

Are Media at Work in Your Neighborhood? The Effects of Media Freedom, Internet Access, and Information Spillover on Workers' Rights*

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Objectives. In this study, we focus on how access to information empowers workers and pressures government and firms to improve labor conditions. *Methods.* We consider the effects of two critical mechanisms supporting both information access and flow across borders (i.e., media freedom and Internet usage) on workers' rights across countries and over time using spatial models. *Results.* The findings overall indicate that there is a spatial component associated with the degree of workers' rights in a given country. Further analysis reveals that this is due—at least in part—to the level of media freedom and information flow across borders. *Conclusion.* We find support for the theorized notion that the ability of workers to secure and exercise their rights to collective bargaining and freedom of association in the workplace depends on workers' awareness of labor conditions and the potential for improvement.

A fundamental role of news media is to serve as a watchdog for citizens by holding political and economic elites accountable. The assumption that free and independent news media will perform this watchdog role and in doing so make life better for citizens is one of the primary justifications for defending media freedom and promoting media access. In recent years, access to information has increased dramatically through Internet penetration, yet we have little information as to how media freedom and media access affect citizens' lives. Certainly, given the amount of time spent working over the course of a lifetime, labor conditions represent a critical quality of life issue for most people; yet the influence of media freedom and access to information on workers' rights remains relatively unexplored.

In fact, much of what we know about the role of news media in society comes from studies focusing on the United States and Western Europe. Yet, human rights advocates have pushed for media freedom and media access in developing and nondemocratic countries based on the assumption that both will lead to improvements in a wide range of human rights. Until recently, a lack of data has made it difficult to study the relationship between media freedom, media access, and human rights. Additionally, recent developments in spatial modeling make it possible to begin to study the effects of communication in neighboring countries on human rights in a given country. We argue that this is particularly important with workers' rights because people will sometimes cross borders to find work, but only

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if they have information about labor conditions and opportunities. Thus, new data and advancements in spatial analysis make it now feasible to systematically study the effect of media, specifically media freedom, on workers' rights from a comparative perspective.

In this study, we argue that the ability of workers to secure and exercise their rights to collective bargaining and freedom of association in the workplace depends on workers' awareness of labor conditions and the potential for improvement. Most studies, however, have focused on the effect of profit-seeking behavior of multinational corporations and how government measures have shaped labor outcomes.

Here, we propose that information influences the behaviors of governments, firms, and workers. Specifically, we focus on how access to information, both within and beyond a country's borders, potentially empowers workers to pressure government and employers to improve labor conditions. To test our hypotheses, we required models that incorporate the spatial effects of media freedom and local information spillovers via an immediate neighbor. This is a somewhat unique approach in political science in that we consider the direct effects of media freedom in neighboring countries rather than the globally weighted outcome of interest. Thus, we investigate the effects of media freedom on workers' rights at both the domestic and international levels using spatial- x models of the effect of media freedom and Internet penetration on workers' rights across countries and over time and find that media freedom within a country and in neighboring countries has a significant and positive effect on workers' rights.

We begin with a review of previous studies of the factors that shape labor conditions and respect for workers' rights in both law and practice. Then, we consider the potential roles of access to information in the form of media freedom and Internet penetration. We introduce the puzzle of Bangladesh, where contrary to expectations, improvements in media freedom and highly publicized workplace tragedies have not brought about improvements in workers' rights. We use this case to develop our theory about how information access and information flows shape workers' rights. We posit that media freedom matters not just at the domestic level, but also in neighboring countries because the information provided by free and independent news media in both settings raises workers' awareness of labor conditions in their country and in neighboring countries, providing a comparative perspective of the potential (or lack thereof) for improvement locally. For a global test of our hypotheses about the effects of media freedom, Internet access, and information spillovers on workers' rights, we first employ a spatial autoregressive (SAR) model and find significant effects. We then move to a more nuanced treatment of potential spatial effects by employing a spatial- x model, which allows for an examination of the direct, local effects of the influence of media freedom in a neighbor on workers' rights in a given country of interest. We conclude with a discussion of the policy implications of this study and opportunities for future research.

Workers' Rights: The Usual Suspects

There exists a growing body of work aimed at understanding the determinants of government respect for workers' rights in both law and practice (Berliner et al., 2015; Davies and Vadlamannati, 2013; Greenhill, Mosley, and Prakash, 2009; Neumayer and de Soysa, 2006; Mosley and Uno, 2007; Mosley, 2011). Theories of labor rights can be divided into two main categories encompassing *domestic* (internal) and *foreign* (external) factors, as well as a third category considering interactive effects. Included in the basket of domestic drivers of labor conditions are variables such as regime type, government ideology, state capacity, factor endowments, and level of development. External factors include the influence of globalization processes, operationalized using proxy measures for

trade openness such as gross domestic product (GDP), merchandise trade balance, and levels of foreign direct investment (FDI), as well as participation in international institutions and multilateral treaty arrangements aimed at protecting workers' rights and/or promoting free trade. While there is an agreement among scholars regarding the relationship between globalization processes and labor conditions, the directional effect and scope conditions of this relationship (i.e., positive or negative) are matters of contentious theoretical debate and remain empirically unclear (Hafner-Burton, 2005).

Understanding the influence of domestic political and economic factors is important for explaining variation in labor outcomes at the level of the state. While the various constituents of the International Labor Organization (ILO), including governments, employers, and workers, have a role in the establishment of international labor standards, the provision of fundamental worker rights such as those covered in the ILO's Declaration on Fundamental Principles and Rights at Work (1998)¹ is ultimately the responsibility of individual states. The degree to which governments protect those rights varies systematically by regime type, with democracies providing greater protections for workers than authoritarian regimes (Kucera, 2007). In other words, democratization has been shown to have a significant and positive effect on labor conditions such that greater government respect for worker rights is predicted where the level of democracy is higher (Poe, Tate, and Keith, 1999; Richards, Gelleny, and Sacko, 2001; Cingranelli and Tsai, 2003; Neumayer and de Soysa, 2006). Interestingly, the effect of even moderate improvements in the degree of political competition such as the introduction of local elections under continued authoritarianism is shown to improve workers' rights by shifting a degree of power away from the state and giving at least some negotiating power to social organizations such as labor unions (Magaloni, 2006).

