment; and Section VI offers concluding remarks.

## I. Context

### A. Unions in Myanmar

Unions have been legally allowed in Myanmar since 2011 when the country embarked upon a process of policy reforms (The Labor Organization Law 2011). Between 2011 and 2020 the number of unions grew rapidly. According to the Ministry of Labour, Immigration, and Population, as of mid-2020 there were 2,861 registered trade unions.<sup>3</sup> We study unions in Myanmar's export-oriented garment sector, which is the largest exporting industrial sector in Myanmar with approximately 600 factories employing nearly 500,000 workers (Myanmar Garment Manufacturers Association 2020).

According to The Myanmar Labor Organization Law (2011), any group of 30 or more workers can form a factory-level union. Unions are thus organized at the factory level. The CTUM is the largest confederation of trade unions in Myanmar. In 2015, the CTUM was officially recognized as the only national-level trade union confederation in Myanmar, marking a significant phase in Myanmar's labor movement. As of late 2019 there were 47 garment factories in Myanmar that had a factory-level basic

<sup>3</sup>These consist of 2,683 basic organizations, 147 township organizations, 22 state/regional organizations, 8 federations, and 1 confederation.

union affiliated with the CTUM, representing 10 percent of the garment sector and 58 percent of unions in the industrial sector affiliated with the CTUM.

To form a union, members must elect a union's executive team (ET). The president leads the union's ET, which also includes an executive committee comprising one secretary, one treasurer, and four other elected members. The ET members' duties differ depending on their position, but a key task is to regularly attend meetings with the factory management. To become a member of the ET, a worker must have worked at the factory for at least six months, be at least 21 years old, and have a valid national identification number. The law prescribes that elections are held every two years (unless the president resigns, in which case an emergency election is held). There is no term limit.

Below the ET, LLs play a critical role in facilitating communication with workers. LLs are not elected but are instead recommended by union members (66 percent), selected by the ET (24 percent), or self-nominated (10 percent). We also find based on our survey that, relative to presidents, LLs spend significantly less of their time communicating with management and meeting with other presidents and significantly more of their time coordinating members, motivating members, and recruiting new members to the union. Workers seek out LLs for advice and social activities more often than they seek out presidents. For these reasons—and since there are many more LLs than presidents (170 compared to 18 in our sample)—the two experiments described in this paper focus on LLs' roles in coordinating workers' views and actions.

Being a union leader is costly. Union leaders work in the factories and are not paid for the additional time and effort required by their role. In our survey, 71 percent of presidents and 41 percent of LLs reported having experienced disadvantages at their factories due to their union activity. Moreover, union leaders earn less than workers (see Table 1). In line with this, while the CTUM aims to have 1 LL for every 10 workers in unionized factories, in practice the ratio is smaller (1 LL for every 22 union members or 60 workers in our sample).

Union leaders, though, matter. Garment factories with democratically elected worker representatives are less likely to experience industrial disputes (Tanaka et al. 2019). This suggests that elected worker leaders may contribute to healthier industrial relations. More generally, union leaders negotiate with management about several issues. Approximately 70 percent of the respondents reported that the union at their factory had negotiated with management about pay, with working conditions, leave, and working hours also being important issues.

### *B. The Minimum Wage in Myanmar*

The Minimum Wage Law (2013) requires Myanmar's statutory minimum wage to be reconsidered every two years. A tripartite National Minimum Wage Committee (NMWC) consisting of representatives from employers, workers' organizations, and the government was responsible for revising the minimum wage. The CTUM represents workers in the NMWC. In the 2018 negotiations, for example, the CTUM advocated for a 6,600 Myanmar Kyat (MMK) (US\$ 4.87) minimum wage for an eight-hour workday and mobilized workers to demonstrate in favor of its position. The minimum wage was ultimately increased from MMK 3,600 (US\$ 2.65) to MMK 4,800 (US\$ 3.54).

The minimum wage is highly relevant for garment workers. Fifty-nine percent of workers in our sample reported the legal minimum wage as their daily base wage.<sup>4</sup> Nearly all other workers reported a daily base wage just above this amount (only 4 percent reported a base wage below it). Turning to daily take-home pay for an eight-hour workday (including base pay, skill premiums, and bonuses), there is a dramatic jump at the legal minimum, with 20 percent of our sample reporting earning between 100 and 110 percent of it. In sum, the minimum wage binds for 20 percent of our sample, and by determining base pay it plausibly affects workers' earnings above it (e.g., Autor, Manning, and Smith 2016; Derenoncourt et al. 2021).

A higher minimum wage, however, plausibly entails trade-offs for garment workers. Administrative data on industrial dispute cases negotiated at the Township Conciliation Body in the Yangon region reveal that out of 407 disputes in the garment sector, termination is the leading cause (nearly 60 percent of disputes), followed by wages (nearly 20 percent). Employers can, and do, terminate workers. An increase in the minimum wage could in principle put workers in our sample at higher risk of job loss.

The next revision of the minimum wage was scheduled for May 2020. CTUM aimed to enter the negotiations equipped with evidence of workers' skills, living costs, and views on the national minimum wage. In 2019, it sought collaboration with our research team to collect such evidence. Based on surveys and discussion groups with garment workers, we produced a joint report to inform CTUM's position. As part of the collaboration, we agreed to embed field experiments to study union leaders.

## II. Research Design

### A. Sampling

We generated our data through field activities we implemented with workers employed at garment factories in the Yangon and Bago regions that had a factory-level basic union affiliated with the CTUM from December 2019 to March 2020 (Boudreau et al. 2025). These regions are home to the majority of garment factories in Myanmar. At the time, 41 garment factories had a union affiliated with the CTUM. We planned to include all factories sufficiently close to the survey location and with an operating union (some factories were still in the process of finalizing the establishment of the union). Our final list included 28 unions. Unfortunately, due to COVID-19 we had to stop our fieldwork early; 17 unions fully completed the data collection activities while an additional 2 unions partially completed them. The average factory in our sample employs 1,187 workers, has a 42 percent union membership rate, and has had a union for 29 months, with the union president's tenure of 16 months.

Within each factory we used a sampling protocol designed to obtain a sample that was representative of the populations of interest: union leaders (presidents and LLs) and sewing section workers (union members and nonmembers). In garment

<sup>4</sup>The daily base wage is the base level of wage for eight standard hours without reflecting skill premiums, bonuses, and overtime earnings.

production, the majority of workers are employed in the sewing section—about 69 percent of workers in our sample of factories. We sampled skilled and unskilled workers although we excluded the limited number of workers in supervisory positions (line supervisors and above) out of a concern that they may perceive the sessions to be adversarial toward management and thus would be uncooperative. The CTUM also aimed to collect data on workers' skills, which we supported by developing a skill assessment module for machine operators based on a global industrial engineering database of garment complexity. The database only exists for the sewing portion of the garment production process.

