

Worker Fatalities in the Global South

Life Chances: Labor Rights, International Institutions, and Worker Fatalities in the Global South

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Hundreds of thousands of workers die on the job each year around the world, with disproportionately high fatality rates in the global South. Using fixed effects regression models for 51 countries located in the global South, this research examines how shifts in state context, ties to international organizations, and economic context affect worker fatalities from 1985 and 2002. We find that strengthening collective labor rights—the ability to protest and form worker organizations free from repression—is tightly linked to fewer fatalities. Certain forms of global institutional ties are related to workers' deaths. Increased links to international non-governmental organizations (INGOs) are associated with fewer deaths. Ratification of International Labour Organization (ILO) conventions, however, is decoupled from fatalities. We examine ratification of a *specific* safety convention, as well as *general* embeddedness in the ILO, as represented by ratification of the fundamental conventions. Finally, measures of economic globalization, Foreign Direct Investment and exports, have no significant relationship to fatalities, net of socio-political factors. To unpack the mechanisms underlying the quantitative results, we present three illustrations: construction workers in Uruguay, garment workers in Bangladesh, and miners in South Africa.

Introduction

In April 2013, the collapse of the Rana Plaza in Bangladesh killed over 1,100 garment workers. Although this death toll is particularly staggering, workers routinely die on the job around the world. Yearly International Labour Organization (ILO) data report that roughly 350,000 workers suffer fatal accidents, two million die from work-related diseases, and some 300 million more workers experience non-fatal work injuries worldwide (ILO 2011). These accident

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rates are substantially greater in mid- and low-income countries, with two to four times the rates of high-income countries.

Little comparative work examines *country*-level trends in worker fatalities. Industrial relations scholars typically examine safety at the *organizational* level, and recommend improving “safety climates” and “best practices” by establishing labor-management committees, perfecting employee-selection procedures, and requiring greater facility cleanliness (Flin et al. 2000; Smith et al. 1978). Other scholars trace global supply chains, focusing on the growth and effectiveness of monitoring organizations (Bartley 2007; Esbenschade 2004; Locke 2013; Rodriguez-Garavito 2005; Ross 2004). Still others examine how labor inspectorates enforce firm practices (Piore and Schrank 2008; Pires 2008; Rosado Marzán 2012).

Attending to this gap, we draw from literature in political sociology and institutional theory to focus on three theoretical perspectives that may account for trends in worker deaths: state factors (particularly commitment to collective labor rights), ties to global institutions, and economic globalization. Collective labor rights represent the legal and practical climate for collective worker organization and protest. Countries, particularly in the global South, differ markedly in their support for labor rights. We argue that repression of collective labor rights erodes worker organizations and limits their capacity to combat dangerous work. These arguments build on literature in labor studies and the power resource tradition, which argues that class-based collective actors influence a range of outcomes, from democratization to inequality (Brady 2009; Collier and Mahoney 1997; Dean 2015; Huber and Stephens 2012; Kerrissey 2015). We also examine other aspects of state political context, which may overlap with and reinforce labor rights: labor inspectorates, democracy, and left-party rule.

Countries are also embedded in global institutional structures. A large literature considers how international ties connect countries to broader sets of global cultural norms and practices (Meyer et al. 1997). Scholars in this tradition have examined the impact of global ties on specific outcomes, attending to when and how decoupling between treaties and practices occurs (Cole and Ramirez 2013; Hafner-Burton and Tsutsui 2005; Schofer and Hironaka 2005). Building on this literature, we examine how two types of global ties affect workers' fatalities. First, we examine connections to the ILO. A branch of the United Nations, the ILO is a central site for the creation and diffusion of global work standards. The ILO encourages decent working conditions through establishing conventions. To capture *general* ILO embeddedness, we examine countries' ratification of the ILO's eight fundamental conventions. To capture ties *specific* to safety, we examine ratification of the Labour Inspection Convention. Because conventions have few enforcement mechanisms, we expect them to have little direct effect on fatalities. Second, we consider citizens' connections to international non-governmental organizations (INGOs). We expect INGO ties to reflect the extent that countries are linked to global labor norms, with increasing ties associated with fewer deaths.

We also attend to the relationship between economic globalization and fatality trends. In many ways, the globalized economy has encouraged a “race to the

bottom,” putting downward pressure on labor standards and eroding states’ willingness and ability to prioritize fair work (Brown 2002; Seidman 2007; Tilly 1995). Still, scholars note the complex relationship between economic globalization and labor relations, emphasizing how institutional structures shape and mediate labor issues (Greenhill, Mosley, and Prakash 2009; Martin and Brady 2007; Mosley 2011; Pires 2008). We examine two measures of economic globalization: Foreign Direct Investment (FDI) and exports.

We use fixed effects regression models to analyze fatalities, drawing upon country-level fatality data for 51 countries located in the global South between 1985 and 2002. We then present three country illustrations to tease out the complex interactions between labor rights, labor inspectorates, and global institutional ties in an increasingly globalized economy: construction workers in Uruguay, garment workers in Bangladesh, and miners in South Africa.

State Context: Labor Rights and Political Institutions

State context sets the stage for workers’ life chances. We discuss four broad aspects of state context that may affect fatalities: collective labor rights, capacity of labor inspectorates, democratization, and left-party rule.

Led by scholars in the power resource tradition and labor studies, a large literature examines how worker organization impacts a range of outcomes, from political change to income inequality (Brady 2009; Korpi 1989; Kristal 2010). Many comparative quantitative studies of the global North, where union data are widely available, focus on the effects of union density. Studies of the global South, where union data are less reliable, tend to instead use the concept of *collective labor rights*.¹ This measure captures the legal and practical ability of workers to protest, bargain, and form unions. Repression of collective labor rights weakens the capacity of worker organizations, contributing to lower wages and income inequality in the global South (Dean 2015; Kerrissey 2015). We extend this line of research by examining how collective labor rights influence workers’ deaths.

