Are worker management committees improving factory conditions? A study of Participation Committees in ILO's Better Work Factories

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Abstract

The literature on global supply chains has extensively studied the enforcement of transnational regulatory mechanisms with regards to outcomes on working conditions in factories located in the global south. While the majority of the empirical work focused on the efficacy of these initiatives, none have systematically and quantitatively measured the impact of any voice facilitating mechanisms. On the other hand, industrial relations theory has argued that worker voice matters in an organizational context not just as a means of democratizing the workplace but also by providing workers a mechanism to address working conditions with management. I bring together these two sets of literature in my study of worker management participation committees - called PICCs[1]- established as part of the International Labor Organization's Better Work program in Jordan, Vietnam and Indonesia. I analyze the association between PICCs and outcomes on violations with standards of working conditions by studying different features of the PICC structure. The goal is to empirically test if the prediction that facilitating voice through PICCs holds true and if so, which PICC features are most relevant in moving the needle on working conditions. My findings show representation of unions and fair electoral process in PICC selection matter for aggregate violations while gender representation and management support are important for specific subsets of violations. These findings confirm prior literature, in particular those which emphasize the role of unions in supplementing mandated committees.

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[2]Performance Improvement Consultative Committees

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Chapter 1

Introduction

Globalization, referring to an expansion of the product and capital markets across national boundaries, is cited as one of the leading causes of the transforming nature of employment relations in industrialized and emerging economies (Chaykowski and Giles, 1998)[19]. The phenomenon of "fissurization" as discussed by Weil (2014)[56], which has led to the growth of precarious forms of work in the advanced economies is mirrored in global supply chains. These issues become magnified in the context of the low-cost production sites located in developing countries that are also associated with the worst forms of labor violations[1] and weak institutional histories.

Consequently, there has been a growing number of private transnational initiatives, often motivated by catastrophic disasters, activism and consumer pressure (Seidman 2007)[50], that aim to mitigate these violations and ensure safe working conditions. While these initiatives have focused on enforcement and efficacy with regards to compliance with the respective codes of conduct, they have often minimized the role of worker voice in their implementation given the buyer driven approach of these initiatives. The International Labour Organization's (ILO) Better Work program (BWP), as an example of a transnational initiative, differs from most in their feature of having mandated worker management committees as a tool of facilitating worker voice in the factories where they operate. This creates a unique opportunity to study the role of voice in creating enabling conditions for improving working conditions in

[1]Source: http://labour-rights-indicators.la.psu.edu/

apparel supplier factories in the developing country context.

The literature in the field of industrial relations suggests that voice plays an important role in determining workers welfare (Kochan, 1980)[34]. Worker voice in an organization can lead to improvements in decision-making, dispute resolution (Budd and Colvin, 2008)[17], and productivity (Morrison, 2014)[41]. Voice is a standard of employee participation when considering an employment relationship alongside efficiency - a standard of economic performance, and, equity - a standard of treatment (Budd, 2004)[17]. Voice can also create enabling conditions for improving compliance in the context of factories in globally dispersed supply chains (Pike and Godfrey, 2015)[45]. However, despite the propositions highlighting the importance of voice in the theoretical literature, globalization, financialization, and technological change have contributed in weakening the mechanisms for providing worker voice in many contexts (Locke, Kochan and Piore, 1995; Chaykowski and Giles, 1998; Kochan, Riordan, Kowalski, Khan and Yang, 2019)[38][19][35]. Traditional forms of worker voice, such as unions, have declined in the US (Western and Rosenfeld, 2011; Katz, Kochan and Colvin, 2017)[57][30] and other industrialized countries (Ebbinghaus and Visser, 1999)[23]. Correspondingly, the unions and collective bargaining mechanisms have historically been limited in scale in the context of developing industrial nations (Freeman, 2010)[25] with significant resistance to freedom of association from employers and state institutions in most cases.

The uniform opposition to worker voice neglects moderating effects of management's response to union (Pohler and Luchak, 2015)[46] and joint worker-management decision-making processes (Black and Lynch, 2001)[13], which can positively impact productivity considerations. A large part of research has focused on collective employee voice as facilitated by labor unions (Freeman and Medoff, 1984)[27] associated with outcomes specific to compensation, benefits, and productivity (Bennett and Kaufman, 2004)[12]. Nonunion forms of employee representation where voice is the implicit mechanism in empowering workers - although having received some attention in the context of European countries - remain largely unexplored in developing country contexts. Also, past research provides limited empirical evidence in establishing

the link between enabling voice in firms through worker engagement and subsequent changes in working conditions.

As a way to bridge the empirical gap in the literature, I propose to study the effects of establishing joint management-employee representation bodies that aim to facilitate worker voice in factory settings under the auspices of ILO's BWP. The entities in question are called Performance Improvement Consultative Committees (PICCs), which are joint management worker committees, modelled after the European Works Councils (Better Work Report, 2013)[1] set up in BWP factories in Vietnam, Jordan and Indonesia. PICCs are designed to provide a platform that enable workers and management to come together to discuss a range of workers' rights, that is, violations of the local labour law and/or ILO Conventions, thus serving as indirect means of facilitating worker voice.

The creation and subsequent meetings of the PICCs are initiated and often mediated by the BWP advisors with the ultimate goal to make the PICCs self-sustaining institutional entities. However, there is broad mistrust of such platforms in providing adequate voice to workers due to the misalignment of power between workers and management and the risk of worker representatives acting as double agents (Charlwood and Poller, 2014; Bryson, 2004; Freeman and Medoff, 1984)[18][15][27]. Recent research on Vietnam's wildcat strikes in the apparel sector indicated that PICCs characterized by certain institutional features could potentially contribute to lowering strikes by mitigating the risk of management capture (Anner, 2017)[4]. Thus, the effectiveness of PICCs as institutional tools for creating credible worker voice is contingent on its ability to demonstrate features that indicate independence from management. The details of these characteristics are yet to be explored extensively in existing literature.

In my paper, I build on this line of research by studying the institutional characteristics of PICCs in further detail. I use detailed quantitative datasets, collected by BWP enterprise advisors to analyze the association of PICC quality indicators with violations of factory standards[2] over time. I find that representation of unions and

[2]Relating to Health Safety, Unions Bargaining, Work Time, and Worker Protection

fair electoral process in PICC selection matter for aggregate violations while gender representation and management support are important for specific subsets of violations. These findings confirm prior literature, in particular those which emphasize the role of unions in supplementing mandated committees.

This is a novel finding in the literature for multiple reasons. Firstly, the continued challenge of unions to be established globally have spurred a debate in trying to get a better understanding for institutional characteristics that can serve as alternative forms of worker voice in the employment relationship and my results suggest that PICCs can be such an option under certain conditions. Secondly, given the limited empirical work exploring the link between worker engagement and working conditions in developing countries, these results add to our understanding of factories in the literature on global supply chains. Finally, there has been some consensus in the industrial relations (IR) literature that institutional context matters for unions to be be successful (Weil 1996, Kochan, Dyer and Lipsky, 1977; Amengual and Chirot 2016)[55][32][3] and the findings of the paper align with these results while also providing a more nuanced understanding of the characteristics that matter most for them to be effective, namely, adequate union and gender representation in the PICCs membership; fair electoral process for PICC creation; and, support of the factory management for establishing and operating PICC meetings.

I proceed with the paper as follows. The next section, Section II, provides a deeper exploration of the three strands of literature where I aim to contribute meaningfully. In Section III, I provide a background of the ILO Better Work Program and describe the timeline of the intervention along with an understanding of how the quality of the PICCs are determined. In Section IV, I describe the data and the methodology used to answer the question. Section V provides an analysis of the results along with an exploration of some qualitative exploration of the written reports of the factories by the BW enterprise offices. Finally Section VI concludes.

Chapter 2

Literature Review

I look towards contributing to three strands of literature, which form the basis for my research questions:

- *Within factories, is there an association between the changes in violations of standards and the existence of PICCs?*
- *Can certain institutional features of PICC move the needle on violations?*

In studying the BWP, an initiative primarily situated in the context of regulation of codes of conduct in global supply chains, I first look to the relevant research that studies this phenomenon, which use qualitative and quantitative methodologies to study enforcement of codes of conduct by firms sourcing from developing countries. This literature offers examples of how to operationalize health, safety and other workplace conditions using findings from factory audits. However, this research has been limited in investigating worker voice mechanisms since the buyer-driven nature of most initiatives tend to minimize the role of the workers. Consequently, I present Industrial Relations (IR) theory, which posits the importance of voice in the context of the employment relationship. In doing so, I present some relevant findings in IR research that focus on unions and works councils as the primary means of worker voice in developed industrialized nations.

Finally, I also contribute to a specific subset of the supply chain literature that focuses on the International Labor Organization's (ILO) multi-country initiative on

improving working condition in factories, the Better Work Program (BWP). The latter serves an important basis for presenting the program outcomes while highlighting the gaps from the perspective of worker voice outcomes while also describing the scope conditions for the findings.