We conducted a stratified random selection of around 90 workers per factory. Within each factory, we stratified by line, union membership, and skill level (for details, see Supplemental Appendix Section A.1). As we discuss below, for each factory we started the data collection with union leaders and then continued with the workers. In total, we invited 18 presidents and 1 secretary (from 19 factories),<sup>5</sup> all of whom participated. We invited 190 LLs (or ET members) from 19 factories, and 170 participated.<sup>6</sup> For workers, due to COVID-19, we covered 17 factories. We invited 1,511 workers and 916 (61 percent) participated. Among them, we invited 936 union members, of whom 594 (63 percent) participated, and 575 nonunion members, of whom 322 (56 percent) participated. While we invited similar numbers of workers per factory, the turnout was in part influenced by the union leaders, which raises the concern that factories with more capable union leaders may have larger sample sizes and thus receive more weight in our analysis. Thus, throughout the analysis we weigh observations so that each factory counts equally by using probability weights calculated as the total number of workers across factories divided by the number of workers in the specific factory.

### B. Field Activities

We embedded a series of experiments in the survey and discussion process. We preregistered the experiments on the American Economic Association's Randomized Controlled Trials Registry (Boudreau, Macchiavello, and Minni 2020). For each factory, we scheduled two consecutive sessions on Sundays. In each session, we included two factories. The sessions were held on Sundays because it is the only day of the week when most workers do not work. We compensated participants for their time at the average daily wage rate (6,000 MMK) and for transportation costs (5,000 MMK), if needed. Workers work very long hours and only have one weekend day—participation in the session is thus costly. We aimed to limit any actual or perceived influence of the CTUM on participants' behavior by allowing only the research staff and the participants to be onsite during the sessions.

This paper focuses on the second session, in which LLs and workers participated.<sup>7</sup> In the morning, we implemented a survey, a skill assessment, the consensus-building

<sup>5</sup>One union was replacing its president, and the Secretary stepped in the role ad interim.

<sup>6</sup>When there were not enough LLs to invite to the factory union, ET members were invited to take the place of LLs.

<sup>7</sup>Supplemental Appendix Section A.2 describes field activities in detail, including the first session, in which only presidents and LLs participated. The session one experiment is underpowered due to the smaller sample size induced by the COVID-19 outbreak; Supplemental Appendix Section F reports the results.

experiment, and a public good experiment. The consensus-building experiment was designed to test how leaders' participation in group discussions influenced the group's consensus around the minimum wage. The public good experiment was designed to test the leading-by-example mechanism proposed by Hermalin (1998), using sewing machines donated to the CTUM Skills Training Centre as a public good. Only 7 percent of leaders and 18 percent of workers donated less than the full endowment amount.

After lunch, we conducted the mobilization experiment in which we invited workers to remain for an additional, unanticipated, living cost survey for the afternoon. This design aims to mirror the incentives faced by workers when deciding whether to participate in collective actions, such as street demonstrations in support of the CTUM's proposed minimum wage level, while avoiding experimentally mobilizing them to engage in potentially risky actions. Throughout the day, we collected audio and video recordings and field-team observation forms of the main activities.

### III. Who Are the Union Leaders?

One of the essences of leadership is “the ability to induce others to follow absent the power to compel or to provide formal contractual incentives” (Hermalin 2012). This suggests that leaders may exhibit particular characteristics that enable them to influence followers. We explore how union leaders' traits compare to those of nonleaders.

Economic theories are largely silent on the question of who becomes a leader (Hermalin 2012). We thus focus on traits that psychologists and organizational sociologists associate with individuals' ability to influence others. A meta-analysis of psychology research on the Big Five Inventory (BFI) personality traits identifies extroversion as the personality trait most highly correlated with leadership, followed by neuroticism (negative correlation), conscientiousness, and openness. Only agreeableness was not found to be correlated (Judge et al. 2002). We measure the BFI personality traits following Rammstedt and John (2007). The literature also identifies locus of control (Howell and Avolio 1993) and grit (Schimschal and Lomas 2019; Caza and Posner 2019) as important. We measure locus of control using a five-point Likert scale question from the World Values Survey and grit using several questions developed by Duckworth and Quinn (2009).<sup>8</sup> Finally, we consider traits identified as relevant for political selection: ability and honesty or prosociality. We measure ability using Raven scores (Bilker et al. 2012) and educational attainment. We measure prosociality using altruism elicited in an incentivized question.<sup>9</sup>

We compare the characteristics of leaders and nonleaders using the following regression specification:

$$(1) \quad Y_{if} = \alpha_0 + \alpha_1 \text{LineLeader}_i + \alpha_2 \text{President}_i + \gamma_f + \epsilon_{if},$$

<sup>8</sup> Individual charisma—defined as the ability to transmit information in a symbolic, value-based, and emotional manner—is also important for leadership (Cartwright, Gillet, and Van Vugt 2013; Antonakis et al. 2022). Hermalin (2023) formalizes charisma in an economic model. Charisma, however, is conceptualized as a set of behaviors (House 1977; House and Howell 1992) rather than a trait—the focus of this section.

<sup>9</sup> The incentivized question is how much to keep or to donate to a local orphanage out of a 1,500 MMK endowment.

where  $Y_{if}$  is a characteristic of worker  $i$  in factory  $f$ .  $LineLeader_i$  is an indicator of being an LL, and  $President_i$  is an indicator of being a president.  $\gamma_f$  is a factory fixed effect, and  $\epsilon_{if}$  is the residual. Due to the limited number of clusters (17 factories), we report  $p$ -values calculated using the wild cluster bootstrap- $t$  procedure (Cameron, Gelbach, and Miller 2008).

Table 1 presents the results. Each row reports the result from estimating equation (1) for the characteristic in the row. Relative to nonleaders, union leaders are older and more likely to be male (panel A). Union leaders have longer tenure at their factories and substantially more experience in the garment sector. Despite this, presidents and LLs appear to earn less compared to workers although the differences are not statistically significant (panel B). Wage differences become more negative for leaders but remain statistically insignificant when additional controls are added (see Table B.1 in the Supplemental Appendix). This underscores that not only is being a union leader not a paid job (they earn their wages by working in the factories as do workers), but also that they may face discrimination by their employers.

Turning to personality traits, we find a pattern of differences that is highly consistent with the psychology literature: leaders are significantly more extroverted, less neurotic, and more conscientious, but—if anything—less open than nonleaders. LLs, whose responsibilities entail communication with workers and recruitment of new union members, are more agreeable than nonleaders. Reverse coding neuroticism and taking the average across index components, leaders score significantly higher than workers. We also find that leaders have higher grit and, in the case of presidents, locus of control.

Turning to leaders' ability and prosociality, presidents—but not LLs—have higher Raven Scores and more schooling. This suggests positive selection for presidents (who are elected), consistent with evidence on politicians (Dal Bó et al. 2017) and in contrast to the hypothesis that individuals with the highest opportunity cost do not enter into union leadership positions (Caselli and Morelli 2004). Turning to prosociality, leaders are significantly more altruistic. This is inconsistent with individuals pursuing union leadership positions to extract rents through dishonest means and is instead consistent with the private costs borne by union leaders in our context.