Labor scholars of industrialized democracies emphasize unions’ central role in generating safe conditions (Mogensen 2006; Rosner and Markowitz 1987; Weil 1991; Reilly, Paci, and Hall 1995; Walters and Nichols 2007; Johansson and Partanen 2002). These studies suggest that worker organizations shape safety through two mechanisms: shop-floor organizing and legislation. Shop-floor organizing spans multiple activities that contribute to safer workplaces: union presence on labor-management committees, member education, safety research, and direct action, including strikes, protests, and workplace occupations. For example, studies based in Europe show that committees with union-appointed representatives reduce injuries compared to management-only oversight because they educate workers on safety issues, encourage workers to report dangerous conditions, and pressure management to implement better practices (Johansson and Partanen 2002; MacDonald and Hrymak 2002; Reilly, Paci, and Hall 1995; Walters and Nichols 2007). Worker organizations also affect safety through their efforts to enact and enforce legislation. In the

United States, for example, unions were instrumental in passing Occupational Safety and Health Administration (OSHA) legislation (Noble 1986). Weil (1991) finds that implementation of OSHA is conditioned by union presence: union shops in the construction industry are more likely to receive OSHA inspections, have more rigorous analysis during inspections, and pay higher fines for safety violations than non-union shops.

Research on the global South echoes the importance of workers' organizations in promoting safer working conditions (Kawakami et al. 2004; Michaels, Barrera, and Gacharná 1985). For example, Kawakami et al. (2004) show how unions use their extensive networks to educate large numbers of workers on safe practices in Thailand, Pakistan, Bangladesh, Mongolia, Nepal, the Philippines, and China.

Scholars also attend to the importance of worker organizations in supply chain monitoring. Private monitoring of subcontracted work in the global South has soared in recent years (Bartley 2007; O'Rourke 2003). Although companies prefer to exclude workers' input in these monitoring systems, sociologists have often argued that workers and their organizations are crucial to enforcing labor standards. Case-based research suggests that workers and their organizations are vital to safety. Workers' unique shop-floor position means they are able to identify unsafe conditions and address them through workplace action and political pressure (Anner et al. 2008; Anner, Bair, and Blasi 2013; Bonacich and Appelbaum 2000; Esbenshade 2012; Rodriguez-Garavito 2005; Ross 2004; Seidman 2007).

Worker organizations operate in very different legal and practical contexts across countries and over time. Repression of worker organizations (e.g., weak collective labor rights) erodes the abilities of workers to build their organizational power. Without this organization, workers have little capacity to leverage their collective power to affect workplace practices or state policies—including safety. We expect that *the strengthening of collective labor rights will be negatively associated with worker fatalities*.

Alongside collective labor rights, other aspects of state context impact worker fatalities, particularly the capacity of labor inspectorates. States monitor and enforce safety standards through labor inspectorates. Studies in Brazil, the Dominican Republic, and elsewhere document the importance of these state agencies (Piore and Schrank 2008; Pires 2008; Schrank 2009). There is wide variation over time and between countries on how these agencies are structured, funded, and empowered to enforce domestic law (Coslovsky 2014; Fine and Gordan 2010; Pires 2008; Rosado Marzán 2012; Zhuang and Ngok 2014). We expect inspectorates to play an important role in reducing worker fatalities in the global South, especially when they have resources and enforcement mechanisms. We also recognize the overlap between unions and labor inspectorates: unions have often supported inspectorates and enforcement (LaFraniere 2007; Noble 1986; Weil 1991). Due to data limitations on labor inspectorates' capacities over time, we discuss them in the case illustrations but do not directly test their relationship to fatalities in the quantitative analyses.

We also consider the role of democratization. Many studies on worker safety are set in highly democratic settings. Examining fatalities in the global South

allows us to consider how safety operates in shifting democratic contexts. We do not expect fatalities to hinge on democracy. Less democratic states vary in their labor arrangements with workers (Posusney 1997). For example, it was under the dictatorship of Getúlio Vargas in 1943 that Brazil passed sweeping labor reform legislation, which continues to regulate workplace safety (Arbache 2008). Finally, we consider the role of left-party rule, as these leaders tend to be more sympathetic to workers' issues.

Global Institutional Ties

How might global institutions shape trends in workers' deaths? Two veins of literature theorize the role of global institutions on societal outcomes—though neither examines fatalities specifically. First, a large literature focuses on the effects of treaties on a range of outcomes, from human rights abuses to environmental degradation. Scholars disagree over the extent that treaties impact outcomes. Some find that treaties largely serve as window dressing, decoupled from actual practices (Hafner-Burton and Tsutsui 2005). Others emphasize that treaties are effective in altering certain behaviors or that context mediates outcomes, with democracy level and world system position playing explanatory roles (Cole and Ramirez 2013; Hafner-Burton 2013; Shorette 2012). Still others argue that even though decoupling may occur, treaties create space for new norms and types of mobilization, serving as a starting place for longer-term social change (Hironaka 2014).

The global institution most relevant to work is the ILO. Affiliated with the United Nations, the ILO establishes “conventions” to guide countries' behaviors. Unlike treaties, conventions lack binding enforcement mechanisms. However, ratification does open a dialogue with the ILO, and countries typically commit to conduct training and report their activities. The number of conventions ratified by countries in the global South has soared in recent decades. Examining why countries adopt conventions, Baccini and Koenig-Archibugi (2014) find that peer adoption—countries with similar international government organizational memberships and export industries—largely explains patterns of ratification. Thus, convention ratifications could be understood as state projects of legitimacy among peers, rather than direct inclinations to improve working conditions. For example, although Pakistan ratified conventions prohibiting child labor, practices on the ground tell a different story: the country lacks a minimum work-age law and at least 2.5 million children work (USDOL 2013).

The ILO prioritizes eight “fundamental” conventions: Forced Labour (1930), Freedom of Association and Protection of the Right to Organize (1948), Right to Organize and Collective Bargaining (1949), Equal Remuneration (1951), Abolition of Forced Labour (1957), Discrimination (1958), Minimum Age (1973), and Worst Forms of Child Labour (1999). We argue that countries' ratifications of these conventions represent a *general* embeddedness in the ILO, which we operationalize as the proportion of fundamental conventions that a country has ratified. We also examine a convention *specific* to safety, the ILO's 1947 Labour Inspection Convention. This convention requires countries to

implement safety standards, provide technical information to employers regarding legal implementation, note employers' non-compliance, and report progress to the ILO. However, as we discuss in the illustrations below, countries routinely disregard reporting procedures. Due to their lack of enforcement mechanisms, we expect that *neither ratification of the ILO's fundamental conventions nor the Labour Inspection Convention will be associated with worker fatalities.*