It stands to reason that autocrats are by no means universal in their strategic approach to dealing with the potential threat of organized labor. In her study of political institutions under authoritarianism, Gandhi (2008) argues and finds support for the notion that institutionalized dictatorships are forced to institute more liberal policies regarding freedom of expression and workers' rights and to spend less on the military. Robertson and Teitelbaum (2011) argue that this association between regime type and labor rights helps to explain why democracies do better than authoritarian regimes in managing the inevitable social strains arising from FDI. They find empirical support for their argument using a data set of labor protest in low- and middle-income countries from the period 1980–2005, challenging the notion that authoritarian conditions are favored by international corporations seeking stability and a quieter place to invest (Haggard, 1990; Kohli, 2004). The tendency in closed authoritarian regimes to use repression in response to domestic tensions such as potential labor protests generated by FDI increases compels international corporations to evaluate reputational costs intrinsic in doing business with dictators (Jensen, 2003). Multinational corporations that are seen as complicit in the use of force or extreme measures in response to domestic protests are vulnerable to sanction by international human rights groups and consumers in the rich countries for which production is intended (Keck and Sikkink, 1998). Given the centralized and highly controlled nature of closed authoritarian regimes and lack of transparency in the extreme, further research is needed to understand better the

¹ Eight ILO conventions have been identified by the ILO Governing Body as "fundamental" to the provision of worker rights by governments, including the following: Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87); Right to Organize and Collective Bargaining Convention, 1949 (No. 98); Forced Labor Convention, 1930 (No. 29); Abolition of Forced Labor Convention, 1957 (No. 105); Minimum Age Convention, 1973 (No. 138); Worst Forms of Child Labor Convention, 1999 (No. 182); Equal Remuneration Convention, 1951 (No. 100); and Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

causal processes and conditions leading to exposure of labor rights violations. A potentially important factor, explored in this article, is the role of the media as a watchdog in calling attention to violations of human rights and labor standards and reducing information asymmetries between workers, employers, and the state (Whitten-Woodring, 2009).

The implications of economic globalization for workers and human rights practices have long been an important issue in the subfields of comparative politics and international political economy (see, e.g., Marx, 1867; Polanyi, 1944; Flanagan, 2006). The richness of the literature in normative theory and a penchant for generalizations with broad explanatory power, however, has meant a tendency to overlook the microdynamics at play in developing a true empirical understanding of the factors and their interactive effects further conditioning labor outcomes in both law and practice. The logic underlying the international flow of capital is contested by those concerned that global capitalism incentivizes trade with dictatorial regimes best positioned to meet the capitalists' needs by providing monopoly status over local markets, major tax breaks, and other incentives they seek (Bornschieer and Chase-Dunn, 1985; O'Neal, 1994; London and Ross, 1995; Maxfield, 1998). The notion that increased economic integration will undermine human rights through the exploitation of "cheap" labor (prioritizing economic concerns over human needs) and the repressive actions of pro-growth governments encapsulates the globalization thesis that predicts a "race to the bottom" in terms of human rights, labor conditions, environmental standards, etc. (Drezner, 2001; Rudra, 2002; Prakash and Potoski, 2006; Blanton and Blanton, 2012). An alternative view based on neoclassical economics is decidedly more optimistic and posits a "race to the top" whereby the effect of foreign firms in domestic markets will serve to improve conditions for workers in developing countries due to wage increases and the diffusion of management best practices (Bhagwati, 2007).

Recent scholarship in policy and academic literature has sought to unpack this nagging puzzle regarding the true nature of the empirical relationship between globalization and human rights conditions by disaggregating a country's participation in the global economy based on the manner in which foreign firms enter into the economy (Moran, 2002; Prakash and Potoski, 2007; Greenhill, Mosley, and Prakash, 2009; Blanton and Blanton, 2009, 2012; Mosley, 2011). In perhaps the most comprehensive treatment, Mosley (2011) posits that the impact of economic globalization on workers' rights depends on the nature of a country's participation in global supply chains and the multinational production of goods. She finds empirical support for the "race-to-the-bottom" theses when developing nations participate in global production via arm's-length subcontracting relationships, as firms and governments compete to lower labor costs. Yet, countries that produce globally via involvement in directly owned production are likely to experience improvements in workers' rights. Trade openness (a proxy for subcontracting) is significantly and negatively associated with labor rights, whereas FDI is both positively and significantly linked. These results are further supported by Kim and Trumbore's (2010) examination of the effect of transnational mergers and acquisitions, a specific form of FDI, on human rights performance globally, indicating a significant and positive effect across several important human rights indicators, including physical integrity rights, empowerment rights, workers' rights, and women's economic rights.

Consideration of spatial dynamics in the extant literature on workers' rights has primarily focused on competition effects among different types of peer nations. Mosley and Uno (2007) include measures for both regional and economic peers as controls in their study of developing nations. Neither is significant at the 95 percent confidence level, though the rudimentary nature of the regional variable (i.e., the average, for a given year, of the labor rights score elsewhere in the region) begs the use of more sophisticated empirical techniques

for estimating the extent to which workers' rights are conditioned by competition for FDI among neighboring countries (Brooks, 2005; Simmons and Elkins, 2004). Further consideration of competition effects among peer nations has included measures of cultural affinity among nations such as shared language(s) and colonial history (e.g., Greenhill, Mosley, and Prakash, 2009).