2.1 Global Value Chains, Enforcement and Worker Engagement

The tripartite model of IR relies on the state as a force for mediating the inherent conflict in the relationship between employers and workers (Kochan, Katz and McKersie, 1994)[33]. However, this structure breaks down in the context of global supply chains as a result of the state being unable or unwilling to legislate and enforce standards. The issue of worker welfare and worker voice is particularly germane in the context of labor intensive buyer-driven commodity chains prevalent in industries like low-end electronics, footwear and apparel industries where the suppliers tend to be located in the Global South. In light of this restricted state capacity, the past decades have seen an increase in the number of multi-stakeholder governance initiatives (including companies, NGOs, unions, industry bodies and/or international organizations) to regulate workplace standards (Risse, 1995; Bartley, 2007)[47][9]. However, while private compliance mechanisms are theoretically ideal for ensuring improved working conditions and safe supply chains, in reality they are limited by the lack an external enforcement mechanism (Budd, 2004: 167; Locke, 2013; Locke, Amengual and Mangla, 2009)[16][37][36].

A number of scholars have studied the efficacy of various private transnational regulatory initiatives and the conditions that have contributed to their respective successes or failures. Outcomes have largely focused on improvements in working conditions with respect to a set of relevant corporate codes of conduct and a focus on firm performance. There has been limited attention on the extent of worker engagement as part of these initiatives and consequently in the subsequent analyses. This

is often a consequence of the design of the initiatives themselves, which being buyer driven, rely less on worker engagement as a mechanism for driving change in the compliance with codes of conduct. There are some exceptions and ILO's BWP and the Bangladesh Accord for Fire and Building Safety are examples of the such initiatives. Furthermore, the countries themselves often have weak institutional histories of worker engagement and competing for contracts on price with other low-cost producers under non-trivial power asymmetries in favor of the lead firm (Locke, 2013)[37].

While some research in the field highlights the importance of incorporating worker participation as an important dimension for implementing OSH regulation in firms (Tucker, 2013; Weil, 1996)[54][55], most have shown significant skepticism on the efficacy of voice generating mechanisms in the context of the global South. Bryson (2004)[15] expresses concern that non-union representative voice may not be *"genuinely representative of employees and independent of management"* (ibid.: 230)[15] while Yu (2008)[58] in a case study of a Reebok factory in China found the "employee-elected trade union installed through codes implementation operated more like a *"company union rather than an autonomous workers' organization representing worker interests"* (ibid.:513)[58]. Still others find that workers using non-union voice mechanisms may not be protected against management retaliation (Kidger 1992)[31]; that workers engaged in cooperative approaches lack power to bring about more than very modest changes (Lund-Thomsen and Lindgreen, 2014; Terry 1999)[40][52]; or, that workplace voice mechanisms are only effective with "less serious problems" rather than for more serious infringement of workers' rights (Charlwood and Pollert, 2014)[18]. The studies suggest that management initiated voice mechanisms in factories can be limited in their ability to adequately empower workers to affect working conditions and a deep dive of the institutional features may serve to enrich the findings.

A set of studies by Locke and coauthors explore the complementarities between state and private regulation. The papers have studied initiatives led by buyers based in developed countries to bring about enforcement with codes of conduct in factories in their supply chain. Links between factory conditions and labor relations have been highlighted by Distelhorst et al. (2017)[21] in the study of Nike's lean intervention

in apparel supplier firms in 11 countries. A study of the BWP in Indonesia by Amengual and Chirot (2016)[3] further highlights the importance of institutional complementarities for worker based outcomes by showing that BWP can reinforce the state when unions are mobilized. Again, while these papers provide us with the context of the origins of private regulation and the theoretical limitations in scope of the regulation, they do not measure the specific role of worker engagement in affecting workplace conditions.

2.2 Relevant Studies on Voice in Industrial Relations (IR) Theory

The concept of voice has multiple interpretations depending on the discipline and one that has been extensively explored in the context of the theoretical and empirical work in IR. Seminal work by Budd (2004)[16] presents voice as "the opportunity to have meaningful input into decisions" (ibid.: 23)[16]. He places equity, efficiency and voice as the three vertices of the triangular employment relationship (ibid.: 30)[16], where they act as potentially competing but equally important objectives of the employment relationship. Ultimately, the society should care about employee voice not as a means for achieving productive efficiency - in fact, the enabling of voice may be in competition to efficiency objectives - but with the purpose of ensuring industrial democracy and the autonomy of human dignity.

Democratizing the workplace can enable workers to influence the employment relationship and impact important workplace conditions such as compensation and benefits (Freeman and Medoff, 1984:19-20)[27], and, occupational health and safety amongst others (Weil, 1996)[55]. However, from the employers perspective the impact of providing workers greater voice comes as a double edged sword with improvements in productivity accompanied by reduced profits and lower returns to capital (ibid.:19-20)[27]. These trade-offs are well theorized in the neoclassical models and studied empirically in the context of the industrialized nations. The following section reviews

some of these studies that operationalize voice using different institutional settings and establish its importance in affecting firm outcomes, thus highlighting the gap in the literature.

Unions, works councils and health safety management committees are some of the traditional modes of worker voice studied in the IR literature. The relevance of the specific institutional form depends often on economic and political policies in the respective countries. Unions have dominated the US as the primary means for worker voice while works councils have been more prevalent in complementing the union activities in the European context.

Prior research in the field of IR has focused on studying efficacy of unions on firm and worker outcomes. In Freeman and Medoff's (1984)[27] seminal work, *What do unions do?*, the authors describe in detail how unions bargain and the effect they have on wages, productivity and profits. Broadly speaking, unions help improve wages and productivity but maybe costly to employers with regards to profits and capital returns. Bennett and Kaufman (2004)[12], in a review and update on the state and function of unions explore the crucial question of how unions affect wages, productivity, efficiency and welfare in the context of the firm. Similarly, the majority of research on unions focused on firm based outcomes since the question of the trade-off between voice and productive efficiency has been long in public debate. For example, Cooke (1992)[20] investigated the effectiveness of an employee participation program on product quality in only management and joint union-management settings. His findings make a clear case for worker representation in the form of joint worker-management settings on the selected outcome measures.

In European countries, and in particular in Germany, a model of works councils have long been established as part of society as a means of resolving conflict in the employment relationship (Frege, 2002)[28]. Consequently, there is a rich literature looking into the co-determination model of the German works councils. Frege (2002)[28] provides a detailed review of the theoretical and empirical work with a focus on firm outcomes. Enabling worker voice in the co-determination model is theorized to improve the nature of employment relations at the firm-level (Freeman and

Lazear, 1994; Rogers and Streeck, 1994)[26][49] and the functioning of internal labor markets (Aoki, 1984; Freeman and Medoff 1984)[6][27]. This is in contrast to the neoclassical theories that predict firm inefficiencies resulting from increased worker participation in management.

The empirical findings are inconclusive in establishing the impact on firm outcomes. Studies by Addison, Kraft and Wagner (1993)[2] find that works councils are negatively associated with gross firm investments with ambiguous effects on remuneration while Backes-Gellner et al. (1997)[7] show that works councils benefit both workers and firms. Similarly, qualitative studies find that the results are affected by the strength of work councils, where more participative firms with egalitarian control can improve the effective of the works councils (Bartolke, Eschweiler, Felschenberger, and Tannenbaum, 1982)[10]. Some research also has shown complementarities between unions and works councils in enabling enforcement of better working conditions (Muller-Jentsch 1995; Behrens 2009; Pfeifer 2014)[42][11][44]. With the exception of the latter studies, analysis of the majority of the research indicate a missing consideration: the impact of the councils on effectively improving worker voice.

Furthermore, the decline in unionization witnessed in developed industrialized nations has been accompanied by a slow take-up of collective bargaining mechanisms in the employment relations construct in developing countries. While this phenomenon maybe partly a result of the knock-on effects of the developed counterparts, the outcome is more often a result of weak institutional environment in these contexts. Thus, enforcement of standards have been privatized from the buyers' side and often as a response to consumer presence (Bartley, 2007)[9] and activism (Seidman, 2007)[50].

Recent attention has been diverted to alternative worker-management constructs with a call to develop middle range theories incorporating alternative new forms of worker voice into traditional models of IR (Tapia, Ibsen and Kochan, 2015)[51] and highlighting a research agenda in new industrial contexts. The findings of this paper expect to contribute in that space.

2.3 ILO's Better Work Program Related Studies

In this section, I focus specifically on studies that analyze the impact of ILO's Better Work Program (BWP), the empirical setting of my study. BWP operates in eight countries, most of which have significant limitations on freedom of association. This is further exacerbated by the power dynamics favoring the large multi-nationals that source from the smaller suppliers as a consequence of their economic power. Consequently, workers in these populous countries, operating in an industry that require relatively low skill levels find themselves at a disadvantageous position with limited means to voice their rights. Bi-partite initiatives like the Better Work try to re-balance the power in favor of the workers with varying levels of success and the first two papers address the role of BWP in affecting worker voice in factories.

