

Workers of the Less Developed World Unite? A Multilevel Analysis of Unionization in Less Developed Countries

Nathan D. Martin
Duke University

David Brady
Duke University

Past scholars of unionization have offered exemplary cross-national studies of affluent democracies and case studies of less developed countries (LDCs). What has been lacking is cross-national research on unionization across LDCs. We conduct a multilevel analysis of the likelihood that a worker is unionized with the late-1990s World Values surveys of 39 LDCs. We propose that unionization in LDCs can be explained by the individual characteristics of workers as well as the country-level factors of institutions, industrialization, and globalization. Our analyses yield several conclusions. First, owing to the legacy of state socialism, ex-communist countries have much higher unionization. Second, our analyses show that class very effectively explains union membership across LDCs. Although skilled manual workers are more unionized than most, educated professionals stand out for their distinctively high unionization. Third, the debt crisis significantly undermined unionization through the institutional influence of International Monetary Fund (IMF) agreements and the globalization pressure of debt service. Despite being the focus of much research, industrialization, democratization, the size of the state, International Labour Organization conventions, and international trade and investment are surprisingly insignificant. Decomposing the sample by communist legacy, signing an IMF agreement is significant in ex-communist countries, and debt service is significant in countries without a communist legacy. Overall, we conclude that the debt crisis has undermined unionization and class remains a powerful basis of mobilization across LDCs.

Marx was often vocal in his skepticism of specific labor organizations and leftist

The authors are listed reverse alphabetically, each contributed equally. Direct correspondence to David Brady, Department of Sociology, Box 90088, Duke University, Durham, NC 27708 (brady@soc.duke.edu). This article was presented at the 2006 American Sociological Association Annual Meeting. We thank the following for helpful comments: Tim Bartley, Jason Beckfield, Clem Brooks, Rob Clark, Neil Fligstein, Evelynne Huber, Cheol-Sung Lee, Evan Schofer, Ken Spenner, Mike Wallace, Jane Zavisca, Wei Zhao, the 2006 summer institute fellows at the Center for Advanced Study in the Behavioral Sciences, the participants at the Workshop on Multinational Production and Labor Rights at the University of North Carolina at Chapel Hill, and the *ASR* editors and reviewers. We thank Yunus Kaya for assistance with the data.

parties. Yet he emphasized the need to move beyond mobilizing around local, firm-specific, “economic” concerns to create “a political movement that is to say, a movement of the class, with the object of enforcing its interests in a general form, in a form possessing general, socially coercive force” (Tucker 1978:520). Marx fully appreciated that formal organizations were essential for cultivating working-class power: “The political movement of the working class has as its ultimate object, of course, the conquest of political power for this class, and this naturally requires a previous organization of the working class” (Tucker 1978:520).

For most of the twentieth century, sociologists shared Marx’s fascination with labor unions. In part, this was because of clear links to enduring disciplinary interests in mobilization, group

solidarity, collective identity and class formation, and the institutional bases of markets. Sociologists have demonstrated that unionization is one of the primary means for workers to collectively organize, convert material class identities into power, and engage in a political rather than economic movement (Wrong 1988). Despite the contributions of the unionization literature, one noteworthy tendency has been the disproportionate focus on affluent democracies. Given that advanced capitalist democracies are more industrialized, this focus is perhaps not surprising. The consequence, however, is that considerably less research exists on organized labor in less developed countries (LDCs).

Recently, a smaller but quite valuable literature on unionization in LDCs has emerged. This literature typically involves case studies or small-N comparisons of labor movements, or narratives of unionization in LDCs (e.g., Collins 2003; French 2003; Heller 1999; Wood and Psoulis 2001). For example, Seidman (1994) compares the histories of labor movements and militancy in Brazil and South Africa. In LDCs, unions have pushed for democratization and cultivated civil society and social movements (Baiocchi 2005). Frenkel and Royal (1997) explain that unions in LDCs can supplement ineffectual states, challenge authoritarian and corrupt regimes, raise wages and working conditions, constrain multinational corporate power, institutionalize worker rights, and increase productivity. Indeed, if unions can raise working conditions in LDCs, unions could contribute to preventing a "race to the bottom" version of economic globalization and potentially serve as a source of union revitalization (Cornfield and McCammon 2003).

Without question, the case study literature on unions in LDCs is valuable. By no fault of these authors, however, what has been lacking is cross-national research on unionization in LDCs.¹ Additionally, it is debatable how much

we can extrapolate from research on affluent democracies to LDCs. As a complement to the cross-national studies of affluent democracies and the case studies of LDCs, research is needed to explain variation in unionization across LDCs.²

Remarkable differences exist across the 39 LDCs in our sample. The late-1990s World Values Surveys (WVS, see below) include LDCs with relatively low (El Salvador, Lithuania, Morocco, Peru, Turkey), medium (Bulgaria, South Africa, Uruguay), and high (Belarus, Brazil, Russia, Tanzania) union densities. This variation speaks to enormous differences in the organization of labor markets; historical regimes; power relations between workers, the state, and business; and the flows of trade, investment, and debt. In turn, unionization in LDCs represents a strategic research topic for sociologists interested in work and labor, globalization and development, and social class.

We conduct a multilevel analysis of employed workers in the 39 LDCs for which data are available in the late-1990s waves of the WVS. Our study seeks to understand why unionization varies across LDCs and across different types of workers. We develop the theoretical argument that variation in union membership is a function of more than workers' individual characteristics. While a worker's sex, age, education, and class are important, the likelihood of a worker belonging to a labor union is constrained or facilitated by country-level institutions, industrialization, and globalization. A few scholars have conducted multilevel analyses of the likelihood that a worker is unionized, but, to our knowledge, every such study has exclusively examined affluent democracies (Brady 2007; Western 1997). Thus, this study may be the first

ity of LDCs have not experienced such vibrant labor movements and many have experienced rapid union decline, such as in East Asia (Deyo 1997) and some former Soviet republics (Jones 1995).

² A few scholars have conducted surveys of unionization across less developed regions (e.g., Deyo 1997; Kubicek 1999; Kuruvilla 1996; Roberts 2002). Of course, there is also a rich historical case study literature on unions and class formation in Western Europe and North America. While this literature informs our study, it is unclear how applicable it is to contemporary LDCs.

¹ Despite the great value of Seidman's (1994) study, one needs to be cautious about sampling on the dependent variable by selecting cases of successful unionization. Though we report moderate unionization in South Africa, Wood and Psoulis (2001) claim South Africa has had one of the fastest growing union movements. As we confirm below, Brazil is widely known as highly unionized. These may be uniquely or even anomalously successful cases. The vast major-

to cross-nationally model the individual- and country-level bases of union membership across LDCs.

INDIVIDUAL-LEVEL BASES OF UNIONIZATION IN LDCS

Our study explicitly builds on the existing unionization literatures, especially the rich case studies of LDCs, in forming our expectations about which workers are likely to be unionized. We anticipate that workers in the middle of their lives are more likely to be unionized, as younger workers have a more precarious position in the labor market. Given that unionization is typically associated with male-dominated industries and the manual working class, women should be less likely to be unionized (Seidman 1994). Yet, this pattern might not hold as clearly in contemporary LDCs as it did during the industrialization of the West. Unionization was widespread in state-socialist regimes, where sex-segregation of unionization was generally less pronounced (Jones 1995). Due to the communist legacy shared by many contemporary LDCs, the relationship between sex and unionization may be less clear.

We also expect that social class influences who is unionized. Like the trajectories of class formation that occurred in the industrialization of the West (Aminzade 1993; Katznelson and Zolberg 1986), some contend that labor mobilization is more common among the traditional manual working class (Silver 2003). Seidman (1994) argues that semiskilled and skilled industrial workers were the most likely to form and join unions in Brazil and South Africa, while casual, migrant, and informal workers were much less likely. Hence, those with low education and informal sector workers should be least likely to be unionized (Heller 1999; Portes and Hoffman 2003). In turn, manual workers in the formal sector should be most likely to be unionized, while unskilled and informal sector workers should be less likely.

Somewhat in contrast, Latin Americanists often contend that unionization is more prevalent among white-collar and middle-class workers (Roberts 2002). Professionals, the highly educated, and nonmanual workers are more likely to have highly valued skills and work in the public sector where unions often thrive amid greater regulation and contract protections. If the

public-sector bureaucracy and white-collar classes—what Portes and Hoffman (2003:48) call the “backbone of the urban middle class” in Latin America—are particularly well-established, unionization may even be institutionalized among managers and professionals.