The importance of scope conditions in identifying and elaborating constraints on the applicability of universal propositions regarding workers' rights has been highlighted in most recent studies. Berliner et al. (2015), for example, argue that the anticipated effect of state capacity on improved conditions for workers is conditioned by the extent to which politicians prioritize the interests of labor in the enforcement of government policies. The failures of export-intensive countries, such as Bangladesh, to protect their workers have often been attributed to low state capacity (Elliott and Freeman, 2003; Locke, Rissing, and Pal, 2013). Berliner et al. (2015) argue and find support for the notion that improvements in labor rights require both state capacity and the political will to use increased state capacity in ways that improve labor rights. Political systems where the interests of workers are strongly represented provide the context whereby increased state capacity is most likely to be used to protect workers. Thus, changes in state capacity are only associated with changes in labor rights in countries where workers' interests are better represented in the political system using proxy measures of government ideology, democracy, union density, and potential labor power. Barry, Clay, and DiGiuseppe (2014) provide empirical support to the notion of diffusion through competition, finding that states' policies and practices regarding labor rights are dependent upon the competitive context in which they are situated. We argue that labor conditions in neighboring states and the availability of information about those conditions are part of this competitive context. In their review of what we know (and do not know) about improving labor rights standards, Berliner et al. (2015) highlight the need for more comprehensive integration of research on the different types of public and private monitoring and enforcement mechanisms that improve conditions for workers in practice. Here, we consider the extent to which free media, which are able to perform an effective watchdogging role, represent a type of public monitoring mechanism that can improve workers' rights. We hypothesize that access to information about labor conditions from free and independent news media will generate public pressure and mobilize the political will to improve workers' rights.

The Role of Media Freedom and Internet Access in Workers' Rights

In the field of political economy, labor conditions are commonly explained as resulting from the profit-seeking behavior of firms and governments. We posit that workers are not always passive actors resigned to accept the conditions put upon them. Instead, workers sometimes can and do assert themselves to protect and affirm their rights, through collective action (strikes) and emigrating to other countries to find employment—legally or illegally. We argue that workers need information to take either of these actions. How else will they know that the labor conditions in a neighboring country are better or weigh the benefits and risks of collective action? Here, we theorize that media freedom and Internet penetration will make a difference, both in terms of providing information and supporting mobilization. News media, if they are free to do so, have the potential to provide information about labor conditions. Similarly, both traditional media and digital media can be used to mobilize support, thereby potentially lowering the costs of collective action (Kim, Whitten-Woodring, and James, 2015). Social media in particular, if uncensored, facilitate

peer-to-peer communication, which can be used to spread the word about labor conditions as well as news gathered by professional and citizen journalists about government and firm behavior. Additionally, organizers can use social media to mobilize workers to join protests and strikes.² Collective action and/or emigration can in turn pressure government to better respect workers' rights and take the necessary steps to improve labor conditions. Thus, we expect both media freedom and Internet penetration to have positive effects on workers' rights. This brings us to the puzzling case of Bangladesh, where improvements in media freedom have led to meaningful growth in public awareness of labor conditions but not to substantial improvements in workers' rights.

The Puzzle of Media Freedom and Workers' Rights in Bangladesh

We identified Bangladesh as an important case because in addition to being the world's second largest garment exporter, its media environment has undergone substantial changes with the loosening of media censorship laws and practices following the 2008 peaceful transition from a military to a civilian government (Ahmed and Nathan, 2014). Bangladesh's status in international trade and significance to the garment industry—predominantly its relationship to American and European corporations—make it a focus for both commercial and political activist organizations—often for conflicting reasons. Core economic and social structures make it especially attractive to North American and Western European foreign outsourcing. These structures include abundant labor, low wages, poor safety restrictions, and unclear or unenforced labor laws.

Since its separation from Pakistan in 1971, Bangladesh has experienced decades of political uncertainty, polarization, violence, and overall social tension. Multiple clashes between competing political parties, followed by large-scale protests and numerous terrorist attacks, only contributed to its government's loss of credibility both domestically and abroad (Freedom House, 2009). Throughout the 1980s and 1990s, workers' rights were, for the most part, "somewhat restricted" (Cingranelli, Richards, and Clay, 2014). Following the October 2001 elections, government respect for human rights in general deteriorated. The number of extrajudicial killings increased, and the deaths of those in government custody doubled 2001 rates (U.S. Department of State, 2003). In 2002, labor conditions deteriorated to the point that workers' rights were "severely restricted" as the government limited workers' rights in the export processing zones and generally failed to enforce laws protecting laborers (Cingranelli, Richards, and Clay, 2014; U.S. Department of State, 2003).

During the early 2000s, the government took steps to limit communication, which encouraged self-censorship among journalists and also greatly limited the ability of news media to effectively and comprehensively report on social, political, and economic issues within the country. During these years, sedition and criminal libel laws were used to imprison journalists and brutality against media workers went unpunished (Freedom House, 2007). In short, journalists were unable to fulfill their watchdog role and hold government accountable. At the end of 2008, however, Bangladesh's Supreme Court struck down a significant portion of media censorship laws in an attempt to increase government transparency and install multiple anti-corruption measures (Freedom House, 2011). Gradually, these changes led to improvements in the country's media environment, to the point that the media system became functionally free in 2009 (Freedom House, 2010).

²While we believe that media can be used both to inform and mobilize workers, our data do not allow for a more in-depth analysis of these two causal processes.