In a study situated in BWP Lesotho, Pike and Godfrey (2015)[45] uses findings from focus group discussions to understand PICCs and how they affect worker related outcomes. Their results show that while the PICCs appear to make impact at the onset, the effect tapers off with time. PICCs are positively associated with improvement in worker-management communications relations and increased reporting on violations against discrimination and freedom of association. However, PICCs are also associated with deterioration in attention with regards various training programs focusing on non-PICC issues like HIV/AIDS and OSH. They find increased interference in union activities. The results maybe summarized in saying that the efficacy of PICCs deteriorates over time; factories divert resources from other training purposes, although this may taper off over time, and reports on certain types of violations may increase at the onset. This ambiguity in the PICC effects indicate a need for further exploration of PICCs in other BWP countries.

While Pike and Godfrey (2015)[45] studies worker based outcomes of PICCs, questions remain as to how much of the Lesotho results are relevant in other country contexts and how the PICCs vary with regards to its characteristics. The latter is analyzed in greater detail by Anner (2017, 2018)[4][5] in a paper that investigates the role of the PICCs in mediating wildcat strikes in Vietnam. His findings indicate

that *well-functioning* PICCs could contribute to lower strike rates under specific conditions that relate to the formation and governing of PICCs. Anner identifies four criteria for a well functioning PICC: fair electoral process of PICC members; appropriate representation of workers in the PICC; protection of members from management retaliation; and, empowerment of workers to address serious non-compliance issues. This paper sheds light on the institutional features of PICCs rather than their simple creation and highlights the criteria that enable PICCs to be effective at addressing worker rights in BWP factories. These results are not only in line with the study by Bartolke et al (1982)[10] on German works councils but they also show that high quality PICCs as indicated by the four institutional features can be better equipped to address worker grievances with management before resorting to strikes. The paper makes the case that PICCs may matter for worker based outcomes conditional on the institutional features that signify their independence.

In order to highlight the importance of BWP as a global initiative and situate the importance of studying factories that subscribe to this initiative, it is also important to bring to light the firm-based impact of the program. BWP is a voluntary program that has been marketed to supplier factories based in developing countries in order to help them secure relationships with reputation conscious buyers (Oka, 2016; Robertson et al., 2011)[43][48] in ways similar to other transnational initiatives (Distelhorst and Locke, 2017)[22]. Despite fears of increased inefficiency and fear of firm closure, Brown, Dehejia and Robertson (2016)[14] show the contrary: their results suggest that improvements in factory standards increase the probability of plant survival along with improved productivity outcomes and work effort. Furthermore, the BWP interventions may induce factories to experiment in human resource management innovations that are both more humane and more efficient, which may also be implicitly driven by improved worker-management relations (Robertson et al., 2011)[48].

Overall, the Better Work studies, which form a subset of the studies in the previous section on Global Supply Chains, provide evidence that indicate that Better Work can lead to some improvements in factory compliance and productivity. Reputation

conscious buyers play a significant role in determining the outcomes and even suppliers at the lower end of the supply chains can see some shift upwards in the baseline of their standards. The quantitative empirical evidence in favor of improved worker outcomes are limited especially with regards to worker engagement. My paper fills this gap by analyzing data that connects PICC quality and compliance with work standards and determine whether PICCs can be an effective means of enabling worker voice.

2.4 Summing up

Budd's triangular formulation of the employment relationship has an equity vertex that relates to outcomes observed while the voice vertex relates to the participatory process for the workers (Budd and Colvin, 2008)[17]. I look at the interaction of these two dimensions - that is, does enabling the voice process lead to more equitable outcomes from the employee perspective in the context of the ILO BWP.

I use *Figure B-1* to illustrate the predictions between voice and working conditions following from the prior scholarship in these areas. I describe the framework moving from left to right. In my research, I look into the PICCs, which operationalize voice in the context of BWP factories. The PICCs are tools for facilitating worker voice, which forms the vertex of the triangular relationship with equity and efficiency. The PICCs have the potential to facilitate workers' voice and impact their ability to confront issues relating to various aspects of working conditions with management. These factors together comprise the full index of violations with workplace standards that are reduced if PICCs are effective and of high quality, which are characterized by the arrow in the right most end of the figure. The maroon arrow shows the mediating characteristics of the PICC that affect the influence of PICCs on the violations. The yellow boxes break up the sub-clusters of the violations index. While past studies have focused on industrial settings in the Western world where the institutional setting offers greater support on enforcement of local labor laws, there is ambiguity on how bi-partite worker management committees perform in the context with weaker institutions prevalent in the countries in my study. My paper fills that gap by offer-

ing some magnitude of the degree of association between PICCs and violations with standards and shedding light on the PICC features that are most influential. This can help in better designing how standards are implemented in similar contexts and the role of workers in establishing sustained changes in factory behavior.

Chapter 3

Background on BWP and PICC Formation

The Better Work Program (BWP) is form of private transnational regulatory initiative with the goal to assist supplier firms in global value chains to improve practices based on core ILO labor standards and national labor law. Unlike most such private initiatives, BWP is implemented with a strong emphasis on social dialogue to improve worker-management cooperation and ameliorate working conditions. It is a partnership between the International Labour Organization (ILO) and International Finance Corporation (IFC). Although it is a voluntary program, where supplier firms pay for BWP advisory services, in practice, they are often steered by the buyers in advanced industrialized countries to join the program.

BWP was launched in August 2006 in Cambodia and has since then been established in eight countries: Bangladesh, Cambodia, Haiti, Indonesia, Jordan, Lesotho, Nicaragua and Vietnam. It motivates supplier firms to participate in the program by helping them to meet the social compliance demands of global buyers, improves conditions for workers, and helps firms become more competitive by increasing productivity and quality. BWP focuses on labor intensive industries having large numbers of vulnerable workers in developing countries in the apparel sector. The project combines enterprise assessments of compliance with labour standards at the factory level, with training and capacity building.

The Performance Improvement Consultative Committees (PICCs) - a joint management worker committee - are set up in factories in Vietnam, Jordan and Indonesia under the auspices of the International Labour Organisation's (ILO) Better Work Program (BWP). The committees are a form of indirect labor participation that serve as means of facilitating worker voice in factories covered by the program. The goal of the PICCs is to create a platform that enables dialogue between workers and managers so they interact under full bipartite representation. The Better Work (BW) factories generally experienced five to six assessment cycles in each country of operation. The PICCs are generally created during the second assessment of the factories by the BW enterprise advisors. Once formed, the quality of the PICCs may vary across the factories across a range of variables including: representation of women in the PICCs in proportion to the gender ratio of the employees in the factory; appropriate and adequate union representation in PICCs; freedom of the PICCs in the the candidate selection and electoral process; ability of the PICCs to meet independently in the absence of the better work advisors; and, factory management's decision to incorporate the deliberations of the PICCs as part of their decision-making. There has been some quantitative research assessing the impact of Better Work on various firm-based outcome measures, which have been detailed in section II.

Better Work believes that good PICCs, modeled after the European Works Councils, create an atmosphere of dialogue that spills over to other areas (Better Work 2013)[1]. Consequently, and in line with the predictions of Weil's (2014)[56] analogy of the "Fixing Broken Windows" concept, when workers and managers start to bring up non-compliance issues through PICCs, they simultaneously develop tools and power to resolve conflict. Thus, there is an assumption that PICCs have spillover effects in creating a culture of participation (Anner 2018)[5].

Chapter 4

Data and Methodology

4.1 Data

I use two distinct datasets that contain observations at the factory level for the three countries that are a part of the Better Work Program: Indonesia, Vietnam and Jordan. While the program operates in eight countries, I focus on analyzing the programs in these three countries due to availability on PICC quality data.

4.1.1 Dataset on PICC Characteristics

The first, which I will refer to as the PICC dataset, comprises of factory level observations for each assessment cycle of the Better Work Program (BWP). The data is coded from the detailed assessment reports that are conducted by the BWP enterprise advisors in two rounds per cycle of the program, where each cycle corresponds roughly to one calendar year. The information from the reports were coded into binary data to indicate in which round of the report a PICC was created and whether it conformed with the PICC quality characteristics. Thus, each line of observation represents the PICC characteristics recorded for each factory in each report of the cycle. A total of fourteen variables are used to describe the characteristics of the PICC. The most basic variable indicates if a PICC exists, while the remaining thirteen are various indicators of PICC quality.

The BW team has identified a total of eight criteria for determining the quality of the PICCs, which include: i) adequate union representation; ii) democratic process in election of PICC worker's representatives; iii) fair representation of female workers in proportion to factory's female workforce; iv) management support for PICC activities (includes regularity of meetings, ability to convene in the absence of BWP representatives, relaying PICC's deliberations to workers, adequate training for PICC members, and consideration of PICC deliberations in management decision making). Thirteen variables were used to measure these eight criteria. So for example, if *Factory X* had a PICC that was created in the second cycle of the intervention then it would be coded as 1 in that period and stay as 1 for any subsequent reports in later cycles. Similarly, each of the remaining thirteen characteristics would be coded ad 0 or 1 depending on whether the respective PICC met with each of the quality dimensions.