Despite our expectation that class influences unionization, this relationship should not be presupposed. Many are skeptical that class shapes political behavior in contemporary LDCs. In Latin America, for example, “economic crises and market reforms produced a more fragmented social landscape, simultaneously exacerbating inequalities and inhibiting the political organization of workers” (Roberts 2002:5). Inglehart (1997) argues that an era of postmaterialism has swept across the globe, and identities anchored in religion, ethnicity, and sex have grown far more influential than social class. Thus, a null hypothesis is that clear cross-national patterns of class formation will not emerge, due to the vast heterogeneity across contemporary LDCs and the rival salience of postmaterial values and identities. Since clear cross-national patterns have not been established, it remains an open question as to whether class predicts unionization in LDCs.

COUNTRY-LEVEL BASES OF UNIONIZATION IN LDCS

Beyond individual characteristics, we propose that the social context of an LDC influences whether a worker is a member of a union. In this section, we outline three country-level forces that may potentially constrain or facilitate unionization across LDCs.

INSTITUTIONS

In studies of unionization in affluent democracies, institutions have emerged as the paramount influence on cross-national variation (Brady 2007; Western 1997). Institutions reflect historical settlements on how to organize and regulate labor markets, provide norms and incentives for joining unions, and enhance the relative power of collective actors in the political arena. The consequential institutions in affluent democracies—corporatism, Ghent systems, and leftist parties—often take very different forms or have never been established in LDCs. We propose that within LDCs, the insti-

tutions that may influence unionization include ex-communist regimes, democracy, the size of the state, and the influence of the International Monetary Fund (IMF) and the International Labour Organization (ILO).

Under state socialism, unions traditionally maintained monopoly representation (Clarke 2005; Kubicek 1999). As Jones (1995:40) explains, "Until about 1990, virtually all workers in the USSR were members of the 'old' unions." Moreover, many Soviet unions were able to morph into successor unions with relatively high membership. As a result, unions in ex-communist countries are likely to demonstrate path dependence since the public sector and classic industrial jobs of the former regime have not fully decayed. While unionization in the former Soviet republics has declined significantly since the 1980s (Jones 1995), ex-communist countries should maintain higher levels of unionization relative to other LDCs.

Beyond the legacy of high unionization, other historical factors are unique to countries with a communist legacy. The transition to capitalism strained the already complicated relationship between unions and other political actors, especially among the "old" unions and incipient independent workers movements (Clarke, Fairbrother, and Borisov 1995). Under communist rule, unions acted primarily as agents for the party-state (Kubicek 1999), and unions in ex-communist states must now adjust to serve a different function as representatives for workers. This task is made even more challenging by historical perceptions of unions (Connor 1996) and the economic insecurities brought on by the market transition. Thus, ex-communist countries should experience not only higher unionization, but also distinctive relations between unions and often nascent institutions.

Many scholars have documented how labor union mobilization contributed to democratization (Aminzade 1993; Seidman 1994). While unions can be key actors in demanding democratization and pushing authoritarian regimes to reform—such as during the Third Wave of democratization around 1990—unions also tend to operate more successfully in democracies (Jose 2002). Democracy may encourage workers to organize and form unions (Bendix 1977; Katznelson and Zolberg 1986). As Heller (1999:65) remarks, "Formal democratic institutions and procedures provided new spaces in

which lower-class organizations could form and created new incentives and rewards for mobilization." Authoritarian regimes often repress unions and squelch the organizing opportunities and efforts of labor movements. For example, Seidman (1994) shows that the 1964 transition to military authoritarianism in Brazil and the apartheid state in South Africa undermined unionization. Hence, unionization is more likely to thrive in democratized countries.

The next two institutional factors, the size of the state and IMF influence, represent aspects of neoliberalism. In the past few decades, LDCs have undergone a programmatic change toward free markets, privatization, fiscal austerity, and the "reimposition of market discipline" (Roberts 2002). While neoliberalism has had questionable economic outcomes, it has dramatically reordered the politics and social bases of power in society (Stiglitz 2002; Vreeland 2003). Neoliberalism has severely undermined working-class mobilization and facilitated the political capacity of business, resulting in a much less hospitable environment for organized labor (Portes and Hoffman 2003). Roberts (2002) argues that in Latin America, neoliberalism has led to both greater inequality and weaker solidarity among workers and the poor. Neoliberalism, structural adjustment, and the debt crisis generally have tilted the balance of power against workers and in favor of foreign investors and the IMF (Babb 2005).

As part of structural adjustment reforms brought on by the debt crisis, the IMF signed agreements with many LDCs that forced an implementation of neoliberal policies. These IMF agreements severely curtailed the public sector (Vreeland 2003) and, in turn, may have undermined workers' positions in general. As Silver (2003:166) explains, "Major cutbacks on state expenditures meant massive layoffs, mushrooming unemployment, and weakened marketplace bargaining power for labor." Roberts (2002) concludes that state retrenchment has led to fewer workers in stable workplaces, a larger informal sector, and a decline in unionization in Argentina, Chile, and Peru. Since labor unions are typically more prevalent in the public sector, neoliberalism specifically manifests in less government and less unionization. Moreover, IMF agreements weaken the collective negotiating position of workers and encourage business resistance to labor.

In turn, IMF agreements should be negatively associated and state size should be positively associated with unionization.

Lastly, ILO conventions represent the global diffusion of workers' rights to organize and assemble (Flanagan and Gould 2003). ILO conventions are formal treaties and agreements signed by governments, purportedly to ensure the protection of workers' rights. While there are currently 185 ILO conventions, eight are considered fundamental. These core standards include four sets of two conventions related to forced labor, child labor, gender discrimination, and workers' rights to free association and collective bargaining. Ratification of ILO conventions is associated with lower levels of sex segregation (Chang 2004) and the development of the welfare state (Strang and Chang 1993), and it does not appear to weaken a comparative advantage in labor (Busse 2002). Deyo (1997) suggests that infrequent signings of ILO conventions contributed to weak labor movements in Asia. The global diffusion of international norms and conventions has received a great deal of attention by sociologists (Meyer et al. 1997). However, many are skeptical that institutions like ILO conventions are consequential to workers' "on the ground" experiences—especially since the ILO has no enforcement power and relies on voluntary compliance (Busse 2002; French 2003; Neumayer and de Soysa 2005).³ Since few tests exist of ILO conventions, it would be valuable to examine this institutionalization of worker rights.

INDUSTRIALIZATION

Reflecting Marx's influence, sociologists often frame industrialization as key to labor mobilization (Boswell and Dixon 1993). Industrialization clearly played a role in the history of Western working-class formation, as it brought workers together in factories, homog-

enized their interests, and facilitated collective organization (Aminzade 1993; Katznelson and Zolberg 1986). Modernization theorists expected that as LDCs industrialized, labor movements similar to those in the West would emerge (Bendix 1977; Kerr et al. 1960). Industrialization involves the growth of the manufacturing sector, economic development, and LDCs' increasing similarity to the economic processes exhibited by industrialized countries. As LDCs industrialize, one should expect greater unionization.

In the cases of South Africa and Brazil, Seidman (1994) demonstrates that industrialization created a skilled working class, encouraged class consciousness, and, in turn, enhanced unionization. Hence, industrialization's positive effects should manifest individually in the class location of workers and contextually in the level of industrialization. Because of industrial workers' greater bargaining power to halt production (Wallace, Griffin, and Rubin 1989), Seidman (1994:149) explains, "the rise of capital-intensive heavy industry increased industrial workers' capacity to challenge employers on the shop floor, and the organizations they formed reflected that experience."

In a justly celebrated and rare cross-national study of labor in LDCs, Silver (2003) analyzes the global historical trajectories of labor militancy. While she links industrialization and strikes, since militancy often triggers the emergence of unionization, industrialization is expected to have similar effects on unionization (Silver 1997). As Silver (2003:41) explains, "Strong and effective labor movements have emerged in virtually every site where Fordist mass production expanded rapidly." Because industrialization contributes to the formation of collective consciousness over shared grievances, industrialization fosters militancy, which together increase labor power and unionization (Dixon, Roscigno, and Hodson 2004; Roscigno and Danaher 2001). Additionally, Silver (2003) argues that unionization will generally follow the product life cycle of industries.⁴ When an industry is new, competition is low and costs are

³ Neumayer and de Soysa (2005:36) write: "Ratification of a convention on paper does not mean anything in actual reality unless there are stringent compliance and enforcement mechanisms in place and powerful countries take an interest in enforcing the rules. . . . Indonesia, Syria, and Zimbabwe, for example, have ratified all eight ILO conventions pertaining to core labor standards, but this does not mean that their effective labor standards are high."