A second stream of literature considers the role of global institutions, networks, and INGOs in shaping norms and behaviors. Scholars in this literature place different emphasis on agency, but agree that global institutions are key sites for the diffusion of norms. For instance, [Keck and Sikkink \(1998\)](#) trace how transnational activist networks develop practices that instantiate new norms, which alter relationships between the state, citizens, and international actors. These activists use persuasion, socialization, and pressure to create change, often reaching out to international allies to bring pressures to their state governments from outside, in a "boomerang" pattern. Labor scholars document this influence of transnational activism on working conditions of multinational corporations' subcontractors ([Rodriguez-Garavito 2005](#); [Esbenshade 2004](#); [Ross 2004](#); [Seidman 2007](#)). Less focused on the intentions of actors, scholars in the world society tradition emphasize how global institutions and culture shape the structures and actions of nation-states ([Meyer et al. 1997](#)). This perspective argues that the international infrastructure of global institutions serves to institutionalize global cultural models. Empirically, this line of research uses citizens' ties to INGOs to represent countries' connections to a broader set of global cultural norms and practices. Cross-national studies find that INGO ties explain a range of phenomena, from the expansion of education institutions to sex laws ([Frank, Camp, and Boutcher 2010](#); [Schofer and Meyer 2005](#)); however, this literature has not tackled labor issues. The theory would suggest that global labor norms operate in a similar manner to these other outcomes: connections to INGOs will reflect a stronger culture of safer conditions, resulting in fewer fatalities. Thus, we expect that *increasing ties to INGOs will be negatively associated with worker fatalities.*

Economic Globalization

In addition to state political context and global institutional ties, we ask: How might economic globalization affect worker fatalities in the global South? Aspects of the globalized economy put downward pressure on safety regulations and their enforcement ([Brown 2002, 12](#); [Tilly 1995](#)). Weak states and labor movements are unable—or unwilling—to regulate capital in a climate of increasing global competition—or "the race to the bottom."

Within this context, scholars note that the effects of globalization are complex. Economic globalization impacts political institutions, and at the same time, these political institutions channel how globalizing forces unfold in the national arena. Studies find that political institutions help explain trends of income inequality, wages, and union membership, even when accounting for economic indicators such as trade and FDI ([Dean 2015](#); [Kerrissey 2015](#); [Martin and Brady 2007](#)).

Scholars also emphasize the non-uniform effects of economic globalization. For instance, Mosley and colleagues examine countries' collective labor rights, finding that while exports are related to weaker rights, FDI is associated with stronger rights (Mosley 2011; Mosley and Uno 2007). Greenhill, Mosley, and Prakash (2009) find that labor rights in less developed countries depend on the labor rights of their trading partners, not on countries' overall level of trade openness.

No quantitative studies examine the relationship between globalization and worker fatalities. Because prior work stresses the mediating role of national institutions and the uneven processes of globalization, we do not expect economic factors to directly affect fatalities in our within-country design. We control for two indicators of globalization: FDI and exports as a percentage of GDP. We then use two examples, Bangladesh and Uruguay, to examine unsafe working conditions in highly globalized economies.

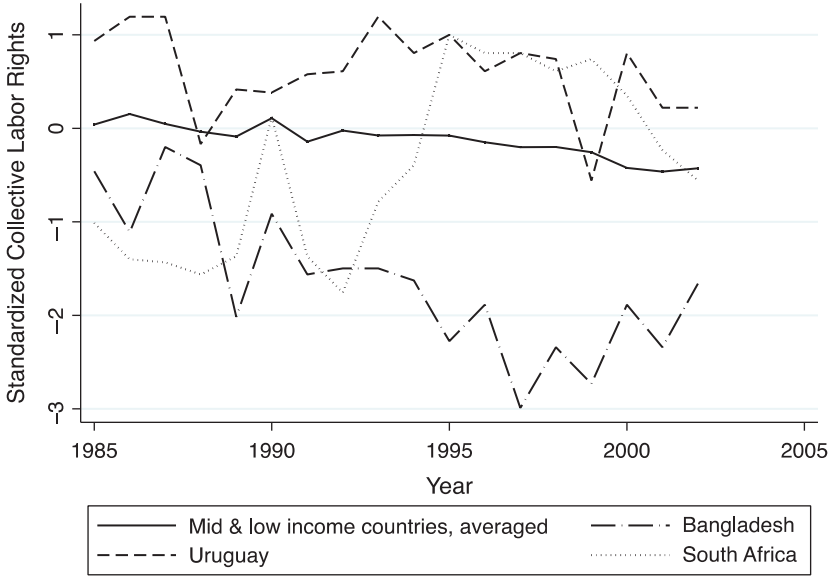
Data

First, we present quantitative analyses of worker fatalities over time. Then, to unpack the mechanisms underlying the quantitative results, we draw on three examples. While these are not full-blown case studies, they illustrate how fatality trends unfold in diverse political, institutional, and economic contexts.

The quantitative analyses include all countries located in the global South with available data, 51 countries.² We exclude Eastern European countries since they transitioned to capitalism during this period. Table 1 presents descriptive statistics.

Table 1. Descriptive Statistics

Variable	Mean	Std. deviation	Minimum	Maximum
Fatalities, logged	4.68	2.07	0	9.90
Population, logged	16.20	1.99	12.02	20.97
% Youth population	36.20	6.90	15.87	49.96
GDP, logged	7.55	.95	4.99	9.37
% Industry, GDP	32.99	9.82	11.98	66.52
% Agriculture, GDP	14.69	9.43	1.34	61.53
Democracy	9.12	3.38	2	14
Labor rights	-.45	1.04	-3.18	1.20
Left parties	.28	.45	0	1
Labor inspection convention	.66	.47	0	1
Fundamental conventions	.67	.29	0	1
INGOs, logged	6.38	.68	4.43	7.85
Exports	37.04	23.14	6.56	127.55
FDI stock	19.30	2.20	12.25	24.57

Figure 1. Average labor rights, 1985–2002

Fatalities—Dependent Variable

The ILO Yearbook of Labour Statistics publishes country-level data on worker fatalities (ILO 2014). Countries compile statistics conforming to international guidelines. National agencies differ in their data-collection methods, coverage, and classifications of workers; they report their methodologies in the database. We use data adhering to the following requirements: covers both men and women, covers all sectors, and has the same scope of coverage. This project considers *fatal cases*: fatal injuries due to occupational accidents and death occurring within one year. This definition excludes occupational diseases and commuting accidents. We use the number of fatalities, rather than rates. Studies in industrialized nations typically use injury rates, which are calculated by the number of injuries divided by the total number of hours worked. Because data for the total number of hours worked are not available for our sample, we opt to control for population characteristics.