Union leaders thus have distinctive traits: they possess a psychological ability to influence followers and are positively selected on altruism and ability. This is in line with leadership as a phenomenon that exists independent of office or title and that entails the ability to induce others to follow voluntarily. Relative to presidents, LLs are more numerous but less selected. While a nontrivial fraction of them will go on to take up formal leadership roles,<sup>10</sup> they do not exhibit all of the presidents' distinctive traits, thus making it harder to detect leaders' influence on outcomes in the two experiments. As the rest of the empirical analysis focuses on LLs, we denote them as “leaders” in the remainder of the paper.

<sup>10</sup>In our data, 20.6 percent (13.1 percent) of LLs (workers) aspire to become elected union leaders in the future ( $p$  of diff. < 0.05).

TABLE 1—DIFFERENCES BETWEEN LEADERS AND WORKERS

	Observations	Worker mean	Coeff. on LL	Coeff. on president	<i>p</i> -value of diff., columns 3–4
	(1)	(2)	(3)	(4)	(5)
<i>Panel A. Demographics and ability</i>					
Female	1,104	0.967	−0.116 [0.025]	−0.518 [0.001]	0.007
Age	1,104	25.005	1.859 [0.003]	4.918 [0.002]	0.064
Migrant	1,104	0.520	−0.046 [0.295]	−0.085 [0.414]	0.739
Education (yrs)	1,104	7.754	−0.176 [0.491]	0.799 [0.343]	0.261
Raven score	1,104	4.524	−0.085 [0.776]	1.749 [0.008]	0.010
<i>Panel B. Employment and minimum wage views</i>					
Months in factory	1,104	29.888	13.010 [0.000]	18.573 [0.001]	0.133
Months in sector	1,104	50.621	24.796 [0.000]	28.216 [0.014]	0.771
Income (last month)	777	245,382.8	−3,329.160 [0.438]	−23,619.74 [0.060]	0.132
Sewing efficiency	777	0.018	−0.114 [0.061]	0.072 [0.648]	0.249
Preferred min. wage	1,104	7,504.258	28.294 [0.861]	171.402 [0.477]	0.553
Expected min. wage	1,104	6,545.961	−140.598 [0.252]	−91.844 [0.690]	0.806
<i>Panel C. Personality traits</i>					
Altruism	1,104	1,268.777	142.460 [0.000]	147.861 [0.134]	0.953
Extraversion	1,104	3.392	0.244 [0.014]	0.488 [0.017]	0.124
Agreeableness	1,104	3.862	0.214 [0.005]	0.113 [0.623]	0.699
Conscientiousness	1,104	3.979	0.225 [0.001]	0.507 [0.001]	0.055
Neuroticism	1,104	2.665	−0.290 [0.001]	−0.670 [0.018]	0.145
Openness	1,104	3.001	−0.065 [0.298]	−0.473 [0.009]	0.037
BFI Index	1,104	2.314	0.182 [0.000]	0.261 [0.024]	0.428
Grit	1,104	2.571	0.854 [0.000]	1.202 [0.000]	0.021
Locus of control	1,104	4.008	0.192 [0.221]	0.349 [0.085]	0.373

Notes: Unit of observation is worker. Probability weights are used. Controlling for factory fixed effects. *p*-values calculated using the wild cluster bootstrap-*t* method are reported in square brackets. For the *Income* variable, only those workers whose positions were eligible for the skill assessment, who have nonmissing values for sewing efficiency, are considered.

#### IV. Consensus-Building Experiment

We begin by examining leaders' role in coordinating views. It was important for the CTUM to achieve a certain consensus among workers on the minimum wage to determine a credible position and mobilize workers to support it. This motivated us to conduct an experiment in which we randomized the presence of a union leader in a workers' group discussion about the minimum wage.

### A. Experimental Design

The experiment was implemented after workers completed the baseline survey. We stratified workers by their factory and union membership and randomly assigned them to one of three types of discussion groups. In the first type of group, we randomly assigned a leader from the same factory to participate in the group's discussion. In the second type—motivated by the possibility that leaders primarily influence workers through their social ties or formal authority rather than because of their traits—we randomly assigned a leader from a different factory with whom workers are unlikely to have social ties and who they are unlikely to recognize as a union leader. No leader was assigned to control groups. Workers and leaders arrived in the group discussion room concurrently. Leaders were not announced, identified, or given specific instructions. We randomized discussion groups to have five or six members (including the leaders in the count). This allows us to hold group size constant across treatment arms.

Supplemental Appendix Table B.2 reports balance tests across the three experimental arms. While the treatment and control arms are balanced across nearly all tests, there are a few statistical imbalances. We present results controlling for covariates selected using the post-double selection (PDS) lasso (Belloni, Chernozhukov, and Hansen 2014) to assuage concerns that imbalances among covariates between the treatment and control groups may influence our results. The control set for the PDS lasso includes the variables listed in Table 1 along with additional variables detailed in Supplemental Appendix Section C.1.

The field team explained to discussion groups that they would discuss the minimum wage. It provided a brief background of the minimum wage-setting process and its history in Myanmar. The team then explained that the CTUM would prepare a proposal for the government on the minimum wage increase and that the CTUM wanted to gather workers' expectations and opinions to help determine its proposal. The field team did not explicitly request that groups reach a consensus. Finally, it told groups that they would have 30 minutes to discuss and requested that participants turn off their cell phones. See Supplemental Appendix Section A.3 for the prompt's text.

Discussion groups were provided with reporting templates and scrap paper to summarize their groups' opinions. At the end of the 30 minutes, groups had 5 minutes to summarize their discussion using the templates. The field team informed groups that the discussion summaries would be shared with the CTUM to help it prepare its minimum wage proposal. At the end of the group discussion session, workers and leaders participated in a follow-up survey. We recorded and transcribed the audio from the discussions. Discussions for 35 groups were not recorded; consequently, we have transcripts for 167 out of 202 groups.

### B. Results

*Do Leaders Build Consensus?.*—We estimate the effects of leaders' participation on convergence to (i) the preferred minimum wage level and (ii) the expected minimum wage level of the median worker in the group as well as of the union. In principle, the group discussion can alter workers' preferences for the minimum

wage as well as their perceptions of the negotiation process. We thus elicit workers' preferred minimum wage and what they expect to be the final outcome of the negotiation. Furthermore, since LLs act as liaisons between elected union leaders and workers, they transmit information both up and down the organization. Building on political theories of democracy, we distinguish two cases. In the first, the unions aim to reflect the will of workers in the minimum wage negotiations, and LLs will try to build consensus around the median worker's view (aggregating views, as in Black 1958). In the second, the unions aim to align workers' views with what they perceive to be the right outcome, in which case LLs will try to build consensus around the unions' views (aligning views, as in Lenz 2012). The unions' views may diverge from workers' for many reasons; for example, they have better information about the economic trade-offs that higher minimum wages may entail, they place more weight on the concerns of nonunion members because they aim to grow their membership, or they take negotiation strategy into account. We do not take a stand on why workers' and unions' views on the minimum wage may diverge. To distinguish between the two cases, we test for convergence in workers' preferences and expectations for the minimum wage to those of the median worker and to those of the union.