⁴ Though the automobile industry is key to Silver's account, she argues for the influence of industrialization in general. Silver (2003:73) writes, "The automobile industry was widely acknowledged to

less important. During this period, unionization is likely to grow. As industries reach maturity, however, the pressure to cut costs and resist unionization grows. Due to the “contradictions of semiperipheral success,” further industrialization might even lead to less unionization in moderately developed LDCs.

Since these accounts expect increasing similarity with the processes exhibited by industrialized countries, the business-cycle should also be associated with unionization in LDCs in a manner similar to industrialized countries. Prior to the ascendance of institutional perspectives, business-cycle explanations were arguably dominant in the unionization literature of industrialized countries (e.g., Fiorito and Greer 1982). According to business-cycle explanations, unemployment should decrease and inflation should increase unionization (Western 1997).

GLOBALIZATION

LDCs, along with the rest of the global economy, have experienced a surge of economic integration that rivals even the high colonial integration of the early twentieth century (Chase-Dunn, Kawano, and Brewer 2000). While we recognize that globalization is subject to a range of definitions, for this article we conceptualize globalization as the deepening integration of the global economy and the international economic exchange and flows of goods, services, people, information, and capital (Lee 2005). We consider LDCs that are more exposed to international trade and investment to be more “globalized.”

We acknowledge that some are skeptical that globalization has consistent or significant effects on unionization in LDCs (Dunn 2004; Guillén 2000). Nevertheless, there are two contrasting views of how globalization may influence unionization. Some argue that globalization facilitates labor organization as LDCs form deeper relationships with and converge upon the more highly unionized affluent democracies. While finding no effect of foreign direct invest-

ment (FDI), Neumayer and de Soysa (2005) show that trade openness in LDCs is associated with fewer labor rights violations. Silver (2003) explains that labor movements consistently emerge in new sites of foreign investment, partly because globalization enhances workplace bargaining power in these new locations. Mosley and Uno (2007) find that FDI inflows are positively associated with labor rights. If a country is heavily reliant on exports, workers may have more class capacity to disrupt production and hence demand collective representation. Moreover, economic connections between LDCs and affluent democracies may facilitate the transnational diffusion of unionization.

A contrasting view is that globalization undermines unionization. Globalization may put pressure on domestic institutions and strengthen alliances between states and multinational corporations (MNCs) in opposition to organized labor (Frenkel and Royal 1997). Kuruvilla (1996) concludes that export-oriented industrialization strategies are associated with union suppression. Given longstanding concerns with the exploitative nature of global capitalism, globalization may simply be the latest manifestation of the pursuit of pliable, cheap labor (Boswell and Stevis 1997). MNCs strategically locate investment to seek organizationally weak workers (Cooke 1997; Frenkel and Royal 1997). Despite their findings for FDI, Mosley and Uno (2007) find that trade competition exerts downward “race to the bottom” pressures on labor rights. And despite Silver’s aforementioned points, she (2003:166) explains, “The elimination of trade barriers contributed to deindustrialization and the collapse of large state-owned or subsidized industrial enterprises, the growth of informal sector firms, and the weakening of both marketplace and workplace bargaining power.” Since capital often responds to unionization efforts by threatening to or actually relocating production to yet another LDC, labor movements may weaken as an economy becomes more globalized (Silver 2003).

Besides these two general views, some have argued that traditional dependency concerns with trade and investment are less salient in recent years and instead emphasize the impact of international finance (Stiglitz 2002). In the 1990s, sociologists began to highlight the debt crisis as more consequential for LDCs (Babb

be the quintessential industry of the twentieth century—the “leading sector” of capitalist development. Yet few, if any, commentators would suggest that this will remain true in the twenty-first century.”

2005; Bradshaw and Wallace 1996). In Latin America, the financial globalization embodied by the debt crisis triggered fiscal austerity and the decline of unionized public sector jobs (Portes and Hoffman 2003; Roberts 2002). In explaining the 1990s crisis of previously strong labor movements in LDCs, Silver (2003:163) points to these “financial fixes [that] seriously weakened workers ‘behind their backs’ in the 1970s, allowing for an open assault by states and capital on core labor movements in the 1980s.” Rather than conceptualizing these changes as institutional variables—like the aforementioned IMF agreement and size of the state—it might be productive to conceptualize them as the concrete financial flows of globalization and focus on the debt burden or debt service payments. Possibly, the debt crisis became more influential to organized labor in LDCs in the past few decades.

DATA AND METHODS

To examine unionization in LDCs, we estimate a multilevel model of individual workers nested in a sample of 39 LDCs. Specifically, we estimate a hierarchical generalized linear logit model (HGLM) with HLM 6.0 (Raudenbush et al. 2004). HGLM logit models predict the likelihood that a worker is a union member based on a set of individual-level and country-level variables. The HGLM logit model can be expressed as two sets of equations (Raudenbush and Bryk 2002). First, the log odds of union membership ($\log [p_{ij}/1-p_{ij}]$) for the i th individual in the j th country is represented by eta (η_{ij}) and is a function of country intercepts (β_{oj}) and a set of fixed individual-level characteristics (βX_{ij}):

$$\log (p_{ij}/1-p_{ij}) = \eta_{ij} = \beta_{oj} + \beta X_{ij}$$

In this equation, the individual-level variables are differenced from their country means (group-mean centered). Second, each country intercept (β_{oj}) is estimated as a function of a general intercept term (γ_{oj}), a set of country-level characteristics (γC_j), and an error term (ϵ_{oj}):

$$\beta_{oj} = \gamma_{oj} + \gamma C_j + \epsilon_{oj}$$

In this equation, the country-level variables are uncentered.⁵ We principally focus on the

random intercept model and mainly use random coefficient models for sensitivity analyses.

The individual-level data are drawn from the late-1990s wave of the WVS for 39 LDCs (Inglehart et al. 2005). The WVS is based on nationally representative surveys of randomly selected adults. We include all countries outside the affluent democracies for which data exist. We acknowledge the WVS has limitations.⁶ Yet, the WVS is uniquely valuable for our purposes. First, the WVS has impressive cross-national scope and provides a common survey for all 39 LDCs. Second, the WVS contains very recent data, collected circa 2000 for most countries and circa 1995 for a few. Third, the WVS contains sufficient demographic and occupational information to assemble a reasonable individual-level model. Fourth, respondents are asked if they belong to a labor union. The WVS has recently become the leading international source on associational memberships (e.g., Paxton 2002; Schofer and Fourcade-Gourinchas 2001). Indeed, the WVS is one of only a few sources on unionization in LDCs. This study could be among the first to use the WVS to scrutinize unionization (Brady 2007; Lee 2007). Following similar research on unionization in affluent democracies (Western 1997), the analyses are confined to the employed. In turn, the analyses include 28,840 respondents in 39 LDCs. Descriptive statistics and sources are displayed in Table S2 in the Online Supplement on the *ASR* Web site: <http://www2.asanet.org/journals/asr/2007/toc058.html>.

⁵ The details of the models are the default setting in HLM 6.0. We experimented with an overdispersion parameter and Laplace estimation but found only minor differences.

⁶ The sample of 39 LDCs was motivated by data availability and is not a probability sample of all LDCs. Within affluent democracies, public sector jobs and private sector, industrial jobs are more likely to be unionized than private sector services. Unfortunately, the WVS lacks information on sector or business ownership. Because we restrict our sample to “employed” workers, some informal workers might not be classified as “employed” and could be excluded.

INDIVIDUAL-LEVEL VARIABLES

The dependent variable, *union membership*, is whether the respondent reports belonging to a labor union (coded 1 = member). In Table 1, we present descriptives by country for union membership, as well as the WVS year. As mentioned above, our sample displays considerable variation in union membership, ranging from about 51.3 percent in Belarus and 39.7 percent in Azerbaijan to 3.3 percent in El Salvador and 1.3 percent in Morocco. Generally, a regional pattern is discernable, with workers in Eastern Europe most likely to be unionized and work-

ers in Asian, African, and Latin American countries relatively less likely. The cross-country mean unionization is 15.9 percent, and 33 of the countries are within one standard deviation (.12). While these 39 LDCs are not a probability sample of all LDCs, there is a great deal of regional variation, including five African, five Asian, 10 Latin American, and 19 East European and former Soviet countries. Hence, we suggest that our sample is generally representative of workers in LDCs. Since the samples are modest for some countries (after excluding those not employed), caution is appropriate in