Labor Rights

Collective labor rights capture the climate for worker organization. Two major concerns over labor rights measures exist: which sources best measure workers' rights and how to approach decoupling between laws and practices. To address these issues, the ILO developed a coding scheme that includes legal and practical aspects of collective rights by using textual sources from multiple parties (Kucera 2004). Mosley and Uno (2007) extend this index through 2002 in the

Collective Labor Rights Dataset. The index includes 37 aspects drawn from the following categories: freedom of association and collective bargaining–related liberties; the right to establish and join worker organizations and unions; other union activities; the right to bargain collectively; the right to strike; and rights in export-processing zones. The index addresses legal structures, including information on what types of workers may form unions, if independent unions are legal, and whether strikes are allowed. It also addresses practices such as whether unions control their own finances, authorities interfere with union rights of assembly, and union activists are fired, imprisoned, or murdered. The dataset uses three annual sources to reduce bias: the US State Department’s *Country Reports on Human Rights and Practices*; reports from the ILO’s Committee of Experts on the Applications of Conventions and Recommendations and the Committee on Freedom of Association; and the International Confederation of Free Trade Unions’ *Annual Survey of Violations of Trade Union Rights*. Countries receive a score of 1 if any of the three textual sources reports a violation. Violations are weighted based on expert assessments of the violation’s severity. Teitelbaum (2010, 461) shows that the index’s component items relate to the same latent variable: “the propensity to violate labor rights.”

Figure 1 reports the average standardized collective labor rights scores for all less developed countries, as well as the three country illustrations. Overall, labor rights became slightly weaker between 1985 and 2002, but countries vary in their trajectories. For example, South Africa expanded labor rights while Bangladesh dismantled them.

Left-Party Rule

The Database of Political Institutions provides data on political party orientation with respect to economic policy (Beck et al. 2001). We use a dichotomous measure, with 1 representing executive parties that are communist, socialist, social democratic, or left-wing. Zero represents right parties defined as conservative (Christian Democratic or right-wing) or centrist parties. In our sample, 19 countries changed party rule at least once.

Democracy

We draw democracy measures from Freedom House; Polity VI yielded similar results. Averaging political rights and civil liberties, democracy scores measure between 1 and 14, with 14 representing highly democratic societies. For our sample, democracy and collective labor rights have a correlation of .35.

INGOs

The Yearbook of International Associations records the yearly number of citizen ties to INGOs by country. We log INGOs to account for skewed distribution.

ILO Conventions

We use two measures of ILO conventions. The first, labeled *percent ILO fundamental conventions*, aims to capture countries’ general embeddedness in the ILO. We operationalize this measure by creating a yearly indicator for the percentage of fundamental conventions a country has ratified, divided by the total number of possible fundamental conventions that it could have ratified. Second, we use a yearly dichotomous measure to indicate whether a country has ratified the Labour Inspection Convention. The two convention measures have a correlation of .38.

Figure 2 illustrates the expansion of ILO convention ratification for countries in the global South. In 1985, countries, on average, had ratified 51 percent of the fundamental conventions; by 2002, the average had risen to 76 percent. Countries also increasingly ratified the Labour Inspection Convention, increasing from 58 percent in 1985 to 66 percent in 2002.

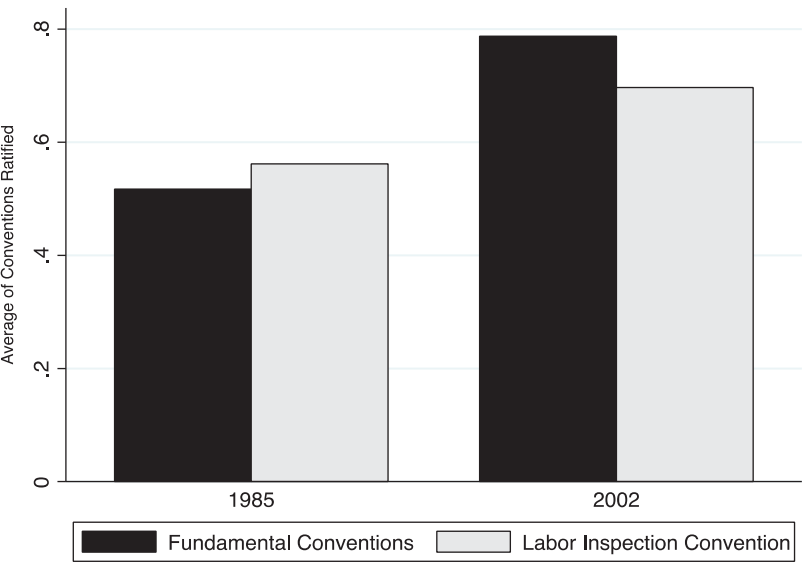
Exports

This variable measures the exports of goods and services as a percentage of GDP (World Bank 2012). We explored various measurements of exports, including growth in exports and constant dollars; results were similar.

Foreign Direct Investment

FDI is the net stock of FDI, logged (World Bank 2012).

Figure 2. ILO conventions ratified in the global South, 1985 and 2002



Population

Population represents the total population of a country, logged ([World Bank 2012](#)).

Youth Population

Youth population is the population of people between the ages of 0 and 14 as a percentage of the total population ([World Bank 2012](#)).

GDP

Gross Domestic Product (GDP) per capita is in constant 2000 US dollars, logged ([World Bank 2012](#)).

Agriculture and Industry

We include controls for industry and agriculture, both measured as the percentage of a country's GDP ([World Bank 2012](#)). Agriculture includes agriculture, hunting, fishing, and forestry. Industry includes mining, manufacturing, construction, and public utilities.

Methods

Analyses include 51 countries and 499 country-year observations from 1985 to 2002. The dataset has an unbalanced panel structure, with countries reporting different numbers of observations across irregular time periods. With this data structure, errors are likely to be correlated with each other. Ordinary least square (OLS) estimates are not appropriate for this type of data, as basic assumptions about uncorrelated errors are likely violated ([Greene 2000](#); [Hsiao 2003](#)). Two modeling strategies attend to this issue: random effects models (REM) and fixed effects models (FEM).

REM focuses on differences between countries and addresses the issue of clustering produced by panel designs where observations may be correlated. With REM, the error term includes a unit-specific component that varies across units but is constant over time. This can be problematic if unmeasured unit-specific factors influence fatalities the same way over time. With REM, the error term includes a unit-specific component that varies across units but is constant over time.