To measure the union's preferred (expected) level, we take the median of the preferred (expected) minimum wage among all union leaders within the factory—president, EC, and LLs—measured during the baseline leader survey. In both cases, we measure the absolute deviation in each worker's view from the baseline median worker's (union leader's) before and after the group discussion. For the external leader arm, we use the median of the external factory's union leaders. We estimate

$$(2) \quad Y_i = \alpha_0 + \alpha_1 \text{Leader}_i + \mathbf{X}'_i \boldsymbol{\beta} + \epsilon_i,$$

$$(3) \quad Y_i = \alpha_0 + \alpha_1 \text{OwnLeader}_i + \alpha_2 \text{ExternalLeader}_i + \mathbf{X}'_i \boldsymbol{\beta} + \epsilon_i,$$

where  $Y_i$  is the outcome for worker  $i$ .  $\text{Leader}_i$  is an indicator for having a leader participate in your group's discussion;  $\mathbf{X}_i$  is a vector of strata fixed effects, group size fixed effects, and controls selected by the PDS lasso; and  $\epsilon_i$  is the residual. Depending on the outcome variable, the analysis is done either at the worker level or at the discussion-group level. For individual-level regressions, we report standard errors clustered by group. For group-level regressions, we report robust standard errors. We also present randomization inference (RI)  $p$ -values and we report the maximum of the two in the text. In equation 3,  $\text{OwnLeader}_i$  is an indicator for having a leader from your own factory in your group, and  $\text{ExternalLeader}_i$  is an indicator for having a leader from a different factory in your group.

Table 2 presents the results. Panel A presents the effect of having a leader participate while panel B presents the effects separately for internal and external leaders. Columns 1–2 report results for convergence to the median worker's views and columns 3–4 for convergence to the union leaders' views. Beginning with the former, we are unable to reject the null of no convergence to the median worker's preferred and expected minimum wage levels in either panel. In contrast, leaders' participation leads workers' preferences for the minimum wage to converge to the union's preferred level (column 3). There is a 22 percent decrease in the average absolute deviation from the

union's preferred view ( $p = 0.023$ ). Panel B shows that leaders from external factories induce convergence to their own union's preferred minimum wage ( $p = 0.139$ ). This supports the hypothesis that, while social ties and/or formal authority may matter, they are not the only channels through which leaders influence followers.

Turning to column 4, there is no convergence in workers' beliefs to the union's expected level; the point estimate on *Leader* is negative, but it is small and not statistically significant. There are also no effects when splitting by own versus external leader. In both panels, we reject that the effect on convergence in views in column 3 is equal to that on convergence in beliefs in column 4 ( $p = 0.06$ ).<sup>11</sup> The differential effects between convergence in preferences and in beliefs is clearly illustrated in Figure 1: There is a compression of treatment workers' views toward those of the union leaders for preferences but not for beliefs. This begs the question why would leaders induce convergence in preferences but not in beliefs? We offer two considerations. First, beliefs were more aligned to start with: the coefficient of variation is 78.7 for workers' preferences (18.9 for leaders) and 16.0 for workers' beliefs (18.2 for leaders) in the baseline survey. Second, as noted earlier, LLs do not spend much time on activities, such as meetings with management and meetings with leaders in other unions, that may give them insider information about the likely outcome of the minimum-wage negotiation process.

The results are consistent with leaders primarily aligning workers' views with those of the union by building consensus around the union's preferred minimum wage level. They are not consistent with leaders primarily building consensus by aggregating workers' views around the median worker's position.

When interpreting the results for internal and external leaders, recall that we did not announce or identify leaders in the experiment. Despite this, workers in both internal and external leader groups are substantially more likely to perceive the presence of a leader compared to the control group ( $p < 0.01$ ; Supplemental Appendix Table B.4). Consistent with workers being more likely to have ties with internal leaders, however, workers are almost twice as likely to perceive the presence of a leader from their own factory compared to an external factory ( $p = 0.000$ ). Conditional on that, 50 percent (27.7 percent) report having met the leader before in internal (external) groups. This raises the question of how internal and external leaders influence workers' preferences, which we now turn to.

### *The Mechanics of Consensus Building*

**Information:** Do leaders align views by providing information, as in Hermalin (1998), Caillaud and Tirole (2007), and Dewan and Myatt (2008)? We combine data from the group discussion transcripts with information on the group's first preferred (expected) minimum wage level entered in the group discussion reporting form. Recall that to ensure naturally occurring behavior we did not identify LLs in the groups, and therefore the transcripts do not include speakers' identities. We asked the transcription company to identify whether there was (i) a confirmed leader

<sup>11</sup> Supplemental Appendix Table B.3 shows that there is a sizable (29 percent) reduction in the within-group standard deviation of workers' preferred minimum wage levels but no change in the within-group standard deviation of workers' expected minimum wage.

TABLE 2—GROUP DISCUSSIONS: CONSENSUS-BUILDING

	Primary outcomes				Consensus-building and engagement outcomes			
	Deviation from median worker in discussion group		Deviation from median union leader		log(total word count)	log(likely worker word count)	Observed group activity	Self-reported engagement
	Preference	Belief	Preference	Belief				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
<i>Panel A. Leader</i>								
Leader	-83.85 (116.4) [0.472] {0.514}	142.5 (93.6) [0.129] {0.155}	-266.4 (103.2) [0.011] {0.023}	-11.77 (74.0) [0.874] {0.878}	-0.142 (0.095) [0.135] {0.141}	-0.402 (0.12) [0.001] {0.003}	0.264 (0.079) [0.001] {0.002}	0.114 (0.042) [0.007] {0.012}
R <sup>2</sup>	0.211	0.251	0.330	0.342	0.235	0.373	0.347	0.146
p-value for testing preference = belief	0.077		0.018					
<i>Panel B. Own versus external LL</i>								
External leader	3.099 (157.4) [0.984] {0.988}	179.0 (128.5) [0.165] {0.181}	-210.8 (127.8) [0.101] {0.139}	49.56 (108.5) [0.648] {0.658}	0.0317 (0.11) [0.776] {0.784}	-0.173 (0.14) [0.219] {0.238}	0.186 (0.11) [0.095] {0.116}	0.100 (0.057) [0.080] {0.111}
Own leader	-140.1 (136.3) [0.305] {0.324}	119.0 (107.4) [0.269] {0.318}	-302.3 (120.9) [0.013] {0.020}	-50.92 (80.7) [0.529] {0.561}	-0.268 (0.11) [0.018] {0.019}	-0.533 (0.14) [0.000] {0.002}	0.265 (0.088) [0.003] {0.005}	0.123 (0.045) [0.007] {0.007}
R <sup>2</sup>	0.213	0.252	0.331	0.344	0.271	0.408	0.355	0.147
Control mean	991.637	404.697	1,194.103	654.399	1,000.152	870.912	-0.090	-0.089
Number of observations	914	914	914	914	167	166	202	914
External = own								
p-values	0.422	0.671	0.513	0.379	0.014	0.009	0.483	0.682
RI p-values	0.480	0.719	0.538	0.407	0.015	0.014	0.535	0.683
p-value for testing preference = belief								
External LL	0.304		0.060					
Own LL	0.063		0.050					
Unit of observation	Worker	Worker	Worker	Worker	Group	Group	Group	Worker