Table 1. Union Membership in 39 Less Developed Countries

Country	Survey Year	N	Mean	SD
Albania	2000	565	.143	.351
Argentina	2000	652	.035	.185
Azerbaijan	1995	1,230	.397	.489
Bangladesh	2000	452	.239	.427
Belarus	2000	649	.513	.500
Bosnia	2000	541	.135	.342
Brazil	1995	655	.252	.434
Bulgaria	2000	439	.148	.356
Chile	2000	648	.048	.214
China	2000	778	.073	.261
Colombia	1995	3,339	.085	.279
Croatia	2000	523	.203	.402
Czech Republic	2000	1,026	.141	.349
Dominican Republic	1995	235	.243	.430
El Salvador	1995	610	.031	.174
Estonia	2000	595	.069	.254
Hungary	2000	462	.117	.322
India	2000	1,008	.109	.312
Latvia	2000	466	.219	.414
Lithuania	2000	537	.037	.190
Macedonia	2000	429	.112	.316
Mexico	2000	870	.098	.297
Moldova	2000	465	.271	.445
Morocco	2000	910	.013	.114
Peru	2000	729	.048	.214
Philippines	2000	608	.054	.227
Poland	2000	520	.177	.382
Romania	2000	471	.210	.408
Russia	2000	1,332	.391	.488
Serbia & Montenegro	2000	1,098	.270	.444
South Africa	2000	1,315	.124	.330
South Korea	2000	726	.079	.269
Tanzania	2000	613	.390	.488
Turkey	2000	420	.040	.197
Uganda	2000	637	.097	.297
Ukraine	2000	622	.336	.473
Uruguay	1995	492	.167	.373
Venezuela	2000	630	.038	.192
Zimbabwe	2000	573	.045	.208

interpreting these country means as estimates of unionization. A comparison with other sources suggests that the WVS reasonably represents the level of unionization in these countries.⁷

As with any international survey, there are questions of comparability. While most respondents probably interpreted the question consistently, it is reasonable to consider if the phenomenon of union membership is comparable across LDCs. We propose that unionization, in a general sense, represents collective organization and mobilization by labor and a key associational membership for workers. As validity checks, we found that union membership is positively associated with the WVS's standardized income measure, and that the modal subjective social classes for the unionized are "lower middle class" and "working class." Still, we treat this challenge of comparability as an empirical problem and conduct a variety of sensitivity analyses (see Table S1 in the Online Supplement). One important distinction in unionization across LDCs is between ex-communist and non-ex-communist countries (Clarke 2005).⁸ As a result, we decomposed the sample below. Possibly, some countries demonstrate "artificially" high or low unionization because of the nature of unions in those contexts. In turn, we dropped countries with particularly high or low unionization, China, and countries with severely restricted worker rights (Cingranelli and Richards 1999, 2006). We also omitted various classes of workers. Importantly,

⁷ To our knowledge, there is no standardized, comprehensive international database to check these country means against. The ILO has a working paper that provides estimates of unionization for 11 countries in our sample (Lawrence and Ishikawa 2005), and the best comparison estimates correlate very highly with the WVS country means ($r = .84$). Also for the ILO, Kucera (2005) produced a "trade union rights index" based on textual accounts of labor rights violations. For the 36 countries in common, this index correlates positively with the WVS country means ($r = .23$). If we reestimate the means with the sample weights, the results are consistent with only a few minor changes.

⁸ Though unionization tends to be higher in ex-communist countries, this is not uniformly the case. Eight of the 18 ex-communist countries have mean unionization below the overall mean and two are below 10 percent.

the results are consistent in these sensitivity analyses, and though we reestimated all models, we report these final models in Table S1 in the Online Supplement.

Also, at the individual-level, we include independent variables for workers' sex, age, education, and class. All individual-level variables are coded as binary indicators and include: *female*, four age categories—*age-teen* (ages 16 to 19), *age-young* (20 to 34), *age-middle* (35 to 50), and *age-old* (> 50)—and three education categories, using the WVS's standardized measure—*education-low*, *education-middle*, and *education-high*. The reference categories are *age-middle* and *education-middle*.

An obvious class schema does not exist for LDCs, and most schemas were created with advanced capitalist democracies in mind. In turn, we draw heavily on Portes and Hoffman's (2003) model of social classes in Latin America.⁹ We construct a class schema using three sources of information in the WVS: employment status, the general and detailed occupational categories and, when appropriate, the level of educational attainment.¹⁰ Unlike schemas designed for advanced capitalist democracies, the class structure in LDCs requires consideration of the large number of workers who are excluded from formal employment and must rely on unregulated, and thus unprotected, work activity (Heller 1999).

Within the confines of the WVS, workers are classified as follows: First, workers are distinguished based on the presence of a labor contract, and it is assumed that self-employed workers can be owners, petty bourgeoisie, or members of the informal proletariat. Second, professionals and other skilled workers are distinguished by having greater than "low" edu-

⁹ Other influences include Parrado's (2005) examination of Mexican men and schemas designed for advanced capitalist democracies (e.g., Wright 1997). We acknowledge that any class schema applied to survey data is bound to have limitations, as the underlying class structure is not systematically established.

¹⁰ Portes and Hoffman (2003) describe the Latin American class structure through seven classes, ranging from capitalists to the informal proletariat. To classify workers, they consider control over the means of production, bureaucratic organization, scarce or technical skills, legal protection or regulation, and mode of remuneration.

cational attainment. Third, using these criteria along with occupational data in the WVS, workers are placed into one of six classes with unclassified workers (approximately 8 percent of the sample) serving as the reference. *Manager/executive* contains supervisors, administrators, legislators, managers, foremen, and military personnel. *Professional/elite worker* combines the “elite workers” and “petty bourgeoisie” categories of the Portes and Hoffman schema and includes professionals, as well as self-employed, skilled, educated, nonmanual workers. *Nonmanual formal proletariat* includes technicians and associate professionals, as well as clerical and office workers. As a slight modification to the Portes and Hoffman schema, we divide *manual formal proletariat* into two categories: *skilled* and *unskilled*. *Informal proletariat* contains self-employed manual workers, both skilled and unskilled, subsistence agricultural and fishery workers, and street vendors. Since about 13 percent of the sample (mainly from the former Soviet-bloc) would be in more than one category, we assigned respondents to their most subordinate class to avoid overlap. Understanding the WVS’s limitations, we conducted sensitivity analyses with several combinations and recodings of this schema and the results were robust (see Table S1 in the Online Supplement).

COUNTRY-LEVEL VARIABLES

The individual-level data are linked to country-level measures of institutions, industrialization, and globalization. While the individual-level variables gauge the composition of the workforce, the country-level variables assess the context for unionization. All country-level variables were collected for the available year that was closest to, though not later than, the WVS survey year (Chang 2004).

To examine institutions, we first include a dummy variable, *ex-communist*, to indicate a communist legacy. For this sample, this is restricted to former Soviet republics and Eastern European communist regimes. Next, we include a measure of democracy, *Polity Combined Score*, which is the combined index of the democracy and authoritarianism scales from the Polity IV (Marshall, Jaggers, and Gurr 2005). This variable is coded -10 to 10 with 10 being most democratic. In analyses available

upon request, we tested several alternative measures of democracy.¹¹ Third, to measure the size of the state, we include *Government Expenditures as a Percent of GDP*. Fourth, we use a dummy variable, *IMF Agreement*, to indicate if a country signed an agreement during the WVS survey year.¹² Finally, *ILO Fundamental Conventions* measures how many of the eight fundamental conventions a country has signed.¹³

¹¹ Specifically, we tested the Freedom House (2003 to 2004) civil liberties and political rights ratings and the Polity IV score’s democracy and authoritarianism scales. We also tested the effect of the average Polity combined score for t , $t - 5$, and $t - 10$. Finally, we tested whether the Polity combined score had a curvilinear effect ($X + X^2$). All of these alternatives were insignificant. While these alternatives fail to reach significance, they are highly correlated with the Polity combined score. We also tested democracy’s effect in all sensitivity analyses (see Table S1 in the Online Supplement), but it remained insignificant.

¹² We tested two alternative measures of IMF agreements: currently under an IMF agreement and the cumulative years under an IMF agreement. We present the selected measure for two reasons. First, these alternatives have only a third of the variation (the coefficients of variation are .89 for under, .69 for cumulative, and 2.64 for signed). Since more than half of the countries are presently under an IMF agreement, this measure does not effectively differentiate the effects of the debt crisis. Second, there is collinearity between the cumulative IMF measure and the ex-communist regime variable ($r = -.72$). If we drop the ex-communist variable, the cumulative IMF variable becomes significantly negative. Since signing an IMF agreement is not randomly assigned, this effect could reflect the financial and balance of payments crises that trigger the signing of an agreement. Nevertheless, as we show below, this variable’s effect remains robustly significant even controlling for measures of balance of payments and financial crises (e.g., inflation and trade).