FEM is a technique used to capture changes within countries, ignoring variation between countries. FEM accounts for a specific kind of omitted-variable bias by controlling for time-invariant omitted variables. FEM is less efficient than REM, but it is conservative in that it accounts for unobserved, or time-invariant, features of each case.

Although countries report their data-collection procedures, the ILO warns researchers to use caution in cross-national comparisons. Heeding this warning, FEM is the most appropriate technique because it focuses on changes within

Table 2. Fixed Effects: Worker Fatalities in the Global South, 1985–2002

	Model 1	Model 2	Model 3	Model 4
Economic globalization				
FDI, logged	−0.038 (0.028)	−0.038 (0.028)	−0.045 (0.028)	−0.036 (0.028)
% Exports, GDP	0.003 (0.004)	0.003 (0.004)	0.002 (0.004)	0.005 (0.004)
State context				
Democracy		0.010 (0.018)	0.023 (0.019)	0.017 (0.018)
Left-party rule		0.017 (0.086)	0.044 (0.086)	0.057 (0.086)
Collective labor rights			−0.118** (0.045)	−0.129** (0.045)
Global institutional ties				
ILO labor inspection convention				−0.196 (0.186)
% ILO fundamental conventions				0.642** (0.229)
INGOs, logged				−0.877** (0.296)
Controls				
Population, logged	1.385** (0.428)	1.354** (0.442)	1.090* (0.451)	1.951*** (0.562)
% Youth population	0.097*** (0.022)	0.096*** (0.022)	0.097*** (0.022)	0.097*** (0.022)
GDP, logged	1.704*** (0.253)	1.676*** (0.258)	1.669*** (0.256)	1.887*** (0.275)
% Industry, GDP	−0.013 (0.008)	−0.013 (0.008)	−0.015† (0.008)	−0.020* (0.009)
% Agriculture, GDP	−0.007 (0.015)	−0.008 (0.015)	−0.006 (0.015)	−0.005 (0.015)
Constant	−32.974*** (7.774)	−32.302*** (8.072)	−28.016*** (8.185)	−38.348*** (9.215)
Observations	499	499	499	499
Countries	51	51	51	51

Standard errors in parentheses.
*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$, two-tailed tests.

countries. Still, we conduct both FEM and REM analyses and use a Hausman test to determine whether coefficient estimates differ between models. REM yields similar outcomes to FEM in terms of coefficient directions and significance levels. However, the Hausman test fails, suggesting significant differences in the

coefficient estimates. Due to this and the ILO's caution against comparing data across countries, we opt to present FEM results.

Results

We report the relationship between worker fatalities and shifts in state political context, global institutional ties, and economic globalization in table 2. We find a strong, consistent relationship between strengthening labor rights and fewer fatalities. We observe that global institutional ties have mixed effects: INGOs are associated with fewer fatalities, but ILO convention ratification is not. Economic globalization indicators are not directly related to worker fatalities.

All models include control variables. Total population and percent youth population, which capture demographic shifts within countries, are positive and significant. Increases in the total population, when controlling for youth population, expand the potential workforce and the number of people at risk of workplace hazards. We also control for basic characteristics of the economy. GDP per capita is positively associated with fatalities. As the economy expands, worker fatalities increase. To account for broad shifts in economic activities within countries, we control for the percentage of GDP added by industrial and agricultural sectors. Increasing the agricultural sector is not significantly related to fatalities; increasing the industrial sector is associated with fewer fatalities ($p < 0.05$).

Model 1 includes economic globalization measures: FDI and exports as a percentage of GDP. Neither measure is significant. There is no significant impact on worker deaths when countries grow their export economies or increase FDI. This non-significance fits with prior scholarship that emphasizes the complex effects of globalization, including that political institutions filter the effects of economic globalization. Note, however, that because we use fixed effects, these findings do not speak to differences between countries. Below, we use the examples of Bangladesh and Uruguay to discuss how forms of economic globalization unfold in two very different political contexts.

Model 2 examines the relationship between state context and fatalities, beginning with democracy. We find no evidence that democratization affects worker fatalities. As we discuss earlier, it is possible for less democratic states to have workplace protections (Arbache 2008; Posusney 1997). Model 2 also includes a yearly dichotomous measure for left-party rule. We observe that left-party rule has no direct effect on worker deaths. Fatalities are no more prevalent within countries when left-oriented leaders, compared with more conservative leaders, are in power. We note that sustained left-party rule or periods of high democracy could impact fatalities over time. Our sample size and fixed effects design prevent us from examining prolonged effects.

Model 3 reports the relationship between collective labor rights and fatalities. We argue that the strengthening of labor rights creates a climate in which worker organizations can more effectively form, grow, and exert collective pressure to improve dangerous conditions through shop-floor organizing and

political avenues. Supporting this argument, model 3 reports a negative and significant relationship between collective labor rights and fatalities ($p < 0.01$). As labor rights become stronger, fewer workers die on the job.

Model 4 focuses on the relationship between fatalities and global institutions, specifically INGO ties and ratification of ILO conventions. Prior work finds that international networks and organizations create conduits for global norms (Keck and Sikkink 1998; Meyer et al. 1997). Following world society literature, citizens' ties to INGOs represent the extent to which countries are connected to a broader set of global cultural norms and practices. We observe that increasing INGO ties is associated with fewer deaths ($p < 0.01$).

We then examine *general* and *specific* ties to the ILO. Human rights scholars show that treaties may improve countries' human rights practices in some ways, but there is also evidence that treaties and practices may be decoupled (Hafner-Burton and Tsutsui 2005). Because ILO conventions are not binding, we do not expect ratification to translate into fewer fatalities. In line with this expectation, we observe no significant decrease in fatalities upon ratification of the Labour Inspection Convention, our specific measure. One concern with this convention is the possibility of a reporting effect. For example, countries could change their reporting of fatalities after they ratify the labor inspection convention. Reporting effects could translate into increased or decreased levels of reported fatalities, depending on how the convention ratification affects reporting practices. We do not detect reporting patterns in either direction, which leads us to believe that reporting effects are minimal.

We also consider general embeddedness in the ILO, which we capture by the percentage of ILO fundamental conventions ratified. We expected that increasing ratification rates would be unrelated to fatalities. However, we find a positive, significant relationship ($p < 0.01$): as countries become more embedded in the ILO via fundamental conventions, more fatalities occur. We unpack this dynamic in the illustration of Bangladesh below, showing that as Bangladesh dismantled labor protections in the late twentieth century, it simultaneously adopted ILO conventions.