Notes: In all regressions, probability weights are used. Where the unit of observation is worker, standard errors are clustered at the group level. Standard errors are in parentheses. The *p*-values calculated using this standard error are in square brackets. The RI *p*-values are in curly brackets based on 1000 randomization draws (Young 2019). The last row in each panel reports the *p*-values for (intermodel) testing the equivalence of coefficients between columns 1 and 2, and testing the equivalence of coefficients between columns 3 and 4. In columns 1–2, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the workers’ median wage preference/belief at the discussion group level at baseline. In columns 3–4, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the median of leaders’ preferences and beliefs at baseline at the factory level. In column 5, the dependent variable is the logarithm of the total number of words spoken by the group members. In column 6, the dependent variable is the logarithm of the total number of words spoken by possible workers (group members who are not identified as a confirmed/possible leaders). In columns 7–8, the dependent variables (Self-reported Engagement and Observed Group Activity) are index variables constructed following the methodology from Anderson (2008). Stratification fixed effects are factory FE × union membership status (columns 1–4, 8) and factory fixed effects (columns 5–7). Group size fixed effects are controlled in columns 1–5 and 7–8. For column 6, we note that the number of possible workers is systematically lower in leader groups because leaders are more likely to be identified in these groups. This mechanically reduces the number of words by possible workers in control groups. Therefore, in column 6, we control for the fixed effects of the number of possible workers. Control variables are selected by applying the postdouble lasso control selection procedure. The set of potential control variables consists of all variables in Table 1, baseline absolute deviations in preference and belief from the median worker and the median leader, number of union social activities outside of work, perceived factory management’s attitude toward union, gender preference for union leaders, and perceived overlap in interest with union members, nonmembers, and managers, as well as squared terms of all of these variables (aggregated at the group level in columns 5–7). All variables are standardized. Lasso selects the baseline deviation corresponding to the outcome variable in columns 1–4, none in columns 5–7, and grit and squared agreeableness in column 8.

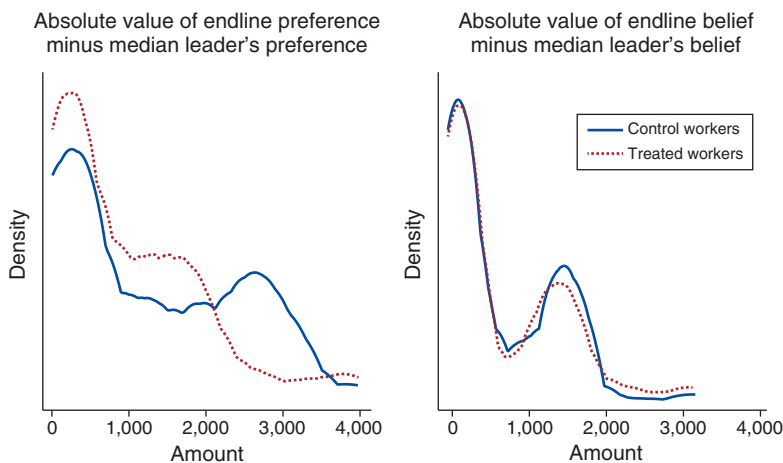


FIGURE 1. ENDLINE DEVIATION OF MINIMUM WAGE PREFERENCES AND BELIEFS FROM LEADERS

*Notes:* The two panels plot the distributions of the absolute value of endline treated workers' preferences/beliefs minus baseline median leader's preferences/beliefs against control workers' endline absolute deviation from baseline median leader.  $p$ -value for the Kolmogorov-Smirnov equality-of-distributions test of the two distributions in the left (right) panel is 0.000 (0.349, respectively).

(which is a group member who self-identified as a union leader) or (ii) a possible leader (which is a group member who was not a confirmed leader but who led the discussion and/or explained the questions and answers). Out of 58 (47) internal (external) leader groups, only 1 (4) had confirmed leaders. At the same time, 56 (41) internal (external) leader groups out of the remaining 57 (43) had a possible leader identified. That is, leaders do not introduce their formal role in the union to yield influence and steer the discussion but (likely) do take on the role of leading the discussion.<sup>12</sup>

Among leader groups, we examine whether the speaker who first mentions the first preferred (expected) minimum wage level entered in the group discussion reporting form is coded as a possible or confirmed leader or as a worker.<sup>13</sup> Although LLs account for only 19.7 percent of group discussion members, leaders mention the preferred minimum wage first in 36.5 percent of groups and the expected minimum wage first in 38.6 percent. In both cases, we reject that possible leaders and workers are equally likely to mention the minimum wage levels first ( $p < 0.001$ ). The evidence is consistent with leaders introducing influential or preferred values of the minimum wage, in line with the results in Table 2 on leaders' aligning views.

We also explore how leader groups' responses to the question on the possible benefits, harms, and heterogeneous effects associated with increasing the minimum wage compare to those of nonleader groups. Leader groups submit 23.5 percent longer

<sup>12</sup> Out of 62 control groups, 24 had a possible leader. Since we cannot rule out that the transcribers were influenced by knowledge of groups' treatment status, we do not analyze this variable as an outcome.

<sup>13</sup> We focus on treatment groups that (i) reported a preferred (expected) minimum wage in the group discussion form, (ii) had at least one person mentioning a preferred (expected) minimum wage level in the transcript, and (iii) had a possible or a confirmed leader in the transcript. Seventy-four (86) groups meet these criteria for preferred (expected) minimum wages.

responses ( $p < 0.05$ ; Supplemental Appendix Table B.5, column 1). Although we cannot show that the longer responses are due to information introduced by the leader, this is consistent with our other evidence.<sup>14</sup>

**Discussion Group Activity:** The presence of a leader also affects the level of activity in the group discussion and workers' actual and perceived engagement. We measure engagement in the discussion in three ways: the total amount of speech and the amount of speech by workers in the discussion transcripts, a group-level summary index based on the field team's assessment, and a worker-level summary index based on several questions about workers' enjoyment of and engagement in the group discussion (see Supplemental Appendix Section C.2 for details). We construct indices following Anderson (2008).

Table 2, column 5 shows that groups with leaders discuss a bit less than control groups. Although not statistically significant, their discussions are about 13 percent shorter; the decline is driven by leaders from the workers' own factory (panel B). Column 6 shows that workers speak less when a leader is present ( $p = 0.003$ ).<sup>15</sup> The decrease in average worker speech is relatively larger than the decrease in total speech, suggesting that leaders speak more than workers. The fact that the leader's speech crowds out, as opposed to crowding in, worker speech is also consistent with leaders aligning instead of aggregating views.

Column 7 shows that the field team rates groups with leaders 26 percent of a standard deviation (SD) higher in terms of having an active discussion ( $p < 0.01$ ). The estimated effects for leaders from the workers' own factory and from an external factory are similar. This effect is driven by groups with leaders having a 6.8 percentage points lower share of members distracted ( $p < 0.05$ ; control mean is 20.3 percent) and being 17.3 and 18.4 percentage points more likely to have a member summarizing opinions and taking notes, respectively, relative to control means of 26.4 percent ( $p < 0.01$ ) and 65.4 percent ( $p < 0.01$ ). There is no difference in whether a member is actively facilitating the discussion or asking workers' opinions (Supplemental Appendix Table B.6).