¹³ The eight ILO Fundamental Conventions are: ILO29—Forced Labor Convention, 1930; ILO87—Freedom of Association and Right to Organize Convention, 1948; ILO98—Right to Organize and Collective Bargaining Convention, 1949; ILO100—Equal Remuneration Convention, 1951; ILO105—Abolition of Forced Labor Convention, 1957; ILO111—Discrimination (Employment and Occupation) Convention, 1958; ILO139—Minimum Age Convention, 1937; and ILO182—Worst Forms of Child Labor Convention, 1999. ILO 182 is the one

We also estimated models with dummies for each individual convention, one at a time and in various combinations. The results were consistent across all models, so we simply present the summary measure.

For industrialization, we first include gross domestic product, *GDP Per Capita*, in real purchasing power parity dollars as a measure of the level of economic development.¹⁴ Next, we examine two measures of the business-cycle. *Inflation* is the average of the three most recent years in the annual rate of change in the consumer price index. *Unemployment* is the percent of the labor force unemployed. Finally, we include *Manufacturing and Agriculture Percent of the Labor Force*.

To assess globalization, we first include measures of the extent and composition of trade.¹⁵ *Exports as a Percent of GDP*, *Imports as a Percent of GDP*, and *Manufacturing Imports as a Percent of Imports* all measure the trade of goods and services. *Raw Materials Exports* is the percent of exports in natural resources and primary products, using Lall's (2000) product classification.¹⁶ *Trade Openness* sums the total imports and exports measures. Next, we include *Inward FDI Stock as a Percent of GDP*. Finally, we examine the debt crisis with *Debt Service as a Percent of Gross National Income (GNI)* and *External Debt as a Percent of GDP*. We acknowledge that we concentrate on economic globalization and do not explicitly test cultural or legal globalization.¹⁷

exception to our strategy of measuring the country-level variables as the year closest to but not later than the survey year as six countries were surveyed in 1995. All six ratified ILO 182, so we coded them as positive for this convention.

¹⁴ We also tested the level of urbanization and/or population size (logged and raw), and both were insignificant.

¹⁵ We also tested manufacturing exports and net FDI inflows, and both were insignificant.

¹⁶ *Raw Exports* is calculated using the following formula, multiplied by 100: [(primary products exports + resource based products exports) - (oil and gas exports)] / (total exports).

¹⁷ Of course, the distinction between globalization and global institutions like the IMF and ILO is not discrete. We label these as "institutions" merely as a heuristic and acknowledge they could be called "political globalization."

Our strategy is to keep the models as parsimonious as possible by adding a few variables in a series of models. Beginning with the individual-level controls, we first add institutional variables, trimming from subsequent models those terms that do not have robust, significant effects. Next, we add industrialization variables to the preferred model of institutional effects. Third, with models that retain the significant institutional and industrialization variables, we add globalization variables. Fourth, as ex-communist legacy is found to have such a strong effect, we decompose the analysis into ex-communist and non-ex-communist subsamples.

RESULTS

Table 2 begins with the individual-level variables. Throughout, we present the odds-ratios and t-scores. Model 1 presents the effect of the individual characteristics without any level-2 variables. There is very little fluctuation in the effects of the individual characteristics throughout Models 1 to 6, and all the variables except *age-old* are robustly significant. Females are about 6 percent less likely to be unionized than are males (though only significant with a one-tailed test). Compared to 35- to 50-year-olds, teenage workers are over 65 percent less likely and workers ages 20 to 34 are almost 38 percent less likely to be unionized. Older workers are not significantly different from the middle-aged. Using *education-middle* as the reference, workers with low levels of education are about 14 percent less likely, while the highly educated are almost 16 percent more likely to be unionized. Hence, males older than 34 years and at least moderately educated are most likely to be unionized.

Relative to unclassified workers, managers/executives are about 50 percent more likely and professionals/elite workers are almost twice as likely to be unionized. The nonmanual and skilled-manual proletariat, such as technicians, clerical, craft, and trades workers, are about 62 percent and 67 percent more likely, respectfully, to be unionized. The unskilled-manual proletariat, including agricultural and elementary laborers, is about 8 percent less likely to be in a union. The informal proletariat is the least likely to be union-

Table 2. HGLM Logit Models of Institutional Sources of Union Membership in 39 Less Developed Countries: Odds Ratios and T-Scores Displayed

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Country Level						
Ex-communist		2.750**	2.792**	2.678**	2.930**	2.999***
		(3.485)	(3.488)	(3.099)	(3.848)	(3.745)
Polity Combined Score			.985			
			(-.531)			
Government Expenditures /GDP				1.005		
				(.220)		
IMF Agreement					.409*	.403*
					(-2.130)	(-2.123)
ILO Fundamental Conventions						.970
						(-.301)
Intercept	.129***	.081***	.086***	.074***	.088***	.108***
	(-12.444)	(-12.706)	(-10.200)	(-5.660)	(-12.571)	(-3.134)
Individual Level						
Female	.940†	.940†	.940†	.940†	.940†	.940†
	(-1.662)	(-1.667)	(-1.668)	(-1.667)	(-1.667)	(-1.667)
Age-Teen	.346***	.345***	.345***	.345***	.345***	.345***
	(-6.239)	(-6.238)	(-6.239)	(-6.239)	(-6.239)	(-6.239)
Age-Young	.622***	.622***	.622***	.622***	.622***	.622***
	(-11.968)	(-11.964)	(-11.965)	(-11.964)	(-11.963)	(-11.964)
Age-Old	.932	.932	.932	.932	.932	.932
	(-1.383)	(-1.385)	(-1.386)	(-1.386)	(-1.384)	(-1.384)
Education-Low	.863**	.862**	.862**	.862**	.862**	.862**
	(-2.813)	(-2.819)	(-2.817)	(-2.819)	(-2.817)	(-2.817)
Education-High	1.160**	1.159**	1.160**	1.160**	1.160**	1.160**
	(3.071)	(3.066)	(3.068)	(3.067)	(3.067)	(3.067)
Manager/Executive	1.503***	1.503***	1.503***	1.503***	1.503***	1.503***
	(4.466)	(4.466)	(4.467)	(4.466)	(4.465)	(4.465)
Professional/Elite Worker	1.949***	1.949***	1.949***	1.949***	1.949***	1.949***
	(8.344)	(8.341)	(8.341)	(8.341)	(8.340)	(8.340)
Nonmanual Proletariat	1.624***	1.624***	1.624***	1.624***	1.624***	1.624***
	(5.843)	(5.84)	(5.841)	(5.841)	(5.841)	(5.842)
Skilled Manual Formal Proletariat	1.668***	1.668***	1.668***	1.668***	1.668***	1.668***
	(6.581)	(6.578)	(6.579)	(6.579)	(6.577)	(6.578)
Unskilled Manual Formal Proletariat	.822*	.822*	.822*	.822*	.822*	.822*
	(-2.158)	(-2.159)	(-2.158)	(-2.158)	(-2.159)	(-2.159)
Informal Proletariat	.526***	.525***	.525***	.525***	.525***	.525***
	(-7.263)	(-7.277)	(-7.277)	(-7.278)	(-7.277)	(-7.278)

Note: All country-level variables are for the year closest to, though not later than, the WVS year (N = 28,870).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests). † $p < .05$ (one-tailed tests).

ized—over 47 percent less likely than the unclassified.¹⁸ The findings on the class variables provide support for the claim that skilled

manual workers—often in the industrial sector—are more likely to be unionized (cf. Seidman 1994; Silver 2003). Even more, however, the findings support Latin American accounts that educated professionals, often in the public sector, are most likely to be unionized (cf. Portes and Hoffman 2003; Roberts 2002).¹⁹ Although we experimented with a variety of

¹⁸ The informal proletariat constitutes one-fifth of the workers in our sample, which is limited to individuals who report being employed. This marginal class location may represent as much as half of all workers in Latin America (Portes and Hoffman 2003:48).

¹⁹ We reestimated all models with each class serv-

models, considering how robust these individual-level effects are, we do not display them in the next few tables. We control for these individual-level characteristics throughout, however, and discuss them with the final models.

INSTITUTIONS

Beginning in Model 2, we examine institutional sources of unionization. This second model shows that workers in ex-communist countries are about 2.75 times as likely to be unionized. This effect is robustly significant across all models and even has stronger effects in subsequent models. Clearly, communist legacy is consequential. In the next three models, we examine other institutional sources of unionization, net of this effect.