Illustrations

The forces that drive fatalities often overlap and are mutually reinforcing. To unpack the complexities of these mechanisms and to bolster our quantitative results, we use three examples to illustrate *how* labor rights, labor inspectorates, and global institutional ties shape safety in an increasingly globalized economy. We select examples that vary along these relevant dimensions: construction workers in Uruguay, garment workers in Bangladesh, and miners in South Africa (Seawright and Gerring 2008).

Uruguay—Construction Workers, Free Trade Zones, and Strong Collective Rights

We use the case of construction workers in Uruguay to discuss how support for labor rights shapes safety, even in the highly globalized context of free-trade

zones. Uruguay is fully enmeshed in the globalized economy, with high levels of trade, FDI, and dozens of free-trade zones. A high-profile accident occurred in one of Uruguay's free-trade zones, Punta Pereira, in 2013 during the construction of the Montes del Plata pulp mill. The mill is the largest private-sector-led investment in Uruguay's history. A joint venture of Celulosa Arauco y Constitución of Chile and Stora Enso of Finland, construction of the \$2 billion project employed over 5,000 workers. Amid rising safety concerns on the construction site, construction worker Mario Andrezejuk Malacre fell 30 feet to his death on January 29, 2013.

Immediately, workers with Uruguay's National Union of Construction and Allied Trades Workers (SUNCA) used direct action and political pressure to address the dangerous conditions underlying Malacre's death. Thousands struck, SUNCA held a series of marches in Punta Pereira and Montevideo, and workers occupied the construction site. They demanded that the company allow union delegates to order work stoppages if they deemed worksites to be unsafe, and called for better safety protocols and heavier punishments for safety violations. Uruguay's Minister of Labor and Social Security, Eduardo Brenta, met with leaders of SUNCA and Montes del Plata. Brenta served as an ally for the construction workers, saying the government had documented "repeated violations" by Montes del Plata and would act "with the utmost rigor" to enforce safety rules (Fox 2013). A week after the strike began, Montes del Plata agreed that the union had the right to shut down unsafe worksites, and provided union delegates 2.5 hours per day to inspect worksites for safety violations, and four hours in particularly dangerous situations (Galinsky 2013).

The favorable climate for labor rights, coupled with workers' organization and mobilization, help explain the shift in the company's safety practices. Support for labor rights has a long history in Uruguay, dating back to the first decade of the twentieth century with the presidency of José Batlle y Ordóñez. The country has ratified all eight of the ILO fundamental conventions, as well as the Labour Inspection Convention, and national laws protect workers' rights to organize and strike. As figure 1 shows, labor rights were relatively constant and strong with the return to civilian government in the mid-1980s through 2002. Electoral victories for the pro-worker Broad Front Party since 2004 improved labor's fortunes somewhat. For example, the ILO reports the number of labor inspectors has increased (ILO 2010). Worker organizations have been strong in Uruguay, benefiting from the supportive state climate and also simultaneously reinforcing it. It was within this favorable political climate that construction workers were able to improve dangerous work conditions—even in a free-trade zone.

Bangladesh—Garment Workers, Repression, and International Organizations

Bangladesh is also enmeshed in the globalized economy; however, it has a weak record for supporting collective labor rights and other workplace protections.

This example illustrates the decoupling of ILO conventions and safety practices, as well as the role of international institutions in supporting safety standards and workers' rights. Bangladesh's garment industry, the second largest in the world, accounts for approximately 80 percent of the country's total exports and employs about 3.5 million people (Claeson 2010, 11). Wages are among the world's cheapest, and the country's garment industry is rife with safety abuses, with factories housed in outdated, poorly built, and shoddily wired buildings with minimal exits and locked doors (SOMO 2013). While the dramatic collapse of the Rana Plaza made international news, hundreds of workers have died in numerous workplace disasters in recent years.

Many factory accidents have occurred in Export Processing Zone (EPZs). With the goal of attracting foreign capital, Bangladesh opened its first EPZs—where the country's labor laws would not apply—in 1984, followed by several more in the 1990s (Aggarwal 2005; Dowla 1997). As figure 1 illustrates, the growth of EPZs in the 1990s was accompanied by a sharp decrease in labor rights. Yet, even while it was dismantling work standards through EPZs, Bangladesh was relatively embedded in the ILO, ratifying five out of eight fundamental conventions, as well as the Labour Inspection Convention. ILO reports reveal decoupling between convention ratification and practices, noting that the country's labor inspectorate regularly failed to report its activities, that it was understaffed and underfunded, and that national law stipulates that it has no mandate to conduct inspections in EPZs (CEACR 2015). Similarly, despite ratification of ILO conventions on freedom of association and the right to organize, labor rights were repressed on the ground. While domestic law recognizes the right to form unions and strike, it has multiple restrictions. Genuinely independent worker organizing, without permission from employers, has been largely illegal in Bangladesh. While some improvements have been made since 2013, it is still illegal for workers in EPZs to form authentic unions. In practice, labor activists often face severe repression. For example, leaders of the Bangladesh Center for Worker Solidarity (BCWS) were imprisoned in 2010, and in 2012, BCWS activist Aminul Islam was murdered. Despite signing ILO conventions, the practices of union repression and unfavorable legal context make it extraordinarily difficult for workers to organize collectively.

Despite the decoupling of ILO conventions and practices, international organizations may impact safety in other ways. After the Rana Plaza disaster, the ILO and other international organizations increased their presence in Bangladesh (ILO 2013; ILO 2015a). This presence has attracted global media attention, keeping safety standards in the public eye. International organizations have also pooled resources and built networks to better address dangerous work. For example, the ILO, working together with the Bangladeshi government, worker organizations, and employers, rolled out a program to implement a series of newly passed labor laws, and in 2015 the ILO launched a five-year initiative to enhance workplace rights in the garment industry, backed by a \$5.4 million grant from Sweden (ILO 2015c).

INGOs have also played an important role in advocating for workers' safety and rights. INGOs such as the Worker Rights Consortium, the Clean Clothes

Campaign, and the International Labor Rights Forum, as well as union federations, have pressured multinational clothing brands that subcontract in Bangladesh to sign the legally binding Bangladesh Accord on Fire and Building Safety, which requires safety inspections of factories and protects union organization. Workers and their allies have also staged protests and work stoppages, demanding fair compensation for the victims and their families, as well as higher wages, union recognition, and safer worksites. Though police initially responded by arresting protesters, in the past three years the government has offered small wage increases, loosened some restrictions on union organizing, and awarded around 3,000 compensation claims to the families of Rana Plaza victims (ILO 2015a). The focused attention of INGOs and the ILO has been key to these worker victories, mobilizing resources, an international network of support, and media attention. While it is too early to analyze the long-term effects of this international presence, it could possibly lead to a transformation in work norms over time, as scholars show has occurred in other contexts (Hironaka 2014; Keck and Sikkink 1998).