I draw parallel between the PICC characteristics to the four criteria for determining PICC quality in Anner (2017)[4], namely, fair election of PICCs, adequate representation; protection from management retaliation; and, sufficient empowerment. I aggregate the thirteen variables in my dataset to create a single index of PICC quality. The index is created as a sum of the variables that represent the following characteristics and act as indicators of PICC quality: appropriate and adequate union representation in PICCs; fair process in PICC elections; representation of women in the PICCs in proportion to the gender ratio of the employees in the factory; and, management supports the operation of the PICCs. I check for internal consistency for the selected factors using the Cronbach's Alpha measure to test if the chosen characteristics are a reliable measure for the respective quality. The table of the alpha score is provided as *Figure B-2* as an indication of the internal consistency of the variables chosen to be summed together as an index. I note that this measure is adequate at approximately 0.76 and greater that the acceptable level of 0.6.

4.1.2 Dataset on Violations

The second dataset is also at the factory level and contains findings from compliance audit assessments carried out by BWP enterprise officers. I refer to this as the

"violations" dataset. The data collection period spans from 2009 to 2015 depending on the country. There is on average ten to thirteen months between the assessments, so on average there is an assessment for each cycle of the program. Since the start time for the factories are staggered, I refer the the first year of intervention and data collection as cycle 1 and so forth. The majority of the responses are coded as binary although a number of the responses contain other numeric or text values. I take a subset of the violations measures for which there are sufficient observations across the observation cycles and create a set of indices in the following categories: health and safety; unions and bargaining; work time; and, other worker protection. I also create a full index by aggregating all the indicators that comprise the above mentioned categories. The indices are created by summing the indicators in each of the sub-clusters. The details of the components of these sub-clusters are as follows:

- The indicator for health and safety includes: Violations with regards to chemicals substances, emergency preparedness, hazardous work, health services and first aid and OSH management systems.

- The indicator of unions and bargaining includes: violations against union operations, collective bargaining and dialogue against discipline and disputes.

- The indicator for Other Worker Protection includes: welfare facilities, working environment and worker protection.

- The indicator for violations of work time includes: violations against the following variables: leave, paid leave, overtime and regular hours.

Figure B-3 provides the summary characteristics for the main PICC variables I construct for the three countries. PICCs exist in the majority of factories in each country. Once created, which generally happens within the first 2 cycles, they continue to exist over time. The PICC quality is assumed to remain the same over time.

In all cases, an increase in the index indicates a worsening of the violations and a deterioration in the compliance conditions. *Figure B-4* shows the distributions in the sub-clusters of the violation index for each country. The extent of violations recorded

in all of the sub-clusters are low reflecting the limitation of this form of of data collection. The violations are recorded by BWP enterprise officers during compliance visits and there is a tendency for under-reporting violations. For example, if we look at the measures relating to unions and bargaining, we know based on research (Anner, 2017; Amengual and Chirot, 2016)[4][3] and widespread media reports, that violations against freedom of association are common in the case of Vietnam and Indonesia. However, the BoxPlots in *Figure B-4* show very low medians and small distributions reflecting the case of under-reports. Health and safety related measures tend to have higher reported violations given many of the measures can be directly observed by the surveyor. Work hours may suffer from under-reporting as well due to lack of record keeping while workplace conditions may not always be directly measured or maybe temporarily manipulated prior to inspections (such as cleaning bathrooms). Jordan has lowest reports of violations in sub-clusters while Indonesia has the highest reports of violations. While there maybe a general under-reporting seen in these and other compliance reports, there is no reason to believe under-reporting would be systematically related to the presence or quality of the PICCs.

The alpha score table for the full violations index is provided in *Figure B-5*. Once again, the alpha score is approximately 0.8 and and greater that the acceptable level of 0.6, indicating internal consistency for the index.

4.1.3 Merged Data Descriptions

The final dataset is created by merging the PICC and violations datasets described above. I use BoxPlots in *Figure B-6* to compare the distribution patterns in the PICC quality and the violations indices for each country respectively to get an understanding of how the averages of the two main indices compare across the three countries[1]. Overall, the median level of violations recorded is relatively low - below 0.5 for all three countries. However, in cross country comparisons we find that Jordan has the lowest level of violations while Indonesia has the highest. These patterns are in line with the context of the respective countries. Jordan, as a whole, has fewer factories

[1]Note that the indices have been normalized for ease of comparison.

with an smaller workforce, which focus on higher end products relative to the other two countries. Indonesia, with a more populous labor force, has greater number of factories that are larger and focus on a broader range of products (Better Work 2015)[2]. The plot of the PICC quality index paints a slightly different picture. The highest quality PICCs seem to be in Vietnam, while those in Jordan and Indonesia are roughly comparable with Jordanian PICCs faring slightly better than Indonesia, although with much greater variance.

I also look at the trends in the mean PICC quality and violations indices over time in each of the countries using BoxPlots in the next three figures *Figures B-7 to B-9.* In Jordan, the median violations fall over the first five cycles but picks up slightly afterwards, while PICC quality seems to generally improve over time but dips off in the last cycle. Similarly, in Vietnam, the violations fall over time but show an increase in the last cycle while the median PICC quality seems to vary little over time. In Indonesia, the violations fall over all the cycles and the trend is stronger than in the previous two. The PICC quality shows some improvement over time although the trend is less dramatic.

In *Figure B-10,* I plot the factory means in the violations index versus the PICC quality for each country respectively to get an understanding of the variation and the broad correlation patterns. The figures show that while there is some negative correlation between the two variables in all the three countries, that is, higher PICC quality is negatively associated with lower levels of violations, the association is fairly weak in all three cases. Jordan has a tight distribution in the coefficients. In Vietnam, all factories have PICCs and are in the middle to top end of the PICC quality distribution.

4.2 Methodology

I use the merged datasets for Vietnam, Indonesia and Jordan to understand the association between high quality PICCs with violations in labor and health and safety standards in factories. In particular, I answer the following questions:

- *Within factories, is there an association between the changes in violations of standards and the existence of PICCs?*

- *Can certain institutional features of PICC move the needle on violations?*

I use the following regression estimation with two-way fixed effects to answer this question:

$$Y_{it} = \alpha + \beta_1 PICC_{it} + \beta_2 PICCQualInd_{it} * PICC_{it} + \gamma_t + \eta_i + ctry_k + \epsilon_{it} \quad (4.1)$$

where, the left hand side is a the standardized measure of the (full and subset of) violations index for factory i at time t; the first term on the right hand side is the constant; the second term is a binary indicator of whether a PICC is present or not in the factory i at time t; the third term is the main independent variable which is the index of PICC quality interacted with the presence of the PICC; the third term caputures the time fixed effects; the fourth term captures factory fixed effects; and, finally the error term.

$$\begin{aligned} Y_{it} = \alpha + \beta_1 PICC_{it} + \beta_{2,j=1} PICCQualInd_{j=1,it} * PICC_{it} + ... \\ + \beta_{2,j=X} PICCSubInd_{j=X,it} * PICC_{it} + \gamma_t + \eta_i + ctry_k + \epsilon_{it} \end{aligned} \quad (4.2)$$

In *Equation 2*, I replace the main independent variable, the PICC quality index, with a subset of components of the index, which are measures of PICC institutional features. They are as follows:

- UnionsRep: Aggregates indicators, which shows if a union is present in the factory and it is represented amongst the PICC members;

- ElectionsFair: Aggregates indicators, which denote if the PICC elections were held without interference from management, multiple candidates were present and the workers had free choice in candidate selection;

- GenderRep: Indicates if the female ratio in the PICC is presentative of the female ratio in the factory;

- ManagementSupport: Aggregates indicators, which tell us how much the factory management supports the PICC processes and includes measures that show: if PICC members receive training on how to implement the PICC; workers are released from duty to attend PICC meetings; PICC meetings take place regularly and even if no BW officers are present; both workers and management take turns to chair meetings; and, management incorporate PICC deliberations in their decision making.

An estimation of *Equations 1 & 2* enables me to makes predictions on the following questions within BWP factories, over time, within countries:

- Are PICCs – on their own - related to fall in the violations index within factories over time?

- On average, does variation in the quality of the PICC move the needle on the violations?

- How do the different institutional features of the PICC relate to the index of violations?

In addition to the regression analysis mentioned above, I complement my results with some descriptive analysis some of the cases based on written factory reports from Indonesia and Jordan to enable readers to get a more in depth understanding of the organizational set-up of the PICCs. This contextual framing helps to understand how the PICC quality index characterizes the efficacy of the PICCs and contribute to the associations on the violations indices found in the regressions.