The extent to which this shift in the media environment influenced workers' rights is difficult to discern. In 2010, labor rights improved from "severely restricted" to "somewhat restricted," as parliament passed the EPZ Workers' Welfare Society/Association and Industrial Relations Act, establishing association rights in the export processing zones (U.S. Department of State, 2012). Yet, these improvements were short-lived and workers' rights were once again "severely restricted" in 2011 when riot police cracked down on protests by factory workers and union leaders were arrested (Cingranelli, Richards, and Clay, 2014; U.S. Department of State, 2012). Thus, at least in the short term, improvements in Bangladesh's media environment did not lead to improvements in workers' rights. Yet, there was substantial domestic and international news coverage of both the 2012 Tazreen Fashions factory building fire and the 2013 Rana Plaza building collapse.³

In November 2012, the fire at the Tazreen Fashions factory in Dhaka shocked the world and drew attention to the poor labor conditions in Bangladesh. *The New York Times* called it "one of the worst industrial tragedies in that country" (Bajaj, 2012). The fire started in the basement of the building, which was filled with illegally stored pieces of fabric and yarn (Yardley, 2012). More than 100 factory workers were killed and many others were seriously injured (Bajaj, 2012). An official report from the U.S. Senate indicated that while fire alarms were in place and fully functional, factory supervisors decided not to remove all personnel from the building due to increasing pressure to fulfill production demands (Committee on Foreign Relations, 2013). Tazreen Fashions employed more than 1,000 Bangladeshis and served multiple Western multinational brands including Wal-Mart and C&A (Yardley, 2012). In the United States, Wal-Mart's outsourcing operations were scrutinized by the media, forcing the chain to be more transparent about its business operations overseas. In Bangladesh, the incident occurred at a time when tensions were already fierce between employers and workers, who had demanded higher wages as a response to a nationwide inflationary crisis (Bajaj, 2012).

Less than a year after the Tazreen incident, the collapse of the eight-story Rana Plaza building, also in Dhaka, killed more than 1,000 workers (Institute for Global Labour and Human Rights, 2014). After inspecting the deteriorating building, local authorities had warned the building owner of the eminent danger and ordered the evacuation of the facility (Human Rights Watch, 2015). On the morning of April 24, 2013, just hours before the building collapsed, many workers initially refused to enter the building for work, but were later forced in through physical and financial intimidation by their superiors (Institute for Global Labour and Human Rights, 2014). By May 2015, the police in Bangladesh had filed murder charges against 41 people allegedly involved in the incident at Rana Plaza (Ali Manik and Najar, 2015).

Increased media coverage, both domestically and internationally, coupled with labor rights activist pressures from the United States and Western Europe, had a strong impact on the design and execution of new legislation to protect workers in the Bangladeshi garment industry (European Trade Commission, 2015). Yet while there have been changes in labor rights legislation, the effect on workers' rights remains limited. Additionally, financial and judicial closure for victims of both incidents was still pending in 2016 (Committee on Foreign Relations, 2013; Clean Clothes Campaign, 2015; Deutsche Welle, 2016).

Given the assumptions that media freedom will bring about positive changes in human rights, it is puzzling that the emergence of media freedom and the extensive news coverage of workplace mass casualties did *not* bring about substantial changes in workers' rights in

³Workers' rights data are not available for post 2011, but U.S. State Department reports on human rights practices indicate that improvements to workers' rights have been limited at best (see U.S. Department of State, 2014, 2015).

Bangladesh—at least not in the short term. To explain this puzzle, we look to Bangladesh's neighbors—most notably Nepal, Myanmar, and India—all of which have working conditions at or below the standards evident in Bangladesh. Moreover, while Bangladesh had functionally free media from 2009 to 2014 (Whitten-Woodring and Van Belle, 2014; Freedom House, 2016), most of its neighbors had media environments that were not free (China and Myanmar) or at the same level as Bangladesh (India and Nepal). Additionally, Internet penetration remains low in Bangladesh. Thus information spillovers about workers' rights and other issues are limited within the region. Though we find evidence that increased media freedom contributed in diffusing information to workers, we have little reason to believe that media (including digital) played any role in facilitating mobilization in or emigration from Bangladesh. Consequently, Bangladeshi workers have had no encouragement to escape to neighboring countries and therefore no credible exit option. Similarly, the Bangladeshi government and firms have faced minimal regional pressure to make improvements (Cingranelli, Richards, and Clay, 2014).

Intuitively, given the shift in Bangladesh's media environment and the intense news coverage of two deadly workplace tragedies, we would expect to see improvements in workers' rights—until we consider Bangladesh's neighborhood. Therefore, in developing a theory about the effects of media freedom and information access on workers' rights, the case of Bangladesh points us to the need to consider the neighborhood influences of media freedom, access to information, and workers' rights. If media freedom and Internet access are limited in a country's neighborhood, then there is little information and therefore little potential for information spillover and mobilization. Consequently, workers will have little knowledge about the conditions in their neighborhood and no credible exit option.

Hypotheses

Based on the proposals outlined above, we have developed the following hypotheses. We start with the assumption that media freedom and access to information will improve human rights:

H1: Media freedom has a positive effect on workers' rights.

H2: Internet penetration has a positive effect on workers' rights.

As mentioned above, in some studies of labor rights, scholars have recognized workers' agency and the viability of their "credible exit" (i.e., the causal mechanism by which policy convergence is argued to take place) by including a control variable intended to capture the effect of labor rights outcomes in a country's geographic region. It is most common for scholars to measure this spatial effect by simply using the regional average labor rights score. While it has been shown to be a statistically significant correlate of labor rights (Mosley and Uno, 2007; Mosley, 2011), the spatial effect of competition between states leading to policy convergence remains undertheorized (Barry, Clay, and DiGiuseppe, 2014). This is perhaps owing to the fact that scholars have primarily included it as a control variable only, choosing instead to focus their analyses on factors owing to government-directed economic policies. It is worth interrogating that the viability of workers' supposed exit strategies given that legal barriers to immigration, which prevent many workers (especially less skilled ones) from credibly threatening to exit their current poor circumstances, represent an increasingly salient feature of contemporary globalization (Mosley and Singer, 2015). We expect that workers' rights in neighboring countries have a positive effect on workers' rights, but we model this effect using a SAR model rather than a regional average.

H3: Workers' rights in neighboring countries have a positive effect on workers' rights.