South Africa—Mineworkers, Shifting Political Context, and Institution Building

The collapse of the apartheid regime provides insight into how radical political shifts affect labor rights, safety institutions, and fatality trends. To explore these connections, we focus on South Africa's mining industry, which employs approximately half a million people and is the world's largest producer of gold, platinum, and chromium.

Prior to the end of apartheid in 1994, many of the country's unions faced severe government repression (Buhlungu 2010). The country also distanced itself from the ILO, not ratifying any of the eight fundamental conventions. During this period, fatalities in mines were egregiously high. In 1984, for example, nearly 800 mineworker deaths were reported (ILO 2012).

In 1982, workers formed the National Union of Mineworkers (NUM) and adopted a militant platform based on opposition to the ruling National Party. NUM soon joined the nascent Congress of South African Trade Unions, which allied with the African National Congress (ANC). Because of its ties with the ANC, the NUM was in political competition with the ruling party, greatly limiting the union's ability to influence the state to enact better workplace-safety standards.

When the union-backed ANC won the reins of the government in 1994, labor gained a strong voice within political institutions. The new ANC government showed its commitment to workers by dramatically expanding collective labor rights, as illustrated in figure 1, and by ratifying all eight of the ILO's fundamental conventions, as well as the Safety and Health in Mines Convention, in the brief period between 1996 and 2000. The new government also built institutions to support safety. Perhaps most important for miners was the 1996 Mine Health and Safety Act, which established a tripartite Mine Health and Safety Council and a labor inspectorate specifically for mines. In 2003, the Council set a goal of

zero fatalities and injuries in the mining industry by 2013. Companies and unions established procedures to track and replicate best practices, and employers agreed to establish health and safety committees with electable representatives. These initiatives were major departures from the state's lack of commitment to safety and intolerance of unions in the pre-apartheid era.

These efforts gradually yielded some results. By 2006, reported mineworker fatalities had dropped to 200. Still frustrated with this level, in 2007 the NUM organized a national strike to protest workplace deaths and injuries. Throughout 2008, miners staged one-day strikes following fatalities. The ANC government responded to this labor militancy by proposing an amendment to the Mine Health and Safety Act. The amendment, which ultimately failed to pass, included a provision making the top executives and managers of mine companies criminally liable for workplace accidents if negligence could be proven (Kohler 2010). Although mineworker fatalities have stayed well below the pre-apartheid era and dropped to record-low numbers in 2014, the death rate remains close to 100 per year (Solomons 2015). Some worker leaders have accused the NUM of being too close to the government and mine industry, and in recent years have flocked in large numbers to a breakaway union that has been organizing militant strikes.

Discussion and Conclusion

Although hundreds of thousands of people die from accidents on the job annually, little research systematically examines the factors underlying these deaths. We examine 51 countries located in the global South, coupled with three country illustrations, to unpack how state context, international ties, and economic factors affect worker fatalities.

We find that collective labor rights—the legal and practical ability for workers to form organizations, protest, and bargain—is strongly related to workers' deaths. The repression of collective rights limits the capacity of worker organizations to effectively challenge dangerous work through direct action and political processes. To unpack these quantitative findings, we draw on brief country illustrations to illuminate how collective labor rights shape the ability of worker organizations to influence conditions. Labor movements in Uruguay and South Africa played pivotal roles in establishing inspection systems and enforcing legislation through using direct action and leveraging political relationships. These improvements were gained in political settings that were favorable to worker organization—when the rights to organize, protest, and bargain were legally sanctioned and abided by in practice. Labor movements have had less success in winning safer workplaces where the climate for collective labor rights is harsh, as the Bangladesh example demonstrates. By examining an understudied outcome—worker fatalities in the global South—these findings build upon research that locates class-based collective actors and the political climate in which they exist as key to understanding political and economic change (Brady 2009; Collier and Mahoney 1997; Dean 2015; Huber and Stephens 2012; Kerrsisey 2015; Korpi 1989; Wood 2000).

Domestic political landscapes, however, are deeply entwined with global institutions. International organizations and networks are sites of global norm diffusion. A large literature examines this diffusion generally, though little examines labor norms specifically (Hassel 2008). We find that increasing ties to INGOs correlates with fewer deaths within countries. This supports world society scholarship, which theorizes that INGOs represent the diffusion of global cultural norms. To buttress this quantitative finding, we illustrate the role of global ties through our discussion of garment workers in Bangladesh. Ties to INGOs have soared in Bangladesh, almost doubling between 1990 and 2010. Labor INGOs focused on work in Bangladesh have played a central role in improving safety by publicizing issues around unsafe work and pressuring the government and clothing brands. These activities are similar to those that Keck and Sikkink (1998) document with human rights and that labor scholars trace in other cases of transnational labor activism (Esbenshade 2004; Rodriguez-Garavito 2005).

Countries' ratification of ILO conventions tells a more complicated story. Because conventions have few enforcement mechanisms and their ratification partly reflects efforts to gain legitimacy (Baccini and Koenig-Archibugi 2014), we did not expect convention ratification to reduce fatalities. We examined a *specific* safety measure, the Labour Inspection Convention, and a *general* measure, the percentage of fundamental conventions ratified. We observe no relationship between ratifying the Labour Inspection Convention and worker fatalities. ILO reports show that even after ratification, countries often fail to report their inspection activities and underfund their inspectorates (CEACR 2015). Thus, we conclude that ratification of the Labour Inspection Convention is largely decoupled from fatality trends. We observe that increasing ratification of the fundamental conventions is associated with *more* fatalities. It is unlikely that convention ratification causes fatalities; rather, we suspect that countries may ratify conventions for other reasons (e.g., legitimacy) that may simultaneously map on to fatalities. Overall, these findings suggest that neither type of convention ratification—safety specific or general—helps reduce fatalities.