Chapter 5

Results and Discussion

5.1 Results

5.1.1 Table 1 & 2 Results

The results of the regressions from the specifications in *Equations 1 & 2* are presented in *Tables A-1, A-2 & A-3*. In *Table A-1*, I present the results from *Equation 1*, the regression of the violation index on the PICC quality index. In *Column 1*, I only keep the binary variable that a PICC exists as dependent variable for comparison purposes. The results indicate that having a PICC is associated with no significant effect on violations within factories. In *Column 2*, I include the index for PICC quality and the inclusion of leads to some negative[1] effects on the aggregated violations, although the results are weak and only barely significant at the five percent level. This result gives us some indication that PICCs that are of high quality, as captured by the PICC quality index, may move the needle on violations but the effects are weak on the aggregated levels.

In *Table A-2*, I report the results of the regression from *Equation 2*. The analysis breaks down the main components of the PICC quality index and helps to get a nuanced understanding of the institutional aspects that contribute to the effectiveness

[1]Indices are created by aggregating binary variables that record violations against the Better Work compliance criteria. Consequently, a more negative value of the index indicates an improvement in compliance (or a fall in violations) while a higher value indicates the contrary.

of the PICC in affecting aggregated violations of working standards. I am also able to use it to quantitatively test the efficacy of the PICC features presented in Anner (2017)[4]. In all three columns of *Table A-1* the dependent variable remains the same, that is, the natural log of the full violations index. In *Columns 1-4*, instead of having the full PICC quality index as in the previous table, I break down the four main components of PICC quality individually to identify, which contribute significantly to changing aggregated violations within factories. Results indicate that having unions present in the PICCs have some weak effects on actually increasing the violations index while have fair elections[2] of PICCs matters the most as a measure of PICC quality that ensures improvements in violations. Given that all indices are standardized, the results can be interpreted as follows: a one standard deviation increase in the measure of union presence in PICCs is associated with a 0.162 standard deviation increase in the violations index on average while for a similar change in the fair elections index, there is a 0.186 standard deviation decrease in the violations index on average. Appropriate gender representation and management support appear to matter less in the case of the aggregate level of violations. Note that in all cases we look at the interactions of the quality measures with PICC existence. All the indices have been standardized, so we can think of the results in terms of standard deviations.

5.1.2 Table A-3 Results

In *Table A-3*, I present the results from the regression in *Equation 2*, where the main independent variables remains as the components of PICC quality for all the regressions in *Columns 1 to 5*. The dependent variable changes in each column. The first column takes the full index for the violations variables as the dependent variable. The subsequent models in *Columns 2 to 5* then in turn take each of the sub-clusters of the violations separately as the dependent variable, namely: Health and Safety (H&S); Unions and bargaining (Bargain); Work Time (Time), and, Other Worker Protection (Protection). As before, I take the standardized indices to enable me to interpret the results as one standard deviation changes for comparability of results.

[2]This is related to having management buy-in as an initial condition.

Column 1 in *Table A-2* corresponds to *Column 2* in *Table 1.* In the case of the *H&S* sub-cluster, the main explanatory feature is the fair election component as well as the appropriate gender representation in the PICC. In case of violations relating to unions and bargaining, having management support of the PICCs matters as shown by the negative significant coefficient (see *Column 3*). In case of violations relating to work time violations and other worker protection, union presence increase the violations significantly while in case of other worker protection, having PICCs elected fairly can oppose the union effects and significantly reduce violations.

Overall I find that that improvement in PICC quality is associated with a weak negative effect in violations. The breakdown of the analysis by the PICC components tell us a more nuanced story with union presence and fair election of PICCs being of most relevance, albeit driving the violations index in different directions, which likely explains the weak negative effects on the aggregate PICC quality index. We see that the strong associations for fair PICC elections are most relevant for health and safety, and, other worker protection related indices. Gender matters for improving health and safety and management support for unions and bargaining. Finally union presence in PICCs drive up the violations indices for work time and other worker protection.

5.1.3 Robustness

Clustering standard errors at the factory level corrects for correlation in unobserved errors at the factory level and ensures the robustness of the significance of the coefficients, although endogeneity concerns may still remain. While the factory fixed effects help in mitigating the concerns to some degree, the challenge is in the full identification of the model. Consequently, the reported results tell us the correlational relationship of between the PICC quality and violations of standards at the factory level. Although a unidirectional causal relationship cannot be claimed using this analysis, the subsequent discussion will show that the results are in line with current institutional and IR theories as well as relevant qualitative findings from BWP and empirical findings in the standards enforcement literature.

5.2 Discussion

Past studies indicate that bi-partite institutional set-ups as embodied by the PICCs are ineffective without adequate institutional support from management (Weil, 1996; Kochan, Dyer and Lipsky, 1977)[55][32]. Simple presence of a PICC (as in Column 1 of Table A-2) is not sufficient in order to be associated with an improvement in the compliance. This trend in the results are in line with the findings in Anner (2017)[4] in PICCs in BWP factories in Vietnam, which indicate PICCs on their own accord make little (if any) difference in driving change in workplace behavior of workers (eliminating the risk of strikes in particular). According to Anner (2017)[4], efficacy of the PICCs is characterized by the presence of four key factors: fair electoral process of PICC members; appropriate representation of workers in the PICC; protection of members from management retaliation; and, empowerment of workers to address serious non-compliance issues. These align to a large degree with the components of my PICC quality index, thus providing empirical support for the qualitative observations.

Most importantly, my results show opposing effects of PICC features on the violations indices. The presence of unions in PICCs are associated with an increase in the overall index as well as the sub-index on other worker protection. These results reflect the findings of the IR research, which indicates that unions tend to increase reports of job dissatisfaction as well and Pike and Godfrey's (2017)[45] results, which indicate that reports of certain types of violations may increase when unions are represented in the factories and in the PICCs. Whereas, features such as having PICCs elected through fair election process, gender representation and management support are associated with a negative impact on violations (that is, a positive impact on compliance). These results are in line with prior research on mandated health and safety committees by Weil (1999) in the US as well as quantifying the predictions from Anner (2017)[4]. PICCs are also associated with gradual improvement in compliance over time, that eventually tapers off. There is a graphical representation of this trend in *Figures B-7 to B-9*, which reflects similar patterns in the three countries.

I present a description of two case studies below, which help to describe some of

the findings recorded by the BWP advisors in their detailed assessment reports of the factories. The studies are chosen from two different country contexts and different sizes. The one in Jordan is a case where the PICC is reflected as largely effective in reducing violations and the factory is overall on track toward remediation, especially in H&S. The second case, of a factory in Indonesia, is much larger, and ranked to be only of moderate success. There is union representation in the PICC, which has some impact on the dynamics of implementing the remediation of violations.

5.2.1 Case Study 1: Factory report from Jordan

Jordan's Factory *ABC* has a total of 885 workers of which just over half of them are women. Workers are mainly migrants from India, Sri Lanka and Bangladesh, all of whom are represented in the PICC structure. The factory was registered in the BWP-Jordan in 2009 and was in the fourth cycle of the program at the time of the 2013 report. Overall the BWP officer's rated *ABC* as being *Good/Satisfactory* with regards to it's overall compliance. About a dozen major violations were identified at the onset and their progress tracked over time. The main aspects of it's violations related to issues on OSH and other Worker Protection related aspects. The PICC was selected through representative worker elections and the officers (with the guidance of the BW advisors) helped to set up detailed improvement plan for the factory with regards to the violations in conjunction with the management. By the time of the fourth cycle, majority of the violations were deemed to have been remedied. The BWP guidance advised the factory to allocate more resources to the remediation of the remaining violations and workers to work with management in ameliorating the conditions.

PICC was established at *ABC* in cycle 2 of the program and was appointed by selection of the managed and comprised eight workers - equally distributed between men and women with representatives from the migrant workers. On the management side, there was representation from top levels. Although the PICC met regularly, it was met with the guidance of BWP officers. The comments in the report indicated that the PICC discussed various OSH related issues, discussed plans for safety train-

ing, worker recruitment plans and *"emphasized the importance of conducting PICC meetings on a regular basis, discussed issues raised by workers, such as food quality for migrants"*.

The report shows that PICC played a role in setting up a remediation plan. The committee was established through fair processes and had a fair representation of women and workers and showed management engagement. The PICC shows promise of continued progress even in the absence of BWP.

5.2.2 Case Study 2: Factory report from Indonesia

Factory *XYZ* is part of Indonesia's BWP and has a total of 2,485 workers of which 1,849 are women. The factory was enlisted into the program in 2014 and was still in the second year of the program when the report was completed later in the year. Overall the BW officer's rated *XYZ* as being moderate with regards to it's progress on violations. This factory has union workers, who are represented in the PICCs. The union representatives bring up many issues as well as using the PICC as means for negotiating and bargaining on the union specific issues and dissatisfaction rather than working through the remediation plan.