In Model 3, we find that democracy is not significantly related to unionization. While much theoretical attention has linked the two, we also tested several alternative measures of democracy and none was significant (see note 11). While democratic institutions have helped facilitate unionization in particular LDCs (Heller 1999, Wood and Psoulis 2001), we do not find consistent effects across LDCs.²⁰ In Model 4, the effect of government expenditures as a percent of GDP is insignificant. In Model 6, the effect of ILO Conventions is insignificant. As noted above, if we break up this summary measure and test each convention separately, all are insignificant. Only the dummy for signing an IMF agreement has a significant effect (Models 5 to 6). Workers in countries that signed IMF agreements are about 59 to 60 percent less likely to be unionized. This large effect supports the argument that the debt crisis and structural adjustment undermined organized labor.²¹ The

ing as the reference and the results were consistent. For example, if the skilled manual proletariat is the reference, only professionals/elite workers have a significantly greater likelihood of being unionized, the manager/executive and nonmanual proletariat are not significantly different, and the other classes are significantly less likely (see Table S1 in the Online Supplement).

²⁰ For example, South Korea, Estonia, and Lithuania have low unionization and high democracy, while Azerbaijan, Belarus, and Tanzania have high unionization and low or moderate democracy.

²¹ A strong example is Latin America (Roberts

effect of an IMF agreement and the effect of communist legacy are robustly significant, so we retain these two institutional variables in subsequent tables.

INDUSTRIALIZATION

In Table 3, we add industrialization variables to these two institutional variables. In Model 1, the effect of GDP per capita is negative although only marginally significant. Model 2 shows that inflation is significantly positive and unemployment is insignificant. With a standard deviation increase in the three-year average of inflation, the likelihood of union membership is expected to increase by about 26 percent. In Model 3, we combine those two business-cycle measures with GDP per capita. Unemployment is insignificant, while GDP per capita and inflation remain significant. Hence, there is some evidence for business-cycle and economic-development effects.

Surprisingly, manufacturing employment is negatively related to the likelihood of unionization and agricultural employment is positively related (Models 4 to 5). These results are particularly unexpected given the longstanding theoretical contention that industrialization encourages unionization. We explored three possible explanations for this finding. First, it could be that the individual-level class coefficients account for the influence of industrialization. However, if we drop the individual class variables, the effect of manufacturing is still significantly negative ($t = -2.4$). Second, industrialization might encourage unionization only for the skilled and unskilled manual formal proletariat. Yet, if we treat those two as random coefficients, manufacturing does not significantly influence the slope for either the skilled ($t = .33$) or unskilled manual formal proletariat ($t = .21$) and the main effect of manufacturing remains negative ($t = -2.2$). Third, following Silver's (2003) concern with the "contradictions of semi-peripheral success," it could be that manufacturing has a curvilinear ($+X, -X^2$) relationship with unionization. However, if we

2002). Argentina, Chile, El Salvador, Mexico, and Peru are among the highest in the aforementioned cumulative years under an IMF agreement, and all have unionization below 10 percent.

Table 3. HGLM Logit Models of Institutional Plus Industrialization Sources of Union Membership in 39 Less Developed Countries: Odds Ratios and T-Scores Displayed (Individual-Level Results Not Shown)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Country Level						
Ex-communist	3.069*** (4.137)	3.144*** (4.386)	3.282*** (4.671)	3.731*** (4.670)	3.277*** (4.436)	3.606*** (4.835)
IMF Agreement	.445† (-1.984)	.340** (-2.762)	.370* (-2.605)	.388* (-2.386)	.451† (-2.001)	.364* (-2.665)
Real GDP, PPP Per Capita	1.000† (-1.845)		1.000† (-1.728)			1.000 (-.010)
Unemployment		.989 (-.732)	.987 (-.861)			
Inflation		1.001** (2.654)	1.001* (2.494)			1.001* (2.706)
Manufacturing/ Labor Force				.967* (-2.382)		.987 (-.731)
Agriculture/ Labor Force					1.015* (2.358)	1.010 (1.407)
Intercept	.129*** (-7.280)	.089*** (-10.058)	.127*** (-6.587)	.175*** (-5.105)	.058** (-11.217)	.079*** (-4.789)

Notes: All models control for the individual-level variables in Table 2 (not shown). All country-level variables are for the year closest to, though not later than, the WVS year (N = 28,870).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests). † $p < .05$ (one-tailed tests).

include both manufacturing and its square, both are insignificant ($t = -1.17$ and $.47$).²²

Ultimately, the significant effects of manufacturing and agricultural employment should not be overstated. Neither is robust, and they become insignificant with the inclusion of other variables in Model 6. The prudent interpretation seems to be that these measures of industrialization do not significantly influence unionization.²³ Notably,

²² Unfortunately, there is no joint test of the significance of two variables available for HGLM models. In lieu of that, we tested the joint significance of manufacturing and its square in an OLS model of the 39 LDCs with the country mean of union membership as the dependent variable. The two terms are not jointly significantly different from zero.

²³ For example, Estonia and Morocco have high manufacturing and low unionization, while Bangladesh and Moldova exhibit the inverse. Heller (1999:160) notes that Kerala is slightly less industrialized than the rest of India but has much higher unionization. Collinearity between the level-2 variables is not a problem and cannot explain the insignificance of GDP, manufacturing, and agriculture in Model 6. Also, we added manufacturing employment to each model in Table 4 and the results are consistent.

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GDP per capita becomes insignificant in Model 6, demonstrating that its effect is not robust. If industrialization facilitates unionization in LDCs, it appears that the effects manifest primarily at the individual-level through workers' class location. In the final model, only inflation and the institutional variables are significant.

GLOBALIZATION

Table 4 adds globalization measures to the three significant variables retained from the previous table. In sum, the globalization variables yield few significant results, as the institutional variables and inflation appear to be more important predictors of unionization across LDCs.²⁴ In Model 1, both exports as a percent of GDP and raw materials exports as a percent of exports are insignificant.²⁵ In Model 2, imports as a percent of GDP is insignificant. Manufacturing imports

²⁴ If we drop the institutional variables, the globalization results are robust with minor exceptions.

²⁵ We also tested the effect of manufacturing exports and low-tech manufacturing exports (using Lall's [2000] classification of low-tech), yet neither is significant (with or without exports as a percent

Table 4. HGLM Logit Models of Institutional and Industrialization Plus Globalization Sources of Union Membership in 39 Less Developed Countries: Odds Ratios and T-Scores Displayed (Individual-Level Results Not Shown)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Country Level						
Ex-communist	3.458*** (3.656)	3.296** (3.064)	3.810*** (3.626)	3.212*** (4.623)	3.591*** (4.93)	3.121*** (4.025)
IMF Agreement	.350* (-2.629)	.406* (-2.363)	.357* (-2.618)	.359* (-2.685)	.356* (-2.768)	.372* (-2.708)
Inflation	1.001* (2.601)	1.001* (2.473)	1.001* (2.605)	1.001* (2.531)	1.001* (2.354)	1.001* (2.349)
Total Exports/GDP	.994 (-.632)					
Raw Materials Exports	.999 (-.136)					
Total Imports/GDP		.991 (-.974)				
Manufacturing Imports		.979† (-1.933)				.986 (-1.160)
Trade Openness			.996 (-.862)			
FDI Stock/GDP				.985 (-1.529)		
Debt Service/GNI					.925* (-2.441)	.941† (-1.827)
External Debt/GDP					1.001 (.320)	
Intercept	.095*** (-5.477)	.463 (-.922)	.098*** (-7.588)	.104*** (-9.003)	.112*** (-7.762)	.286 (-1.570)

Notes: All models control for the individual-level variables in Table 2 (not shown). All country-level variables are for the year closest to, though not later than, the WVS year (N = 28,870).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests). † $p < .05$ (one-tailed tests).

as a percent of total imports is marginally significant, suggesting that workers in countries that rely more heavily on imported manufactured goods are less likely to be unionized. Yet, this effect is not robust and becomes insignificant in Model 6. In Model 3, trade openness is not significant. Neither the level nor the composition of international trade affects unionization. Similarly, inward FDI stock as a percent of GDP is negatively signed with a relatively large t-score (-1.53) but fails to actually reach significance in Model 4 (or a variety of alternative specifications).

Only debt service as a percent of GNI yields a robust significant effect (Models 5 to 6). For each percent of GNI in debt service, the odds

of unionization decline by about 6 to 7 percent. Debt service is somewhat less significant in Model 6, but it is noteworthy that this variable is significant even net of IMF agreement. The negative relationship, exhibited by countries such as Argentina and Hungary, substantiates the recent emphasis on international finance over traditional dependency concerns (Stiglitz 2002). While international trade and investment may have been more important in earlier decades, by the late-1990s, the debt service that LDCs make to banks, governments, and international financial institutions matters most to unionization in LDCs.

FINAL MODELS BY COMMUNIST LEGACY

The final model, displayed in Table 5, includes the individual-level controls and country-level variables that are robustly significant. While

of GDP in the model and with or without the other in the model).