While we expect there to be a relationship between workers' rights in neighboring countries, we propose that it is highly likely that there are conditions within the neighboring countries that are driving this relationship. Specifically, we hypothesize that it is the availability of information about labor conditions in neighboring countries—media freedom in those countries—that is influencing workers' rights. We model this effect using a spatial lag of media freedom, which is described in detail in the Research Design section below.

H4: Media freedom in neighboring countries has a positive effect on workers' rights.

Additionally, we propose that Internet access in neighboring countries also increases the availability of information in the form of peer-to-peer communication via social media, as well as online news media. Thus, we include a spatial lag of Internet penetration.

H5: Internet penetration in neighboring countries has a positive effect on workers' rights.

We also posit that freedom of foreign movement, the ability to leave and return to a country, provides workers with a credible exit option and thereby helps to improve workers' rights.

H6: Freedom of foreign movement has a positive effect on workers' rights.

Finally, we hypothesize that freedom of movement in neighboring countries will also have a positive effect on workers' rights.

H7: Freedom of foreign movement in neighboring countries has a positive effect on workers' rights.

To test these hypotheses, we gathered data from a variety of sources and built several spatial models of the relationship between media freedom, Internet access, and workers' rights.

Research Design: Case Selection, Variables, and Methods

Most studies of workers' rights limit their focus to low-income and middle-income countries, arguing that the causal processes generating labor outcomes are different for these states than for high-income states. We depart from this practice and include all available countries for the years 1996 to 2011. Our reasons for doing so are primarily theoretical, though, methodologically, it is essential to include as many cases as possible to build functional spatial models. Theoretically, our primary interest is the role of access to information, both foreign (external) and domestic (internal), in shaping workers' rights. In this case, we do not expect that the causal processes are subject to a threshold effect depending on the level of development; in fact, we expect that the causal processes are the same regardless of the size of the domestic economy (and we do control for development). While we recognize that low- and middle-income countries present major economic, political, social, and technological differences when compared to their high-income counterparts, we do not believe that these differences affect the working dynamics between media freedom and labor rights. We begin our cross-national time-series analysis in 1996 because this is the first year for which reliable data for Internet penetration are available. We end with 2011 because this is the last year for which our dependent variable, workers' rights, is currently available.

Our outcome variable, measuring workers' rights, is drawn from the Cingranelli and Richards (CIRI) Human Rights Data Project (2014). It is important to acknowledge distinctions in strategies scholars use to measure workers' rights and the information sources they prioritize in gathering these data. More methodologically sophisticated approaches take into account differences between rights in law and rights in practice, generating strategies for measuring labor rights conditions that better capture workers' lived experiences. Mosley and Uno (2007) measure the protection of labor rights across developing countries from 1985 to 2002 using data from reports by the U.S. State Department, the ILO, and the International Confederation of Free Trade Unions (ICFTU) to code for 37 different types of labor rights violations in developing countries. Unfortunately, we are unable to use this data set because our theory and methodology require inclusion of all available countries, and since we want to test the effect of Internet access, we need to focus on the years when Internet availability became widespread, post 1995. The CIRI Human Rights Dataset (Cingranelli, Richards, and Clay, 2014) includes an indicator for workers' rights that we use in this study. While this indicator is far less detailed than the data collected by Moseley and Uno, it is also based on U.S. State Department reports and takes both law and practices into consideration. This variable indicates whether workers have "freedom of association at their workplaces and the right to bargain collectively with their employers." It ranges along an ordered scale from 0 (severely restricted) to 2 (workers' rights are fully protected).

Our main *explanatory variables* include the following:

Media Freedom: To measure media freedom, we employ the Global Media Freedom data set (Whitten-Woodring and Van Belle, 2014). This variable indicates whether media are able to serve as a fourth estate and hold government accountable by criticizing government action and policies. Media for each country-year are placed into one of three categories: 1 (free), 2 (imperfectly free), and 3 (not free). Because media that are free and imperfectly free are both functionally free, we theorize they will have the same effect on labor rights; therefore, we collapse these categories such that 1 = free media and 0 = not free media.⁴

Spatially Weighted Media Freedom: It is the same variable as above (Media Freedom) except it represents the spatially weighted values of the variable in neighboring countries using an inverse-distance weighting matrix. The matrix and spatial weighting process are discussed in detail below.

Internet Use: We measure Internet penetration using the Internet Telecommunications Union's Internet Use variable from the World Bank's World Development Indicators (2014). This provides an estimate of the number of Internet users per 100 people who have "used the Internet (from any location) in the last 12 months." This includes Internet accessed through computers, mobile phones, game machines, and other devices.

Spatially Weighted Internet Use: It is the same variable as above (Internet Penetration) except that it represents the spatially weighted values of the variable in neighboring countries using an inverse-distance weighting matrix. The matrix and spatial weighting process are discussed in detail below.

Spatial Lag: It is the endogenous spatial lag that we use in an SAR estimation. This variable represents the spatially lagged-y variable of our dependent variable, Workers' Rights. The variable was created using an inverse-distance weighting matrix that, when multiplied by the outcome vector, creates the endogenous spatial lag.

Freedom of Foreign Movement from the CIRI Human Rights Dataset (Cingranelli, Richards, and Clay, 2014): It is a variable measuring the freedom of citizens to "leave and return," coded using U.S. State Department reports, with possible values ranging from

⁴We also used the full version of the media freedom variable in our models and the results did not change.

0 (severely restricted) to 2 (unrestricted). Because there are more similarities than differences in countries with “modest restrictions” and those with “unrestricted” foreign movement, such that most citizens within these countries have freedom of foreign movement, we collapse categories 1 and 2 so that 0 = restricted and 1 = freedom of foreign movement. We also include a variable measuring *Spatially Weighted Freedom of Foreign Movement*. It is the same variable as above (Freedom of Foreign Movement) except that it represents the spatially weighted values of the variable in neighboring countries using an inverse-distance weighting matrix.