A total of 62 violations were recorded in the visits, which were concentrated in the health and safety clusters such as inadequate use of PPE or safety training. Issues were also noted with regards to deficiencies is providing adequate equipment to workers like work benches thus compromising the workplace conditions standards. Violations were also noted with regards to overtime wage payments and contract renewals. While some of the violations were in progress under the improvement plan recommended by the BWP officers. They recommended the inclusion of non-unionized workers as PICC members to reduce conflict and re-balancing the focus of the PICCs to solving issues more cooperatively with management. The BWP officer noted that some members could not attend the meetings as they were not released from production activities. The PICC needed to also meet more regularly in the absence of the BWP advisors and establish task-teams to ensure that each member can focus and prioritize certain issues instead of having all members taking

responsibility for all issues.

These recommendations indicate that while the factory did have a PICC in place, it operated less than optimally in ensuring sufficient voice to workers at the factory and also without sufficient support from the management. Also, the union participation was over-represented in the PICC, which while raising issues on violations in standards did not facilitate ways to remedy the situation.

This case highlights an area where this is scope for improvement in the functioning of the PICC and in working towards making them more goal oriented in solving rather than simply raising issues of violations. Also, there is a risk that this type of interaction may create conflict with management and risk their future effectiveness in bringing about change as noted in the report, *"For several times since the first cycle, the union were tried to use LKS Bipartit (PICC) as a media for negotiating some issues; rather than focus on discussing certain agenda. Thus, management sometime reluctant to conduct LKS Bipartit meeting, unless there are urgent issues to be discussed with the committee."*

Chapter 6

Conclusion

Prior studies on the efficacy of private enforcement of work standards in global supply chains indicate that there are strong limitations and sustained noncompliance (Barrientos and Smith, 2007; Egels-Zanden, 2007; Locke, Qin and Brause, 2007)[8][24][39]. A few studies have highlighted some important aspects that can play a mediating role such as anti-sweatshop campaigns on improved wages (Harrison and Scorse, 2010)[29] and lean production methods on wage and work hour (Distelhost et al, 2017)[22].

An important area of consideration in establishing predictors of social compliance remains with regards to local institutions and civil society context (Distelhorst et al. 2017, Toffel et al. 2015)[22][53]. Furthermore, the empirical research, often as a consequence of the nature of the initiatives, have neglected the role of worker engagement in initiating and sustaining social compliance. My study aims at filling this gap by studying the worker management participation committees (PICCs), that are formed as part of the ILO's BWP, an example of a private transnational regulatory initiative.

The results of this paper indicate that within factories, there is a weak association between PICCs that are of higher quality and the level of violations. The analysis of the PICC's institutional features indicates that certain characteristics matter more than others in affecting reports of violations in standards in factories. In particular, having union representation in PICCs is associated with higher reported violations while having fair election process in PICC selection is associated with lower viola-

tions. Both these results are in line with prior research on worker engagement in the context of advanced industrialized countries, where unions can help in identification and reporting of violations can explain the increased reports of violations while a well represented PICC can help in implementing remediation of problems identified in audits.

Further analysis is needed to understand the specific mechanisms by which the changes take place, especially in moving the violation reports in opposing directions. There maybe two alternative explanations as to what is driving change in the context of the BWP. The first relates to the theory of change in the BWP model, reminding readers of the *"Fixing Broken Window"* analogy in Weil (2014)[56]: PICCs create a platform that empowers workers by enabling voice and as a result they are better able to identify problems and also enforce compliance, which reduce violations with standards. The alternative is a signaling effect: by ensuring that effective PICCs operate in the factory, management is able to signal to BW and their clients that they are a committed members of the BWP in order to sustain their relationship. However, due to limitation in identification and data collected in the reports it is difficult to address this, but this remains a further scope for research. Detailed interviews with management and workers can help distinguish between these mechanisms.

My sample is limited to factories that are under the BWP umbrella, where participation is voluntary thus meaning that these results can only be generalized to such an institutional framing. This is still relevant for two reasons. One, the BWP program has devoted significant resources to their programs and has a wide reach in the global south in countries that are major exporters of apparel. The establishment of the PICCs is one of the focal components of the program and therefore getting a more nuanced understanding of the PICCs in this setting is significant in and of itself. Furthermore, the factories self-select to be in the BWP and maybe argues to be at the top end of the employers. However, even in my sample there is some variation in both PICC quality and violations. Also, given that even these exhibit visible changes in the factory conditions, the results imply that there is further room for improvement in non-BWP factories in these countries conditional on changing management

attitude. Even if we take this out of the context of the developing world to that of the developed countries, we still have to give credence to the fact that worker management setups can matter for facilitating worker voice even in industrialized settings are are worth exploring further.

Appendix A

Tables

Table A.1: Basic Regressions - Effect of PICCs on Violations

	(1)	(2)
PICC	-0.108	
	(0.148)	
PICC*Agg PICC Qual Ind		-0.133+
		(0.069)
Year FE	X	X
Factory FE	X	X
Country FE	X	X
Constant	0.494***	0.430***
	(0.140)	(0.063)
R-squared	0.161	0.168
N	591	591

+ p<0.10, * p<0.05, ** p<0.025, *** p<0.001

Table A.2: Main Results - Effect of Specific PICC Characteristics on Violations

	(1)	(2)	(3)	(4)	(5)
PICC*Unions	0.132+				0.162*
	(0.068)				(0.065)
PICC*Fair Elections		-0.170**			-0.186**
		(0.051)			(0.056)
PICC*Gender Rep			-0.061		-0.060
			(0.054)		(0.051)
PICC*Management Support				-0.078	-0.012
				(0.063)	(0.061)
Constant	0.402***	0.428***	0.412***	0.424***	0.422***
	(0.062)	(0.064)	(0.063)	(0.064)	(0.063)
Year FE	X	X	X	X	X
Factory FE	X	X	X	X	X
Country FE	X	X	X	X	X
R-squared	0.170	0.182	0.163	0.163	0.197
N	591	591	591	591	591

+ p<0.10, * p<0.05, ** p<0.025, *** p<0.001

Table A.3: Effects of PICCs characteristics on Violations sub-components

	(1)	(2)	(3)	(4)	(5)
Standardized	All	H&S	Bargain	Time	Protection
PICC*Unions	0.162*	0.090	0.030	0.189*	0.174**
	(0.065)	(0.061)	(0.065)	(0.082)	(0.053)
PICC*Fair Elections	-0.186**	-0.175**	-0.066	-0.114	-0.129*
	(0.056)	(0.058)	(0.059)	(0.076)	(0.056)
PICC*Gender Rep	-0.060	-0.159**	0.053	-0.041	0.026
	(0.051)	(0.053)	(0.054)	(0.064)	(0.052)
PICC*Management Support	-0.012	0.104	-0.247**	0.007	0.042
	(0.061)	(0.069)	(0.074)	(0.071)	(0.056)
Constant	0.422***	0.400***	0.270***	0.582***	0.146*
	(0.063)	(0.070)	(0.080)	(0.074)	(0.065)
Time FE	X	X	X	X	X
Factory FE	X	X	X	X	X
Country FE	X	X	X	X	X
R-squared	0.197	0.173	0.070	0.212	0.067
N	591	591	591	591	591

+ p<0.10, * p<0.05, ** p<0.025, *** p<0.001

Appendix B

Figures

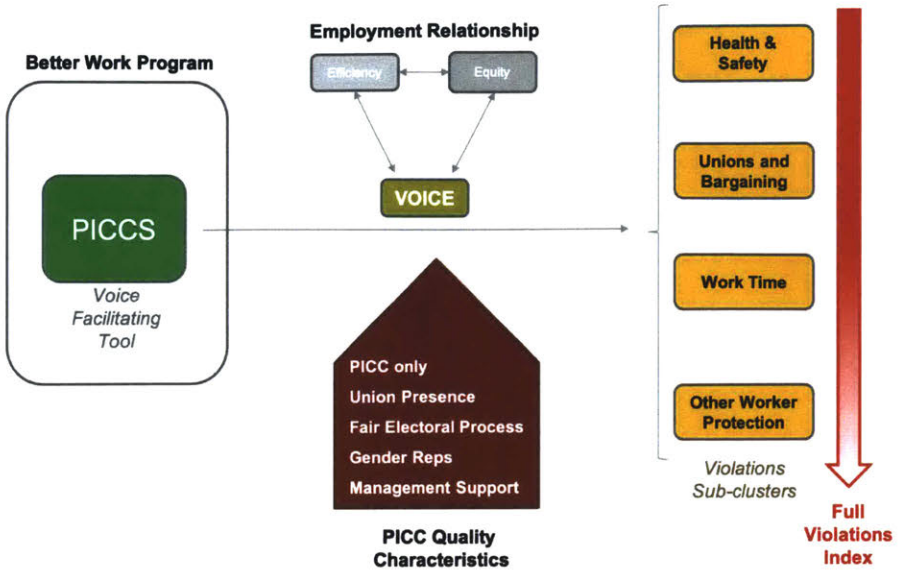

Figure B-1: *How PICCs Affect Violations*

Item	Obs	Sign	item-test corr.	item-rest corr.	avg. int. covariance	alpha
Union present	562	+	0.57	0.46	0.04	0.73
Union member incl	562	+	0.53	0.40	0.04	0.74
Worker Reps Freely Chosen	562	+	0.68	0.57	0.03	0.72
No Interference in Elections	562	+	0.61	0.50	0.04	0.73
Multiple Candidates Present	562	+	0.63	0.52	0.04	0.73
Members Receive training	562	+	0.51	0.37	0.04	0.74
Reps Released from Duty	562	+	0.14	0.10	0.04	0.76
Meet Regularly	562	+	0.61	0.50	0.04	0.73
Bipartite meeting chairing	562	+	0.53	0.40	0.04	0.74
Meeting Minutes Recorded	562	+	0.18	0.04	0.04	0.77
Female Ratio Represented	591	+	0.49	0.32	0.04	0.75
Meets Independently	562	+	0.32	0.21	0.04	0.76
Management Incorporate Decisions	562	+	0.57	0.43	0.04	0.74
Test scale					0.04	0.76