Table 5. Final HGLM Logit Models of Sources of Union Membership in 39 Less Developed Countries, Full Sample and by Communist Legacy: Odds Ratios and T-Scores Displayed

	Full Sample of LDCs		Ex-communist		Non-ex-communist	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5
Country Level						
Ex-communist	3.655*** (5.189)					
IMF Agreement	.349** (-2.899)		.191** (-3.876)		.465 (-1.254)	
Inflation	1.001* (2.365)		1.003** (3.745)		1.001 (1.223)	
Debt Service/GNI	.927* (-2.473)		.986 (-.446)		.866* (-2.536)	
Intercept	.118*** (-9.228)	.217*** (-7.789)	.253*** (-4.757)	.082*** (-11.950)	.169*** (-5.313)	
Individual Level						
Female	.940† (-1.668)	1.024 (.486)	1.024 (.488)	.812*** (-3.514)	.812*** (-3.511)	
Age-Teen	.345*** (-6.240)	.272*** (-4.198)	.271*** (-4.198)	.420*** (-3.946)	.419*** (-3.951)	
Age-Young	.622*** (-11.964)	.583*** (-10.063)	.583*** (-10.063)	.682*** (-6.424)	.682*** (-6.424)	
Age-Old	.932 (-1.386)	.983 (-.278)	.983 (-.274)	.836* (-2.058)	.836* (-2.061)	
Education-Low	.862** (-2.816)	.916 (-1.098)	.916 (-1.090)	.837* (-2.478)	.837* (-2.482)	
Education-High	1.160** (3.070)	1.131† (1.950)	1.131† (1.945)	1.174* (2.128)	1.175* (2.136)	
Manager/Executive	1.503*** (4.464)	1.266† (1.719)	1.271† (1.720)	1.604*** (3.782)	1.604*** (3.781)	
Professional/Elite Worker	1.949*** (8.341)	1.492*** (3.332)	1.492*** (3.337)	2.329*** (7.698)	2.328*** (7.693)	
Nonmanual Proletariat	1.624*** (5.844)	1.288* (2.081)	1.288* (2.083)	1.650*** (3.979)	1.652*** (3.985)	
Skilled Manual Formal Proletariat	1.668*** (6.579)	1.252† (1.925)	1.251† (1.926)	2.057*** (6.617)	2.059*** (6.626)	
Unskilled Manual Formal Proletariat	.822* (-2.161)	.634*** (-3.288)	.633*** (-3.300)	.939 (-.510)	.940 (-.507)	
Informal Proletariat	.525*** (-7.278)	.282*** (-8.076)	.283*** (-8.066)	.712** (-3.084)	.712** (-3.090)	

Note: All country-level variables are for the year closest to, though not later than, the WVS year (N = 11,986 for 18 ex-communist LDCs, and N = 16,960 for 21 non-ex-communist LDCs).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests). † $p < .05$ (one-tailed tests).

the individual-level effects are similar to Table 2, the final model includes four country-level variables. Communist legacy remains one of the strongest predictors, as workers in these countries are more than 3.6 times as likely to be in a union. The other institutional variable, signing an IMF agreement, shows that workers in countries that signed an IMF agreement are

about 65 percent less likely to be unionized. These institutional variables display even greater and more significant effects in this final model. Inflation and debt service demonstrate similar effects as in earlier models. A one standard deviation increase in the inflation rate results in about a 26 percent increase in the odds of being in a union. Each additional percent of GNI in

debt service is associated with an over 7 percent decline in the likelihood of unionization, and a one standard deviation increase in debt service reduces the likelihood by about 31 percent. Finally, we note that we examined random coefficients models for the individual variables, yet these did not change our conclusions.²⁶

Because communist legacy has such a powerful influence, we decomposed the sample into ex-communist and non-ex-communist countries. Comparing the individual-level effects by communist legacy (Models 2 and 4), we find a few noteworthy differences although generally similar results. In non-ex-communist states, females are about 19 percent less likely to be unionized, but there is no significant effect of sex in ex-communist countries. The negative effect of being a younger or teenage worker is slightly larger for ex-communist countries, while the negative effect of being an older worker is larger in countries without a communist legacy. Similarly, while for all LDCs unionization is greater among the highly educated, for workers in ex-communist countries the effect of low education is insignificant.

The effects of class also reveal differences between ex-communist and non-ex-communist LDCs. First, the effects of professional/elite workers, managers/executives, and the non-manual or skilled-manual proletariat are greater for non-ex-communist countries. In ex-communist countries, professional/elite workers are almost 50 percent more likely to be unionized, and manager/executives and the nonmanual or skilled-manual proletariat are 25 to 29 percent more likely to be unionized (relative to the unclassified).²⁷ In countries without a communist legacy, professional/elite workers are over 2.3 times as likely, the skilled-manual proletariat is over twice as likely, and manager/executives and the nonmanual proletariat are both over 60

percent more likely to be in a union. Second, while in ex-communist countries the most subordinate class locations are associated with much lower unionization, these effects are less pronounced in other LDCs. In ex-communist countries, the unskilled-manual proletariat is over 46 percent less likely to be unionized, and workers in the informal sector are over 71 percent less likely to be members of a union. In countries without a communist legacy, unskilled-manual workers are not significantly different from the unclassified, and the informal proletariat is only about 29 percent less likely to be unionized.

Comparing the country-level variables also reveals differences between countries with and without a communist legacy (Models 3 and 5). We also estimated models separately for countries with and without a communist legacy for every variable in the previous tables. The pattern of robustly significant (or insignificant) effects is generally the same for these subsamples as for the full sample of LDCs.²⁸

In ex-communist countries, having signed an IMF agreement is associated with an over 80 percent decrease in the odds of being in a union. By contrast, this variable is not significant in the countries without a communist legacy. The rate of inflation also demonstrates a larger effect in ex-communist countries, with a standard deviation increase in inflation associated with about a 63 percent increase in the odds of being unionized. In the non-ex-communist countries, only debt service has a significant effect, while it is insignificant for ex-communist countries. For each additional percent of GNI in debt service, workers in countries without a communist legacy are about 14 percent less likely to be unionized. Thus, unionization is influenced by an IMF agreement and inflation in ex-communist countries and by debt service in non-ex-communist countries.

²⁶ There was weak evidence that debt service reduced the slope for the informal proletariat, but there were no clear significant effects on the other class coefficients. The random coefficients for other variables were overwhelmingly insignificant. One should be cautious as these random coefficient models had difficulty converging.

²⁷ About 5 percent of workers are unclassified in ex-communist LDCs, compared to about 10 percent in non-ex-communist LDCs.

²⁸ The only exception is that we find weak, non-robust evidence of contradictory effects of democracy between ex-communist and non-ex-communist countries. The Polity IV scale is moderately significant ($p = .10$) and positive in non-ex-communist states. However, for ex-communist countries, the Freedom House civil liberty rating is weakly significantly positive.

DISCUSSION

The sociological literature on unionization has long been vibrant. Yet the majority of research concentrates on affluent democracies. The smaller but valuable literature on unionization in LDCs mainly has involved case studies and small-N comparisons. What has been lacking is systematic cross-national research on unionization across LDCs. Our study uses the WVS to conduct a multilevel analysis of employed workers in 39 LDCs in the late-1990s. Controlling for sex, age, education, and a class schema at the individual-level, we analyzed country-level indicators of institutions, industrialization, and globalization. To our knowledge, this study is the first to conduct a cross-national analysis of union membership across such a wide sample of LDCs. Our analyses contribute to understanding why unionization varies across LDCs and across workers within LDCs.

Four country-level variables demonstrate how the social context of an LDC affects unionization. Communist legacy has a very significant, large, positive effect. Signing an IMF agreement and debt service each has a significant negative effect. Inflation has a significant positive effect. Thus, our study does not provide exclusive support for any one of institutions, industrialization, or globalization. Rather, we show that at least two institutional factors (ex-communist and IMF agreement), one industrialization factor (inflation), and one globalization factor (debt service) all contribute to explaining patterns of unionization across LDCs.