Finally, column 8 shows that leaders' participation increases workers' self-reported engagement by about 0.11 SD ( $p = 0.012$ ). Own factory leaders and external factory leaders have similar effects. Leaders increase workers' enjoyment ( $p = 0.08$ ) and self-reported participation in the discussion ( $p = 0.20$ ). The largest effect by far is on workers' perception that the group achieved consensus: leaders' participation increases self-reported consensus by 0.3 SD ( $p \approx 0.000$ ) (Supplemental Appendix Table B.7).

*Leaders' Charisma and Consensus Building.*—Section III showed that union leaders are systematically different from workers in terms of their traits, which may affect their communication skills and charisma. By revealed preference, presidents

<sup>14</sup> On average, control groups input 12–14 words per prompt. We do not detect differences in the textual content of groups' responses across treatment arms, possibly due to the prompt being quite specific. Typical words written in responses to each discussion prompt are shown in Supplemental Appendix Figure B.1.

<sup>15</sup> To prevent a mechanical negative relationship between leaders' presence and workers' speech, we control for the fixed effects of the number of workers, subtracting one from the total group size for treatment groups with confirmed/possible leaders.

have traits that union members identify as important for their ability to lead. This observation motivates us to consider LLs' resemblance to presidents and whether this resemblance matters for leaders' efficacy in the group discussion.<sup>16</sup>

Supplemental Appendix Figure B.2 shows the cumulative distributions of the predicted probabilities of LLs and workers being similar to presidents using a probit model with demographic and ability variables (as in Table 1, panel A), job tenure (months in factory/sector), and personality traits (as in Table 1, panel C). The horizontal line at 0.5 indicates that LLs in the bottom half of the similarity distribution are indistinguishable from workers. LLs in the top half, however, are distinct and closely resemble presidents. We thus construct a binary indicator for whether an LL is above the median in their predicted similarity to the president and use it as a summary measure of LLs' quality. Reassuringly, this measure is positively correlated with an index that measures LLs' effort for the union's activities (coeff. = 0.312;  $p < 0.001$ ) and with LLs' aspirations to become an elected union leader (coeff. = 0.172;  $p < 0.05$ ). Other than this, high- and low-similarity leaders are similar: they have the same information about the union's views on the minimum wage, similar social ties with workers and rates of engagement with the union, and, by construction, the same formal role. The similarity index is thus likely to mainly capture differences across LLs in traits associated with leadership.

We find that high-similarity leaders drive consensus building. They decrease the deviation from the union's preferred minimum wage level by about 26 percent compared to about 19 percent for low-similarity leaders ( $p = 0.5$ ; Table 3, panel A, column 1). The transcripts also reveal that high-similarity leaders crowd out workers' speech significantly less than low-similarity leaders ( $p = 0.012$ ; Table 3, panel A, columns 3–4). High-similarity leaders achieve the same or greater alignment with the union's views without trading off workers' participation to the extent that low-similarity leaders do.

This is possibly because the high-similarity leaders take a more active role in the discussion. They are rated higher in leadership behaviors, such as speaking and consensus building, according to the research staff's observations of the discussion (Table 3, panel B). The transcripts also show that high-similarity leaders are more likely to be the first speaker to introduce the preferred minimum wage level that appears in the group discussion form (39 percent compared to 33 percent) and for the expected minimum wage level (44 percent compared to 33 percent).

Leaders' formal authority is unlikely to have played a significant role in the group discussion. LLs have no formal authority in the context of the experiment. While their affiliation with the union may endow them with authority in the workers' eyes, this is unlikely to be important. Besides the evidence that leaders themselves rarely invoke their formal authority in the discussions and the results of the comparison between high- and low-similarity leaders, we also find no evidence that union leaders are more influential on members of their organization.<sup>17</sup>

<sup>16</sup>This analysis was not prespecified and should be interpreted as exploratory.

<sup>17</sup>We were interested in the possibility that a leader's influence may be limited to members of their organization and planned, without prespecifying it, to test for heterogeneity of treatment effects by union affiliation in both experiments. We do not find strong evidence of heterogeneity by union affiliation in either experiment (see Supplemental Appendix Table B.8).

TABLE 3—GROUP DISCUSSION: HETEROGENEITY BY LEADER SIMILARITY TO PRESIDENTS

	Deviation from median union leader		Engagement in group discussion		
	Preference	Belief	log(total word count)	log(likely worker word count)	
	(1)	(2)	(3)	(4)	
<i>Panel A. Deviation from union leaders' views and engagement</i>					
High similarity leader	-310.8 (115.3)	-32.51 (90.57)	0.00859 (0.103)	-0.150 (0.153)	
Low similarity leader	-222.4 (128.0)	8.517 (93.09)	-0.284 (0.117)	-0.494 (0.177)	
R <sup>2</sup>	0.331	0.342	0.268	0.410	
Observations	914	914	166	166	
Control mean	1,194.1	654.4	1,000.2	870.9	
<i>p-values</i>					
High similarity = low similarity	0.500	0.708	0.019	0.012	
	Speaking (1)	Listening (2)	Consensus building (3)	Conflict resolution (4)	Leadership (5)
<i>Panel B. Leader behavior</i>					
High similarity leader	0.859 (0.306)	0.536 (0.269)	0.700 (0.325)	0.336 (0.393)	0.584 (0.322)
R <sup>2</sup>	0.071	0.058	0.044	0.028	0.045
Observations	119	119	119	117	118
Low similarity leader mean	4.24	4.52	3.78	3.14	4.34

*Notes:* Unit of observation is worker for *Deviation from median union leader* and discussion group elsewhere. In panel A, the dependent variables represent deviation from the factory median of baseline leaders' views and preferences, the logarithm of the total number of words spoken by the group members, and the logarithm of the total number of words spoken by possible workers (group members who are not identified as a confirmed/possible leader). In panel B, the dependent variables are: *Speaking*, assessing the extent of LL speaking; *Listening*, assessing the extent of LL listening; *ConsensusBuilding*, assessing the extent of LL engaged in consensus building; *ConflictResolution*, assessing the extent of LL engaged in conflict resolution; and *Leadership*, assessing the extent of LL showing leadership. All dependent variables in panel B are measured on a Likert scale 1–7 separately by two members of the research staff, and the average is taken. The variable *High/Low Similarity Leader* is a binary variable equal to 1 if the estimated probability of an LL having similar attributes to the president is above/below the median in the treatment group. Missing observations in panel B, columns 4 and 5 are due to data entry errors. Probability weights are used. Standard errors clustered at the group level are reported in parentheses. Control variables are selected by postdouble lasso control selection procedure, selecting the baseline deviation corresponding to the outcome variable in columns 1 and 2, and nothing elsewhere. We also control for stratification FEs (Factory FEs × Union FEs) in panel A and group size FEs across both panels.

**Summary:** In sum, the evidence from the transcripts, the field teams' observations, and workers' self-reports show that leaders achieve alignment in workers' preferences with those of the union by actively introducing information, engaging in the discussion, and behaving in ways that build consensus. Leaders' traits—rather than social ties with workers or formal roles—matter most for their ability to achieve consensus. Not only do LLs who more closely resemble union presidents achieve the same, or greater, alignment with the union's views without trading off workers' participation, but further heterogeneity analysis suggests that social ties and formal authority are unlikely to be key channels of leaders' influence on group discussions.