Figure B-2: *This figure shows alpha scores for the PICC index.*

Variable	Obs	Mean	Std. Dev.	Min	Max
INDONESIA					
PICC Exists	252	0.9	0.2	0.0	1.0
Agg PICC Quality Index	252	0.3	0.2	0.0	0.8
Union Present	252	0.6	0.4	0.0	1.0
Fair Elections	252	0.2	0.2	0.0	1.0
Gender Rep	252	0.2	0.4	0.0	1.0
Management Support	252	0.3	0.2	0.0	0.9
JORDAN					
PICC Exists	234	0.8	0.4	0.0	1.0
Agg PICC Quality Index	234	0.4	0.2	0.0	1.0
Union Present	234	0.5	0.4	0.0	1.0
Fair Elections	234	0.4	0.4	0.0	1.0
Gender Rep	234	0.5	0.5	0.0	1.0
Management Support	234	0.3	0.2	0.0	1.0
VIETNAM					
PICC Exists	105	0.9	0.3	0.0	1.0
Agg PICC Quality Index	105	0.6	0.2	0.0	0.8
Union Present	105	0.9	0.3	0.0	1.0
Fair Elections	105	0.8	0.4	0.0	1.0
Gender Rep	105	0.4	0.5	0.0	1.0
Management Support	105	0.4	0.2	0.0	0.7

Figure B-3: *Description of PICC Variables by Country*

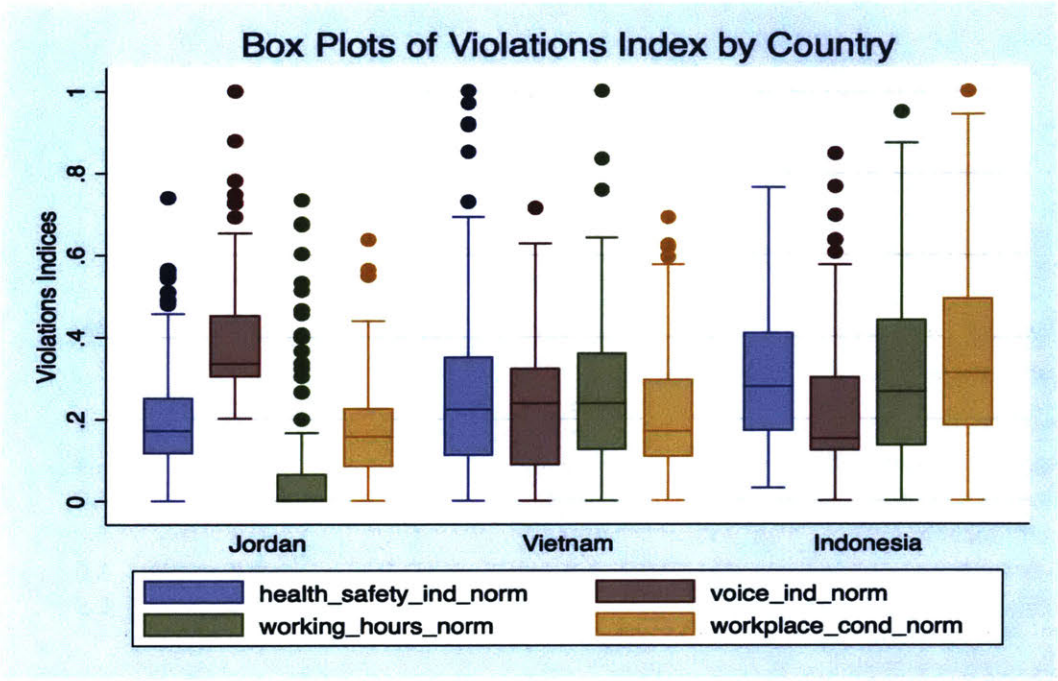

Figure B-4: *How Violations Index Varies by Country*

Item	Obs	Sign	item-test corr.	item-rest corr.	avg. int. covariance	alpha
Union Operatons	591	-	0.52	0.43	0.01	0.82
Collective Bargaining	591	+	0.27	0.20	0.01	0.83
Dialogue, discipline & Disputes	591	+	0.64	0.57	0.01	0.81
Chemicals	339	+	0.61	0.51	0.01	0.82
Emergency Preparedness	591	+	0.61	0.54	0.01	0.82
Hazardous Materials	591	+	0.29	0.22	0.01	0.83
Health Safety/First Aid	591	+	0.62	0.55	0.01	0.81
OSH Management	591	+	0.65	0.56	0.01	0.81
Bonded_Lab~r	591	-	0.13	0.11	0.01	0.83
Coercion	591	-	0.16	0.14	0.01	0.83
Leave	591	+	0.56	0.51	0.01	0.82
Paid Leave	591	+	0.38	0.34	0.01	0.83
Overtime	591	+	0.61	0.51	0.01	0.82
Regular Hours	591	+	0.60	0.50	0.01	0.82
Welfare	591	+	0.59	0.50	0.01	0.82
Worker Protection	591	+	0.62	0.56	0.01	0.82
Working	591	+	0.47	0.39	0.01	0.82
Gender	591	-	0.12	0.10	0.01	0.83
SOCBenefits	591	+	0.50	0.40	0.01	0.82
Forced Labor	591	+	0.16	0.13	0.01	0.83
Minimum Wage	591	+	0.46	0.42	0.01	0.82
Overtime Wages	591	+	0.50	0.34	0.01	0.83
Test scale					0.01	0.83