In addition to the above main explanatory variables (media freedom, Internet access, and freedom of movement), we include the following *variables as important controls* that have been identified in previous studies:

Intrastate Conflict from the UCDP/PRIO Armed Conflict Dataset (Pettersson and Wallensteen, 2002; Gleditsch et al., 2002): This variable indicates the presence of intrastate conflict and is coded 1 for every country-year with at least one such conflict and is otherwise coded 0. In general, civil war and domestic conflict have been associated with decreased respect for human rights (Poe and Tate, 1994; Poe, Tate, and Keith, 1999). Mosley (2011) hypothesized that civil conflict might lead to violence against labor groups. Thus, intrastate conflict is expected to have a negative effect on workers’ rights.

Executive Constraints from the Polity IV Dataset (Marshall, Gurr, and Jaggers, 2013): This variable measures the extent to which a country’s executive leadership is constrained by “decision rules” and ranges from 1 (unlimited authority) to 7 (executive parity or subordination). We use this variable as an indicator of the level of democratic institutions because it does not include civil liberties such as media freedom or civil rights that might overlap with workers’ rights. Democratic institutions have been identified as having a positive influence on human rights in general (Mitchell and McCormick, 1998; Poe and Tate, 1994; Poe, Tate, and Keith, 1999), and workers’ rights in particular (Kucera, 2007).

Population (logged) is from the United Nations Educational, Scientific and Cultural Organization Institute for Statistics. We include the total population for each country-year because human rights abuses are generally understood as crimes of opportunity such that violations are more likely to occur where there are more people (Poe and Tate, 1994; Poe, Tate, and Keith, 1999). As regards workers’ rights, increased population size means greater supply of workers, such that workers become more expendable.

FDI Net Inflows, recorded as a percentage of GDP, from the World Bank’s World Development Indicators (2014): It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments divided by the GDP. Mosley (2011) posited that in developing countries FDI would encourage improved labor conditions because of pressure from shareholders and NGOs.

Merchandise Trade (as percentage of GDP) from the World Bank World Development Indicators (2014): This series shows the sum of merchandise exports and imports divided by the GDP. Following Mosley (2011), we use merchandise trade, or trade openness, as a proxy for subcontracted production, which is expected to have a negative effect on workers’ rights because here profit-maximizing firms are seeking the least expensive option, which is likely to involve poorer labor conditions, and because the firm’s involvement is indirect it is not subject to the pressures from stockholders and NGOs.

GDP per Capita based on *Purchasing Power Parity* from the World Bank’s World Development Indicators (2014): This series is the GDP converted to constant 2011 international dollars using purchasing parity rates such that the international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. Previous studies of human rights (Mitchell and McCormick, 1998; Poe and Tate, 1994; Poe, Tate, and

Keith, 1999; Richards, Gelleny, and Sacko, 2001) have found that economic development is positively related to human rights in general.

GDP per Capita Growth from the World Bank World Development Indicators (2014): This series provides the annual growth rate of GDP per capita based on constant local currency. Because economic growth creates increased need for labor, Mosley (2011) theorized that it would be associated with improved labor conditions.

Given the ordered nature of the dependent variable, we begin with a (nonspatial) ordered logit model as an initial test of our hypotheses.

Dealing with Space

So-called spatial regression models are becoming increasingly popular in political science. Chief among these is the SAR model that accounts for spatial dependence among the outcomes via an endogenous spatial-lag parameter (Franzese and Hays, 2008; Plümper and Neumayer, 2010). These types of models are also becoming more popular in studies of political communication, in particular as mechanisms for the diffusion of information across state and territorial boundaries (Garcia and Wimpy, 2016; Pierskalla and Hollenbach, 2013).

To employ this type of model, we first constructed a (row-standardized) spatial-weights matrix \mathbf{W} that spatially connects all of the countries in our data set. We chose an inverse-distance matrix in which the distance between countries' capitals is inverted so any positive spatial dependence will be displayed as such in the modeling procedure. This matrix allows for continuous connectivity between countries but obviously favors near countries over those that are farther. Thus, for a given pair of countries (i, j) their corresponding w_{ij} element in the \mathbf{W} matrix is the absolute, inverted distance between their respective capitals. The SAR model is specified as:

$$y = \rho \mathbf{W}y + \mathbf{X}\beta + \varepsilon,$$

where y is the vector of observations for the dependent variable. $\mathbf{W}y$ represents the spatial lag with parameter estimate ρ . \mathbf{X} represents our matrix of independent variables including, most notably, media freedom, with a vector of parameter estimates β , and ε is the disturbance. We estimated this model via maximum likelihood to minimize the occurrence of simultaneity bias due to the endogenous spatial lag.

Despite the interesting nature of the SAR model and the process of diffusion among the outcomes, we take our spatial analyses one step further by considering an ordered logistic regression with a spatially weighted independent variable, in this case media freedom. This model, known as the spatial-x (also known as SLX) model, allows for spatially weighting one or more of the independent variables rather than forcing the restriction and assumption that all variables flow through a diffusion process. This model is more appropriate for our hypotheses regarding media freedom. The basic form of the spatial-x ordered logit model can be represented as:

$$\Pr(y = j) = \mathbf{WZ}\theta + \mathbf{X}\beta + \varepsilon,$$

where in our case $\Pr(y = j)$ is the probability that the outcome is equal to a given level of labor rights.⁵ \mathbf{WZ} is the spatially weighted hypothesized variables above using the same connectivity matrix from our SAR estimation with parameter estimate θ . The other parts

⁵For a recent treatment of the spatial-x ordered logit, see Fortunato, Swift, and Williams (2016).

of the model (control variables) remain the same as the nonspatial ordered logit form discussed above. The important departure in this model from the SAR is that we (1) more properly account for the nature of the dependent variable and (2) we more directly test our primary hypothesis that the level of media freedom in neighboring countries can affect labor rights in a given country of interest. We show and discuss the results of these various estimations in the next section.