*Robustness and Placebo Tests.*—We conducted several robustness and placebo tests for the results. First, we have so far used weights that adjust for the differences in

participation rates across factories but not for type of workers participating. However, the main results remain similar when using alternative weights that additionally adjust for the differences in the union member share between participants and invitees, or between participants and the population of sewing workers, in each factory. Second, the results raise the question of whether the same effects can be achieved by any prominent individuals having traits that are common among leaders. To examine this, each control discussion group, we assigned a placebo leader, defined as the worker with the highest predicted leader similarity score, and found stronger convergence to the real leaders' preferences relative to the placebo leaders' preferences. Additionally, we showed that our results hold even after controlling for the average or the maximum of the similarity score among workers in the discussion group. These results suggest that the real leaders exert influence above and beyond other potentially prominent individuals. Third, we confirmed that the results using the leader similarity score are robust to dropping one family of variables (i.e., demographics and job tenure, Raven score, BFI personality traits, and other personality traits) at a time in the similarity prediction model. We also found that the effects on convergence are not heterogeneous by the gender of the leader. These results indicate that the traits of effective leaders are not solely captured by a single aspect. We present and discuss these and other robustness checks in Supplemental Appendix Section D.

## V. Mobilization Experiment

Having established that leaders achieve consensus, we now turn to their role in mobilizing workers. We present results from a multiarms field experiment designed to test the main channels put forward by the (formal) theoretical literature on leadership. The experiments were in the field at the onset of the pandemic. Our inability to complete data collection significantly reduced our statistical power in this experiment. We succinctly describe the experiment and interpret its main results as suggestive.

### A. Experimental Design

We aimed to design the experiment to test the channels through which leaders may influence workers' willingness to participate in a high-stakes, real-world collective action. We faced the challenge, however, that experimentally mobilizing workers to participate in street demonstrations around the minimum wage would subject workers to undue risk. Consequently, we aimed to mirror the incentives that workers face when deciding whether to participate in these types of collective actions while avoiding many of the associated risks.

There are three key ingredients. First, a costly action: at the end of session two, we invited workers to participate in an unannounced cost-of-living survey that required them to stay for the rest of the day. Garment workers have a six-day workweek, often work overtime on the seventh day, and already agreed to a half-day session on their one weekend day. Second, a common cause: the cost-of-living survey would inform the CTUM's negotiating position. Third, a need for coordination: we announced that for each discussion group where all members attend the survey we would donate 8,000 MMK (about US\$ 5.60 ) to the CTUM Skills Training Centre.

Like the minimum wage, the training centre serves all garment workers, not only union members.

The theoretical literature suggests three main channels through which leaders might increase mobilization. First, leaders may motivate workers to participate, emotionally appealing to exert effort to help CTUM (Ganz 2010; Hermalin 2023). Second, leaders may coordinate workers, selecting and communicating the equilibrium to be played and reducing strategic uncertainty (Dewan and Myatt 2008; Akerlof and Holden 2016). Finally, leaders may observe workers' efforts and then sanction free riders (Hermalin 2012) or provide nonmonetary rewards (e.g., praise and esteem) for it (Ganz 2010).

Supplemental Appendix Figure B.3 illustrates the experiment's treatment arms. First, we stratified discussion groups by factory and consensus-building treatment arm and then randomized them to high or low mobilization by the leader. In the high (low) condition, all but one (only one) member were (was) invited by a leader. We then experimentally varied the three channels. In the "Motivation" arm workers are invited by a leader instead of by research staff.<sup>18</sup> In the "Coordination" arm workers are told whether the leader invites all but one member (high coordination) or only one member (low coordination) of their group. Finally, in the "Observation" arm workers are informed that a leader will observe their participation.<sup>19</sup>

## B. Results

We first estimate:

$$(4) \quad Y_i = \alpha_0 + \alpha_1 \text{Leader}_i + \alpha_2 \text{HC}_i + \alpha_3 \text{LC}_i + \alpha_4 \text{Obs}_i + \mathbf{X}'_i \boldsymbol{\theta} + \epsilon_i,$$

where  $Y_i$  is attendance at the afternoon session for worker  $i$ .  $\text{Leader}_i$  is an indicator for being motivated by the leader,  $\text{HC}_i$  ( $\text{LC}_i$ ) is an indicator for when the worker is being informed that she is in a high (low) coordination group, and  $\text{Obs}_i$  is an indicator for being in the leader observation arm.  $\mathbf{X}_i$  is a vector of strata fixed effects (factory  $\times$  discussion group).  $\epsilon_i$  is the residual. We report 95 percent confidence intervals calculated using robust standard errors and standard errors clustered at the discussion group level. We also present RI  $p$ -values. In the text, when both RI and conventional  $p$ -values are calculated, we report the maximum of the two. Control variables are selected by PDS lasso. We also estimate a version of equation (4) where we interact  $\text{HC}_i$ ,  $\text{LC}_i$ , and  $\text{Obs}_i$  with indicators for being invited by the leader ( $\text{Leader}_i$ ) or by the research team ( $\text{NoLeader}_i$ ).

If a key role for leaders in our setting is to motivate their followers, then workers invited to participate by the leader will be more likely to attend the session ( $\alpha_1 > 0$ ). If a key role for leaders is to coordinate their followers, then workers who are informed that they are in a high-coordination group will be more likely

<sup>18</sup> Leaders and research staff use the same invitation script. Supplemental Appendix Sections A.4 and A.5 report the overview of implementation and scripts for each treatment arm, respectively.

<sup>19</sup> Supplemental Appendix Table B.2 reports balance checks across the experimental arms. For the first survey session, the field team ran out of time to complete this experiment. For this reason, two factories drop, reducing the number of observations to 790. The coordination arms—in which workers were informed about how many group members were being invited by a leader—have a slightly smaller sample size to avoid deception.

to attend compared to those who are informed that they are in a low-coordination group ( $\alpha_2 > \alpha_3$ ). Finally, if a key role for leaders is to sanction bad behavior or to reward good behavior, workers who learn that a leader will observe their decision will be more likely to attend ( $\alpha_4 > 0$ ).

Figure 2 presents the results.<sup>20</sup> The reference group is workers who are invited by the research staff and not provided with coordination or observation information. Panel A presents the results of estimating equation (4) while panel B includes the interactions with the *Leader<sub>i</sub>* and *NoLeader<sub>i</sub>* indicators. The figure shows 95 percent confidence intervals calculated using robust standard errors (blue, left) and standard errors clustered at the discussion group level (red, right). The estimated coefficient for the leader arm,  $\alpha_1$ , shows that motivation by the leader does not affect attendance.<sup>21</sup>

Turning to coordination, the figure shows that high coordination by the leader substantially increases attendance compared to low coordination. Moving from being informed that the leader will invite only one group member to being informed that they will invite all but one member increases attendance by 12 percentage points or 36 percent compared to the control group mean ( $p = 0.152$ ). The effects of moving from low to high coordination by the leader are qualitatively larger for those who are also motivated by the leader: There is a 22 percentage point or 65 percent increase in attendance ( $p = 0.104$ ) compared to an increase of 13 percentage points or 37 percent ( $p = 0.300$ ) when not motivated. While motivation by the leader alone may not influence attendance, it may work as a complement to coordination.