Figure B-5: *This figure shows alpha scores for the violations index.*

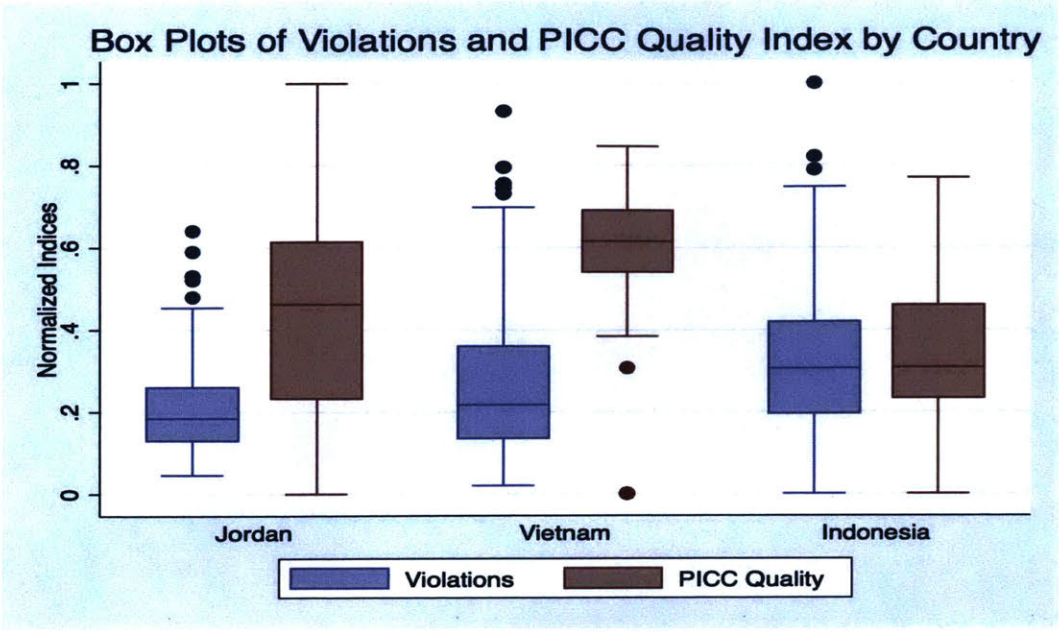

Figure B-6: *How Violations and PICC Quality Varies by Country*

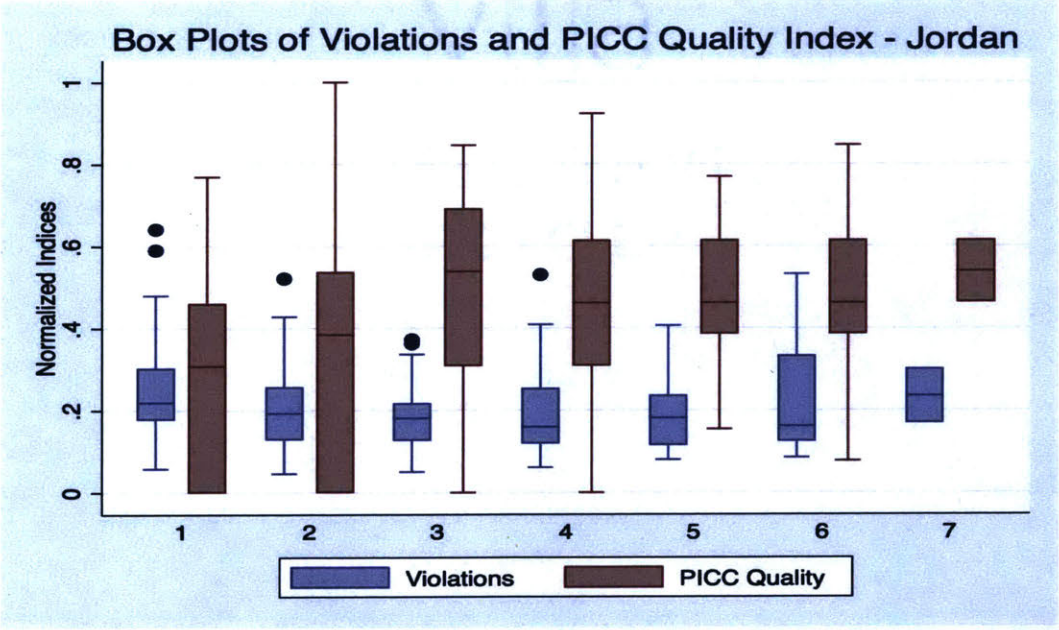

Figure B-7: *How Violations and PICC Quality Varies for Jordan*

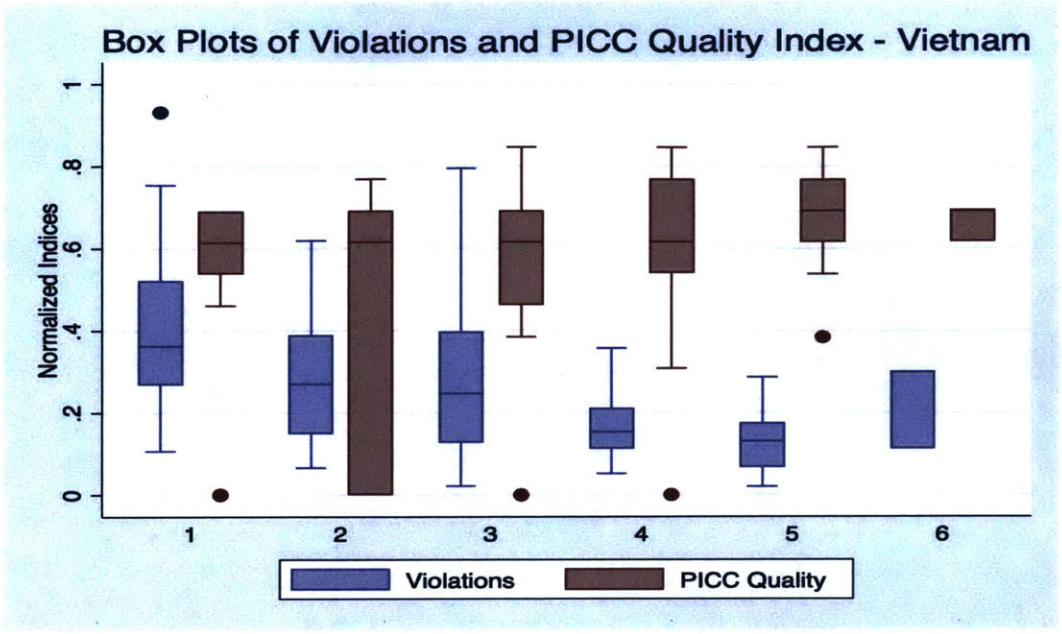

Figure B-8: *How Violations and PICC Quality Varies for Vietnam*

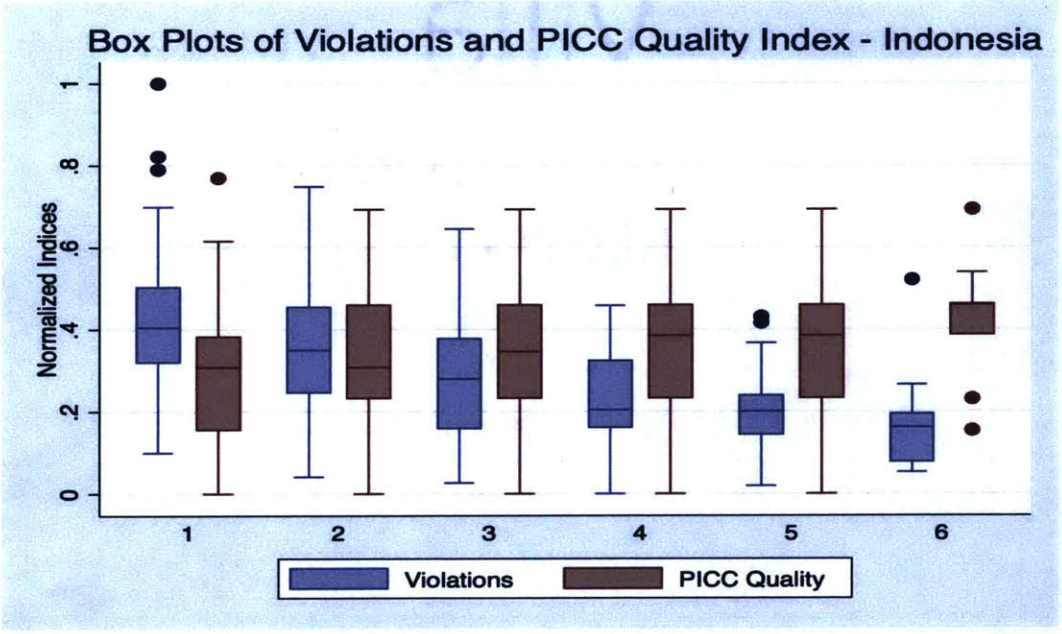

Figure B-9: *How Violations and PICC Quality Varies for Indonesia*

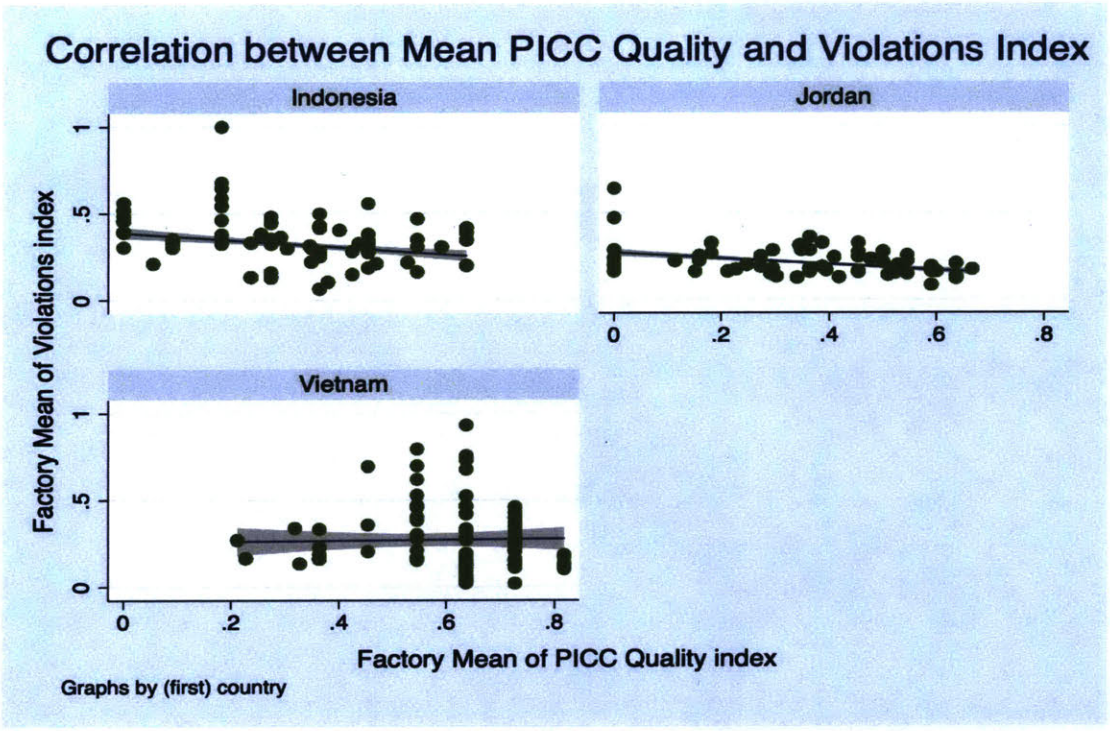

Figure B-10: *How PICC Index Varies with Violations by Country*

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