This decoupling speaks to a broader literature on the relationship between international agreements and their outcomes. There is considerable disagreement over how international agreements impact actual outcomes (Cole and Ramirez 2013; Hafner-Burton 2013; Hafner-Burton and Tsutsui 2005; Shorette 2012). We note that while convention ratification is not associated with fewer fatalities, context matters. The Bangladesh example reveals dramatic decoupling: as the country was dismantling labor standards through EPZs, it was simultaneously ratifying ILO conventions. The case of South Africa adds nuance to this dynamic. The apartheid government did not ratify any conventions. When the labor-backed ANC won power, it rapidly ratified all fundamental conventions and showed commitment to labor issues by enacting a series of enforceable domestic measures aimed at increasing safety. We suggest that the context in which conventions are ratified—specifically the presence of strong state support for labor and a strong labor movement—may reflect how well conventions are enforced.

While the available quantitative data prevent analyses of labor inspectorates, the country illustrations echo prior research in suggesting their importance to safety (Coslovsky 2014; Piore and Schrank 2008; Pires 2008; Zhuang and Ngok 2014). Both international pressures and domestic political context shape labor-inspection systems. International pressures, such as the ILO and INGOs in Bangladesh, can buttress states' willingness and capacity to build labor-inspection programs. Domestic politics matters as well: miners in South Africa won tripartite inspection systems with the rise of the labor-backed government; in Uruguay, construction workers augmented the state inspectorates with union-run systems, including the union's right to monitor workplaces daily and shut down unsafe sites.

Considering economic globalization, we find no correlation between fatalities and FDI or exports within countries. These findings fit with literature that emphasizes the non-uniform effects of globalization and how political institutions condition these effects (Greenhill, Mosley, and Prakash 2009; Martin and Brady 2007; Mosley and Uno 2007). Our country examples illustrate the contextually dependent effects of globalization. Bangladesh exemplifies the "race to the bottom." The Bangladeshi government sought to attract foreign capital by offering some of the lowest labor costs in the world, excluding EPZs from many labor laws, and tolerating the repression of labor activists. The Uruguay case reveals the variation in the relationship between increasing economic globalization and fatalities. Similar to Bangladeshi garment workers, construction workers labored in a free-trade zone on an FDI-funded project; however, in Uruguay, labor laws were upheld in free-trade zones and labor activists faced less repression. We propose that globalization does not necessarily go hand in hand with dangerous working conditions. Political institutions can curb some of the harshest aspects of the "race to the bottom." However, it is important to recognize that some countries are better positioned to withstand pressures to dismantle labor standards. Our within-country research design cannot address the relative positions of countries.

One limitation of this study is that it examines the effects of international institutions in the short term and through the lens of convention ratification. INGOs and international institutions serve as conduits for shared norms. However, these norms may develop over years or decades. It is possible that adopting ILO conventions and engaging in reporting procedures may be a *starting* point for social change (Schofer and Hironaka 2005). Long-term, persistent institutional structures may slowly change ideas about how work should be organized and incrementally alter practices around safety. Moreover, conventions create reporting and technical assistance structures, which could open up avenues for relationship and institution building that could lead to longer-term transformation.

It is also important to note that while convention ratification may not directly reduce fatalities, the ILO affects safety in other ways. *As an organization*, the ILO may still play a critical role in supporting decent working conditions. The ILO is transparent about its goal to transform safety culture around the world, stating that it "aims to create worldwide awareness of the dimensions and

consequences of work-related accidents, injuries and diseases and to place the health and safety of all workers on the international agenda and to stimulate and support practical action at all levels” (ILO 2015b). While this “worldwide awareness” may diffuse in part through conventions, it likely also transmits through other ILO initiatives, such as its collaboration with the Bangladeshi government, companies, and worker organizations to address safety issues. In addition, as an organization, the ILO pools and disseminates resources. After the Rana Plaza collapse in Bangladesh, for instance, the ILO utilized its international partnerships to channel large amounts of resources into workplace safety initiatives in the garment sector (ILO 2015a). Future research could probe how ILO activity shapes outcomes over the long term and how the targeted presence of international organizations in specific countries may alter working conditions. Finally, the data availability for countries in this sample limits our analyses. Several types of data would complement this research, including data on union density, strikes, and fine-grained occupations. Case-based studies could reveal how these factors add nuance to our analyses.

What does this study imply for contemporary debates on how to reduce workplace fatalities in the global South? First, it calls attention to the social forces that shape working conditions. Much of the research based in the industrialized democracies focuses on organizational cultures, like how to implement “best practices.” These studies tend to neglect the broader political context, which we show to be useful in understanding worker fatalities.

Second, this study informs contemporary debates over the role workers and their organizations play in workplace monitoring. Scholars and practitioners have debated viable alternatives for improving working conditions in the context of a “thinned national state” that yields little regulatory power (Seidman 2007). Companies increasingly use third-party monitors that exclude workers from inspections. Much case-based research focuses on the limits of these voluntary private monitoring systems. Claeson (2010), for example, reports multiple incidents where Bangladeshi factories were inspected by private monitoring firms and checked off as satisfactory, only to suffer large-scale fatal accidents soon after. Scholars point to the need for worker involvement in monitoring, as well as the need to re-prioritize and reinforce national institutions (Anner et al. 2008; Rodriguez-Garavito 2005; Ross 2004; Seidman 2007). In the first comparative analysis of fatalities focused on the global South, we find a strong relationship between collective rights and workers’ deaths. These findings remind us that amid public debates over how to best reduce worker fatalities in the global South, it remains essential for transnational and domestic actors to bolster worker organizations by reinforcing collective labor rights in the law and in practice, enabling working people to address dangerous conditions and to literally improve their life chances.

Notes

1. Inconsistent definitions of unions and data-collection methods make union-density data unreliable in less developed countries (Hayter and Stoevska 2011, 3). To

address this, the ILO developed a “collective labor rights” index to measure the legal and practical climate for workers’ collective activities.

2. Countries include Argentina; Barbados; Belize; Benin; Bolivia; Botswana; Brazil; Burkina Faso; Burundi; Central African Republic; Chile; China; Colombia; Costa Rica; Ecuador; Egypt; El Salvador; Fiji; Gabon; Guinea; Guyana; India; Indonesia; Jordan; Kenya; Korea; Malaysia; Malta; Mexico; Namibia; Nicaragua; Niger; Pakistan; Panama; Papua New Guinea; Peru; Philippines; Portugal; South Africa; Sri Lanka; Suriname; Swaziland; Syrian Arab Republic; Thailand; Trinidad and Tobago; Tunisia; Turkey; Uruguay; Venezuela; Zambia; and Zimbabwe.

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