Finally, informing workers that the leader will observe their decision increases attendance by 4 percentage points or about 12 percent (not statistically significant). This is similar when a worker is invited by the research staff or by a leader. Observation by the leader of the workers' decisions may influence attendance through two potential mechanisms: leaders acting as judges and sanctioning workers who do not attend or workers perceiving that attending sends a positive signal about their type. Depending on workers' priors about attendance, these mechanisms generate different effects. Under a sanctioning mechanism, workers with higher priors about their group members' likelihood of attending the session should be more likely to attend when their decision is observed by the leader. We explore these mechanisms in Supplemental Appendix Section E and find evidence more consistent with a signaling mechanism rather than the sanctioning one.<sup>22</sup>

## VI. Conclusion

In this paper, we present novel evidence on union leaders in Myanmar's labor movement in the garment sector and how leaders influence workers' views and collective actions in the run-up to a national minimum wage negotiation. It is generally challenging to pinpoint the specific influences of leaders within organizations or movements because their actions are often difficult to observe in sufficient detail,

<sup>20</sup>The estimated regressions (with and without PDS lasso selected controls) are reported in Supplemental Appendix Table B.9.

<sup>21</sup>It may be that providing leaders with a set script to invite workers muted their role as motivators. While the null result may mask heterogeneity by leader type, unfortunately we cannot explore this possibility as we do not know which leader invited a given worker.

<sup>22</sup>This analysis was not prespecified and should be interpreted as exploratory.

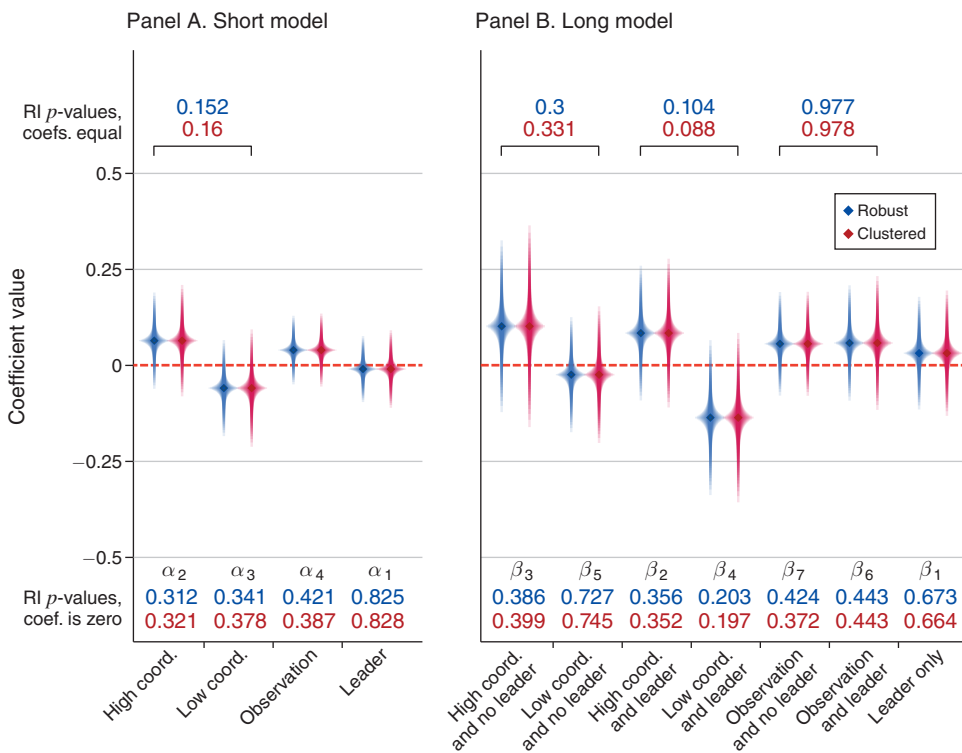


FIGURE 2. MOBILIZATION EXPERIMENT

Notes: This plot shows the impact of different treatment arms on whether a worker attends the minimum wage survey. Ninety-five percent confidence intervals calculated using robust standard errors (blue, left) and standard errors clustered at the discussion group level (red, right). R1 p-values based on 1,000 randomization draws (Young 2019) are also reported on the top. Factory FEs  $\times$  Discussion Group FEs are controlled. Control variables are selected by postdouble lasso selection procedure. Panel A shows the result of estimating equation (4). Panel B shows the result of estimating  $Y_i = \beta_0 + \beta_1 Leader_i + \beta_2 Leader_i \times HC_i + \beta_3 NoLeader_i \times HC_i + \beta_4 Leader \times LC_i + \beta_5 NoLeader_i \times LC_i + \beta_6 Leader_i \times Obs_i + \beta_7 NoLeader_i \times Obs_i + \mathbf{X}'_i \theta + \epsilon_i$ .

and it is hard to untangle if influential individuals shape others or just reflect underlying group dynamics. We conducted two field experiments and gathered detailed information on the traits of workers and union leaders at every level of the union hierarchy to examine whether and how union leaders affect the inner workings of labor movements.

We find that union leaders are positively selected compared to rank-and-file workers in terms of their personality traits, grit, and locus of control, which psychologists and organizational sociologists link with the ability to influence collective outcomes. They are also positively selected on prosociality and, for the union presidents who are the most selected leaders in our sample, ability. This evidence suggests that one mechanism through which leaders influence followers is their distinct set of personal characteristics. An interesting avenue for future research is to assess the extent to which this positive selection generalizes to other contexts. It is sometimes argued that union leaders might be negatively selected in terms of ability as lower-ability workers stand to gain more from collective representation.

A first experiment provides evidence that union leaders play a key role in building consensus among workers around their unions' objectives; they coordinate views. Leaders build consensus around their unions' preferred minimum wage as opposed to aggregating workers' preferences. Albeit with more limited statistical power, a second experiment explores channels through which leaders mobilize workers to take privately costly actions for their common good, finding evidence in favor of leaders coordinating workers' equilibrium selection. Hence, in addition to coordinating views, leaders may also coordinate actions.

These results raise the question of whether consensus-building also facilitates mobilization. Given our experimental design and the low statistical power of our mobilization experiment, we cannot conclusively answer this question. Supplemental Appendix Figure B.4 explores the correlation between consensus building and mobilization across our two experimental designs and provides some suggestive evidence that leaders might play a role in connecting these two goals. Among groups that were assigned a leader, there is a positive correlation between consensus building achieved in the group discussion in the first experiment and workers' mobilization in the second experiment ( $p = 0.077$ ). No such correlation is observed for groups without leaders ( $p = 0.737$ ). This pattern possibly suggests that rather than consensus itself, it is the process through which consensus is reached that might matter for mobilization. For example, common knowledge of the consensus reached could be key for mobilization and may be facilitated by leaders. Exploring the potential causal link between consensus-building and mobilization in the context of social movements is a valuable direction for future research.

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