Dealing with Time

Since our data vary across both time and space, we need to consider how variation over time relates to our theorized process of spatial diffusion. We do not theorize a causal, autoregressive process for workers' rights and as such do not include a lagged dependent variable in our models. We do, however, recognize that our empirical estimations can be subject to dynamic volatility and common shocks across units. For this reason, we include time fixed effects (year dummies) as additional levels of control in the models.

On the other hand, we expect that our theorized spillover effects are not immediate and indeed take time to move across units. Given this, we use one-year, time-lagged values of media freedom, Internet penetration, and freedom of foreign movement in our fully specified spatial-x ordered logit model. Given these specifications, the fully specified spatial-x ordered logit for a given country-year can be represented as:

$$\Pr(y_{it} = j) = w_{ij} z'_{it-1} \theta + x'_{it} \beta + \delta_t + \varepsilon,$$

where:

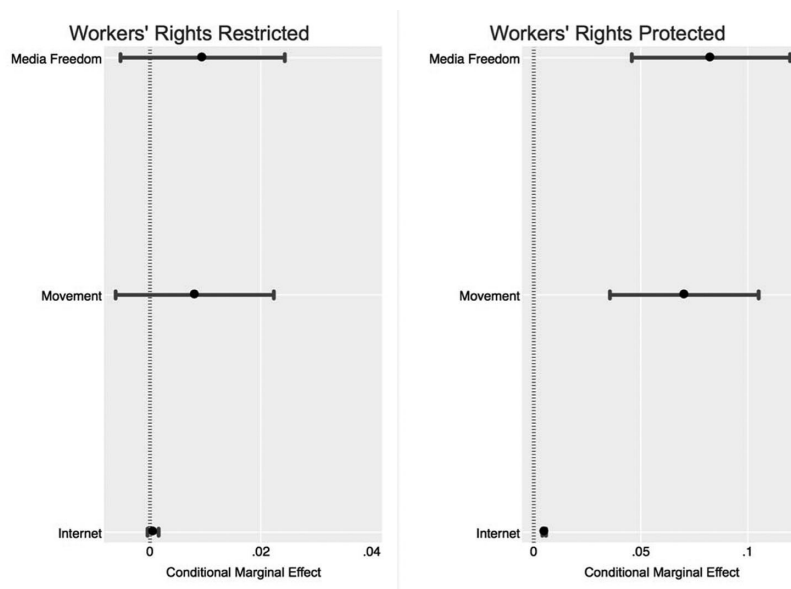
- y_{it} is the degree of workers' rights protection in a given country-year;
- w_{ij} is the element of our spatial-weighting matrix \mathbf{W} that specifies degree of spatial connectivity between a given country and its neighbors;
- z'_{it-1} is a vector of our spatial- and time-lagged (one year) hypothesized variables for the neighbors of a given country year with parameter estimate θ ;
- x'_{it} is a vector of control variables identified in the literature with parameter estimate β ;
- δ_t is a vector of time fixed effects;
- ε is the estimated disturbance.

Empirical Findings and Discussion

In Figure 1, we show the results for our hypothesized variables from our nonspatial ordered logit estimation. The full results and conditional marginal effects are shown in Table 1. For this model, when predicting the most protected level of workers' rights, the impact of media freedom and freedom of movement are in the expected direction and the confidence intervals do not overlap with zero (H1 and H6 are both supported). When predicting more restricted workers' rights, these variables are less influential, which is in line with our expectation that media freedom is positively associated with the protection of workers' rights. While this model provides a base level of support for our theory and expectations from the literature, it does not provide a full and accurate story of our theorized processes, which involves the spatial diffusion of information across international boundaries via media freedom, people movement, and Internet penetration.

FIGURE 1

Conditional Marginal Effects of Nonspatial Hypothesized Variables from Ordered Logit



To better examine our theoretical expectation of spillover effects, we first estimated an SAR model, which produces a *global* estimate of spatial dependence among the units of analysis, in our case the degree of workers' rights protection by country-year. This model is generally used to estimate spatial processes with (normally distributed) continuous outcomes so it is not entirely ideal for our ordered, but limited, dependent variable. The estimates were nonetheless promising for our theoretical expectation. The *global* spatial coefficient was positive and significant ($\rho = 0.818$, [0.759, 876]) and our within-unit, nonspatial hypothesized variables also performed as expected and are substantively similar to the nonspatial ordered logit estimates above (thus, H3 is supported).⁶ Beyond the issues with the dependent variable and data quality, this model is also somewhat limited in that we are not entirely sure how the diffusion of workers' rights takes place. Although it could be the case that the simple reality of having more protected workers' rights in neighbors puts pressure on a given country to emulate, there has to be some degree of information flow. Identifying this mechanism is the key to properly capturing the spatial process (Garcia and Wimpy, 2016). As such, we move on to our fully specified model below. (The full results of the SAR estimation are available in a Supporting Information Appendix.)

Figure 2 depicts the conditional marginal effects of our hypothesized variables from a fully specified spatial-x ordered logit model from Table 2. In this case, we find that spatially lagged media freedom predicts both the middle and higher categories of protection of workers' rights. Thus, media freedom not only has an impact on workers' rights in countries i and j , respectively, media freedom in country j is also an important predictor of workers' rights in country i (H4 is supported). Freedom of movement (nonspatial) had a statistically significant and positive effect on workers' rights; however, the spatially lagged freedom of movement did not differentiate from zero and thus we can say less about it in terms of

⁶The GDP per capita variable was omitted from this model because of missing data.