One of the novel contributions of this article is to provide clear, cross-national evidence of an important consequence of the debt crisis for LDCs. After the early-1980s, many LDCs experienced severe international debt, fiscal austerity and government retrenchment, balance of payments crises, coercive control by international financial institutions, and powerful pressures to implement structural adjustment reforms (Babb 2005; Vreeland 2003). Many have suggested a connection between this neoliberal social change and a reduced class capacity for workers (Roberts 2002), but there has been a shortage of empirical evidence. Our study provides clear evidence to draw this connection. In countries that signed an IMF agreement, the likelihood of a worker being a member of a union is reduced by about 65 percent, and

in ex-communist countries it is reduced by about 81 percent. For a standard deviation increase in a country's debt service as a percent of GNI, the likelihood of unionization is reduced by about 31 percent, and in non-ex-communist countries the likelihood is reduced by about 43 percent. It appears that debt service has a more detrimental effect in non-ex-communist countries, while IMF agreements have a stronger effect in countries with a communist legacy. A plausible explanation is that ex-communist countries have been exposed to neoliberalism and the IMF only recently. By contrast, other LDCs, especially in Latin America, are now experiencing the adverse consequences of previous agreements in the form of debt service. If unionization has the potential to improve the well-being of workers in LDCs, the debt crisis is a foreboding development. Since few have been able to provide clear empirical evidence of the consequences of the debt crisis for workers in LDCs, we suggest this is an important conclusion.

The analyses demonstrate that class exerts tremendous influence on politics and collective organization in LDCs. Thirty years ago, this conclusion might not have seemed controversial. Yet, in the present context of sociology, we suggest this conclusion deserves to be underlined. One of the more popular claims in contemporary sociology is that class has declined as a basis of the structuration of people's experiences. Many claim that class is simply not as relevant as it once was or that class was never that influential (Inglehart 1997; Pakulski and Waters 1996). Strikingly, many proponents of the "death of class" are scholars who formerly sought to demonstrate the influence of class (Clark and Lipset 2001; Hechter 2005). Class has been replaced by culture or nonclass identities and postmaterial values. By examining the sources of unionization in LDCs, our study provides at least one important corrective to a dominant pattern in the "death of class" literature: the tendency to neglect or omit LDCs. With the exception of Inglehart's (1997) work on the global spread of postmaterialism, LDCs have been almost absent from the debate.

Our study provides one of the first systematic, cross-national tests in LDCs of the relevance of class for an important dimension of mobilization: unionization. We suggest that class remains a pivotal mobilizing force in soci-

ety. Our class schema, extended from Portes and Hoffman (2003), is robustly significant and several classes have sizeable effects. The influence of class remains significant even after adding a variety of country-level variables to the model and upon decomposition by communist legacy. This conclusion is even more important since we use the same data set (WVS) produced by the leading proponent of postmaterialism (Inglehart 1997). Since the vast majority of the world's population does not reside in affluent democracies, where the "death of class" is supposedly most advanced, this study demonstrates that "death of class" arguments may be premature. Postmaterialism adherents might respond that Inglehart provides a theory of social change, and our cross-sectional analysis cannot capture the recent decline of class. Still, if class greatly influences most of the world's workers, it is hard to argue that a wave of postmaterialism has arrived.

Perhaps equally important as our significant findings are the central sociological variables that we found to be insignificant. Industrialization and democratization have received a great deal of attention as sources of unionization, class formation, and working-class mobilization. The lack of significance of these factors cannot be attributed to insufficient variation in our sample. Over 30 percent of employment in Belarus, Estonia, Morocco, and Poland is in manufacturing—a high rate even compared to Western Europe—and Azerbaijan, Serbia and Montenegro, Tanzania, Uganda, and Zimbabwe all have less than 10 percent. Our sample includes countries with a perfect Polity score of 10 (Czech Republic, Hungary, Lithuania, and Uruguay) as well as very undemocratic countries (Azerbaijan, Belarus, Morocco, and Zimbabwe). Compared to the coefficient of variation of debt service (.69), for example, there is more variation in the democracy measure (1.02) and similar variation in the manufacturing employment measure (.42). At the very least, these insignificant findings raise questions about the common emphasis on democratization and industrialization as the key bases of unionization in LDCs.

Globalization also failed to show many significant effects. While globalization has justifiably been at the center of studies of labor militancy in the world system (Silver 2003), our analyses fail to document traditional world

systems and dependency concerns with the extent and composition of trade and inward FDI. Perhaps in the late 1990s, the debt crisis superceded these factors and became the more pressing dimension of globalization for workers in LDCs (Babb 2005). One could interpret the effect of the IMF as evidence of political globalization just as much as evidence of the influence of institutions. Coupling our findings for debt service and the IMF, the more powerful impact of globalization may have occurred through the capacity of international financial institutions to undermine organized labor and constrain the class capacity of workers in LDCs.

We appreciate that some readers may be concerned with the comparability of the phenomenon of unionization across LDCs. At least one important distinction exists between unions in ex-communist and non-ex-communist countries, as is confirmed by our results. What is equally important, however, is that our main conclusions hold regardless of communist legacy. Additionally, our conclusions hold in a variety of sensitivity analyses. We suggest that the heterogeneity in the nature of unions across LDCs is most likely to attenuate the effects of variables and bias them toward zero. Hence, our results demonstrate that even given the heterogeneity across LDCs, several general processes influence unionization in LDCs.

Of course, our study has limitations that future research should address. Like every survey, the WVS is imperfect. We recognize that these 39 LDCs are not a probability sample of all LDCs, and even though we have substantial regional variation, it would be valuable to explore unionization in a wider variety of LDCs. Scholars could test our arguments with the few surveys, such as the Comparative Study of Electoral Systems, that have both a variety of LDCs and data on union membership. Future research should also explore temporal variation. While we hope our study is a first step in exploring the cross-national variation in unionization across LDCs, the multiple waves of the WVS might allow for the study of historical change.

Finally, while beyond the scope of this study, future research should explore the transnational connections between nongovernmental organizations (NGOs), which are a newly emerging component of what Evans (2005) calls "counter-hegemonic" resistance movements (Kay

2005; Murillo and Schrank 2005; Smith and Wiest 2005). More specifically, scholars should examine the transnational networks between NGOs in the affluent democracies and unions in LDCs.²⁹ One of the animating concerns for the sociology of labor is how such transnational relations can facilitate union revitalization (Cornfield and McCammon 2003; Turner 2005). Though we do not emphasize transnational NGOs, our study offers some insight into this larger puzzle. One strategy for union revitalization has been to attach labor conditions to trade agreements between affluent democracies and LDCs. The hope is that these conditions will stave off “race to the bottom” pressures, allowing unions in LDCs to grow with globalization and industrialization, and unions in affluent democracies to become more secure. However, since industrialization, ILO conventions, and international trade and investment are insignificant predictors, this strategy may be limited. Instead, our study suggests unions and NGOs in affluent democracies should challenge international financial institutions, such as the IMF and the U.S. Treasury Department, in order to alter the power relations between workers in LDCs and business (Stiglitz 2002). By combating neoliberalism, political supporters of labor may improve conditions for unions within LDCs and, therefore, secure a future for unions in affluent democracies.

The vast majority of the world’s workers reside in LDCs, yet a disproportionate share of the sociology of work and labor focuses on affluent democracies. While we have sought to build on and extend the valuable sociological literature on unionization, we aim to cultivate further interest in the experiences of workers in LDCs. Potentially, placing LDCs into our scope

of vision will help improve comparative and historical theory and call greater attention to those who are, in some sense, some of the most disadvantaged of the world’s population. Hopefully, this article can encourage a sustaining of Marx’s and sociology’s interest in labor unions by directing further attention to LDCs.

Nathan D. Martin is a doctoral student in the Department of Sociology at Duke University. His general research and scholarly interests include education, globalization, labor and work, social theory, and stratification and inequality. He is currently working on his dissertation, which offers a quantitative application of Bourdieu’s theory of “cultural reproduction” to contemporary U.S. postsecondary education. He is a research assistant to Kenneth Spenner for the Campus Life and Learning Project, a panel study of Duke University students.

*David Brady is an Associate Professor of Sociology at Duke University. His research focuses on the nature and sources of poverty and inequality, and the relationships between market institutions and economic globalization. Broadly, he is interested in political sociology, poverty and inequality, labor and work, globalization, and research methods. He published recent articles on unionization in *Work and Occupations*; on well-being in less developed countries in *Studies in Comparative International Development*; on the globalization of affluent democracies in *American Sociological Review*, *Annual Review of Sociology*, and *Social Forces*; and on poverty in *Research in Social Stratification and Mobility and Social Forces*. He is working on a book on how politics influence poverty in affluent democracies.*

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²⁹ We analyzed Smith and Wiest’s (2005) data on the number of transnational social movement organizations (TSMO) as a country-level variable (N = 37 due to missing data). Both after standardizing this variable by population ($r = -.14$) or not ($r = -.26$), it is negatively correlated with the country-means of unionization. If we add this variable to the final model, both the standardized ($t = -.88$) and unstandardized ($t = -.20$) variables are insignificant. Since this is not a perfect test of the TSMO literature, we encourage future research on how TSMO ties influence labor organizing in LDCs.

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