TABLE 1
Ordered Logit Estimates of the Effects of Media Freedom on Workers' Rights

Explanatory Variable	Model Estimates	Marginal Effects
Media Freedom	0.703* [0.44, 0.966]	0.083* [0.046, 0.12]
Internet Penetration	0.041* [0.035, 0.048]	0.005* [0.004, 0.006]
Foreign Movement	0.597* [0.319, 0.876]	0.07* [0.036, 0.105]
Intrastate Conflict	-0.303* [-0.566, -0.041]	-0.036* [-0.068, -0.004]
Executive Constraints	0.415* [0.346, 0.485]	0.049* [0.042, 0.056]
ln(Population)	-0.209* [-0.27, -0.149]	-0.025* [-0.032, -0.018]
ln(GDPpc)	-0.381* [-0.477, -0.285]	-0.045* [-0.057, -0.033]
FDI (% of GDP)	0.000 [-0.000, 0.000]	0.000 [-0.000, 0.000]
Trade (% of GDP)	-0.002 [-0.003, 0.001]	-0.000 [-0.000, 0.000]
τ_1	-5.78* [-7.16, -4.4]	—
τ_2	-2.24* [-3.6, -0.887]	—
Observations	2,454	2,454
Pseudo R^2	0.267	—

Ninety-five percent confidence intervals are reported underneath parameter estimates and marginal effects. Marginal effects are computed as conditional partial change in workers' rights given a partial change in an explanatory variable while predicting workers' rights being fully protected. * $p < 0.05$. Time fixed effects are omitted.

spatial processes (H7 is not supported). This finding may be due to the fact that even if country j allows free movement, it is not likely to have a direct spatial effect unless country i reciprocates. The Internet (nonspatial) did not differentiate from zero and the spatially lagged Internet penetration variable did not have the effect we expected; it was statistically significant and negative (H2 and H5 are not supported).

These findings overall indicate that there is a spatial component associated with the degree of workers' rights in a given country. Our results suggest that—at least in part—this is due to the level of media freedom and information flow across international boundaries. Although we argue these results offer strong support for our theoretical expectations about media freedom, we readily concede the limitations of our data across space and over time. In addition to highlighting the need for good data about the flow of information across boundaries, we encourage future work examining different types of spatial connectivity.

Conclusion and Future Directions

Building upon the theoretical underpinnings of the dissemination (or lack thereof) of workers' rights around the globe, we identify in this study a substantive connection between media freedom and labor rights. Given their implications for political economy, labor rights

TABLE 2

Spatial-x Ordered Logit Estimates of the Effects of Media Freedom on Workers' Rights

Explanatory Variables	Model Estimates	Marginal Effects
<i>Spatial Lags</i>		
Spatial Lag of Media Freedom	1.78* [0.655, 2.91]	0.197* [0.0718, 0.323]
Spatial Lag of Internet	-0.022* [-0.042, -0.002]	-0.002* [-0.005, -0.000]
Spatial Lag of Movement	-1.97* [-3.44, -0.499]	-0.218* [-0.383, 0.054]
<i>Nonspatial Variables</i>		
Media Freedom	0.652* [0.374, 0.93]	0.072* [0.0357, 0.109]
Internet Penetration	0.0457* [0.038, 0.053]	0.005* [0.004, 0.006]
Foreign Movement	0.698* [0.4, 0.996]	0.077* [0.0419, 0.113]
Intrastate Conflict	-0.264 [-0.549, 0.022]	-0.029 [-0.062, 0.003]
Executive Constraints	0.397* [0.32, 0.473]	0.044* [0.0367, 0.051]
ln(Population)	-0.208* [-0.273, -0.142]	-0.023* [-0.03, -0.016]
ln(GDPpc)	-0.388* [-0.493, -0.282]	-0.043* [-0.056, -0.03]
FDI (% of GDP)	0.000 [-0.000, 0.000]	0.000 [-0.000, 0.000]
Trade (% of GDP)	-0.001 [-0.003, 0.002]	-0.000 [-0.000, 0.000]
τ_1	-06.91* [-08.56, -05.27]	
τ_2	-03.28* [-04.9, -01.67]	
Observations	2,231	2,231
Pseudo R^2	0.273	—

Ninety-five percent confidence intervals are reported underneath parameter estimates and marginal effects. Marginal effects are computed as conditional partial change in workers' rights given a partial change in an explanatory variable while predicting workers' rights being fully protected. * $p < 0.05$. Time fixed effects are omitted.

have been examined from the perspectives of corporate behavior and government action, but there has been little focus on the behavior of workers and their agency. The inclusion of media freedom adds a new dimension to the analysis, which is largely tied to the potential—and arguably expected—social response of workers themselves. This response, though not directly measured, is implicitly (but tangibly) accounted for through the inclusion of the freedom of movement variable in all models. The inclusion of media freedom in a neighbor reflects a critical theoretical assumption—that is, when workers' rights are impinged upon at home, a viable exit strategy is motivated (or not) by spatially dependent information about labor conditions elsewhere. Discernibly, we include explanatory variables such as income, trade, and government regime that have previously contributed to scholarship on the topic. Our findings not only confirm our expectations of a positive correlation between

FIGURE 2
Conditional Marginal Effects of Spatial and Nonspatial Hypothesized Variables from
Ordered Logit



media freedom and labor rights but also suggest that a spatial connectivity exists between the two variables.

Our findings regarding the negative effect of the spatial lag of Internet penetration on workers' rights are puzzling and point to the need for further research. Future works should attempt to examine data that more powerfully (and independently) explain how the media can be used to inform, organize, and mobilize workers. Likely, increased Internet penetration across the globe—particularly in the developing world—coupled with better data on Internet and digital media usage will warrant additional studies concerning the relationship between media freedom and human rights. Still, it is important to note that Internet access does not come with any guarantees of online freedom of expression. In fact, as China exports its approaches to Internet control and censorship, it stands to reason that the Internet will not always provide workers and human rights advocates with the venue needed to share information about workers' rights. Instead, the findings here indicate that a free media environment within a given country and that country's neighborhood will help to provide workers with the information (and some of the means) they need to improve their rights.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Table A1: SAR Estimates of Spatial Dependence of Workers' Rights

Table A2: Summary Statistics for Variables Used in Analyses