

New labour rights indicators: Method and trends for 2000–15

David KUCERA* and Dora SARI**

Abstract. *This article describes a new method for constructing indicators of freedom of association and collective bargaining (FACB) rights based on the coding of violations in nine textual sources, including six from the ILO, and texts from national legislation. The indicators were constructed for 185 ILO member States for five years between 2000 and 2015 and launched in 2015 by the Center for Global Workers' Rights at Penn State University, together with the Global Labour University. Following a Resolution by the International Conference of Labour Statisticians in October 2018, the method provides the basis for Sustainable Development Goal indicator 8.8.2 on labour rights.*

In order to undertake statistical analysis of the relationship between international labour standards and foreign direct investment and international trade, Kucera (2002 and 2007) developed a method for constructing country-level indicators of trade union rights. The method was based on coding violations recorded in textual sources and endeavoured to apply the definitions of freedom of association and collective bargaining (FACB) rights embodied in the ILO Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), and the Right to Organise and Collective Bargaining Convention, 1949 (No. 98). In spite of its limitations, the method continues

* ILO, Employment Policy Department, email: kucera@ilo.org. ** Harvard Law School, Labor and Worklife Program, email: dsari@law.harvard.edu. The authors would like to express their thanks to the Center for Global Workers' Rights at Penn State University, the Global Labour University and the Friedrich-Ebert-Stiftung for their financial support; to the experts participating in the Delphi survey for their time and dedication; to the colleagues who contributed to the coding: Vida Amirmokri, Loredana Carta, Katuscia Galhera, Bahareh Mahdavi, Valérie Prévost Tanguay, Zhihang Ruan, Makbule Sahan, Ángela Sanchez and Paul Vincent Whitehead; to Magnus Berge, Tandiwe Gross and Frank Hoffer for their overall support throughout the project; to Bjørn Sandvik and Thematic Mapping for their exceptional work on the Labour Rights Indicators webpage; and to Karen Curtis for her contribution to the construction of the evaluation criteria and for giving precision to their definitions. Lastly, the authors would like to give special thanks to Mark Anner, Director of the Center for Global Workers' Rights, who played an instrumental role in the realization of the project, both in terms of providing an institutional home for the indicators and by lending invaluable support and expertise at every stage of the work.

Responsibility for opinions expressed in signed articles rests solely with their authors, and publication does not constitute an endorsement by the ILO.

to be fairly widely used among researchers. In their survey of related indicators, Peels and Develtere (2009) conclude “that so far the Kucera dataset on FACB rights is the best option if one wants to measure the policy involvement of trade unions. The main reasons are its extensive country coverage, its focus on FACB rights and more in particular on de facto FACB rights, and the high transparency in methodology” (p. 341).

In his survey of related indicators constructed for the US Department of Labor, Barenberg provides useful criticisms of the Kucera method and concludes:

In any event, Kucera’s methodology stands as the leading effort to measure compliance with freedom of association and collective bargaining rights ... in light of social scientists’ use of the methodology. The *American Political Science Review*, as recently as November 2009, published an article by Greenhill et al., using Kucera’s methodology in modeling the trade-based diffusion of labor rights (Greenhill et al., 2009). For another use of Kucera’s methodology by political scientists, see Mosley et al. (2007). (2011, p. 56)

In an effort to address some of the shortcomings of the Kucera (2002 and 2007) method, Sari and Kucera (2011) developed an alternative coding scheme, which provides the foundation for our new method of constructing what we refer to as labour rights (LR) indicators. In comparison with the Kucera (2002 and 2007) method, our new method codes nine rather than just three textual sources and thus makes full use of the textual sources available through the ILO’s supervisory system, as well as coding national legislation and other related reports. It furthermore applies distinct evaluation criteria for violations of FACB rights in law (de jure) and in practice (de facto) and places greater emphasis on violations of FACB rights with regard to due process and violations committed against trade union officials. It eliminates catch-all evaluation criteria, such as “Other de jure acts of prohibitions, infringements and interference” or “Other de facto acts of prohibitions, infringements and interference”. As a result, it increases the number of evaluation criteria from 37 to 108 and introduces more comprehensive definitions of what constitutes a violation of each of these. Another innovation is the use of the Delphi method of expert consultation to derive weights for each of the evaluation criteria. However, perhaps most fundamentally, whereas the Kucera (2002 and 2007) method was the work of an economist with essentially no legal knowledge, our new method was developed in equal measure by a labour lawyer and an economist working in close collaboration, using the coding conducted by labour lawyers knowledgeable in the ILO’s supervisory system.

The new LR indicators are accompanied by a website hosted by the Center for Global Workers’ Rights at Penn State University.¹ The website provides access to the indicators and the coding on which they are based and allows users to approach the data from different entry points, depending on their areas of interest. The website is constructed in such a way that indicators for any given country and year can be readily traced to specific violations of

¹ Available at: <http://labour-rights-indicators.la.psu.edu/> [accessed 21 May 2019].

FACB rights and the passages of text on which coding is based, thus lending transparency to the indicators and facilitating legal as well as statistical analysis. The website and indicators were launched in 2015 by the Center for Global Workers' Rights, together with the Global Labour University.

The remainder of this article is organized into three sections. The first section sets out the main elements of our new method, addressing its key premises, the 108 evaluation criteria, the textual sources coded, the use of the Delphi method to derive weights, and the rules for converting the coded information into normalized indicators ranging in value from 0 to 10 as the best and worst possible scores, respectively. In the second section, we discuss the observed global trends in LR indicators, in law and in practice from 2000–15, together with the main categories of violations and the regions driving these global trends. We close, in the third section, with an assessment of current progress and our plans for moving this project forward. There are two other main elements of the method: the definitions constructed for each evaluation criterion and the general and source-specific coding rules. Our discussion of these elements is, unavoidably, quite lengthy and technical and so we address them in a separate companion article.²

The new method

Key premises

The indicators in our method are based on the following key premises: (i) definitional validity – the extent to which the evaluation criteria and their corresponding definitions accurately reflect the aspects that they are meant to measure; (ii) transparency – how readily a coded violation can be traced back to any given textual source; and (iii) inter-coder reliability – the extent to which different evaluators working independently are able to consistently arrive at the same results.

Definitional validity. As these are meant to be indicators of international FACB rights, the 108 evaluation criteria and their corresponding definitions are directly based on the ILO Constitution, ILO Conventions Nos 87 and 98 and the related body of comments of the ILO supervisory bodies.³ The fact

² Available at: <http://labour-rights-indicators.la.psu.edu/docs/Coding%20Rules.pdf> [accessed 24 May 2019].

³ The related body of comments of the ILO supervisory bodies comprises: *General survey of the Reports on the Freedom of Association and the Right to Organize Convention (No. 87), 1948 and the Right to Organize and Collective Bargaining Convention (No. 98), 1949* (ILO, 1994); *Freedom of Association: Digest of decisions and principles of the Freedom of Association Committee of the Governing Body of the ILO* (ILO, 2006); *Giving globalization a human face: General survey on the fundamental conventions concerning rights at work in light of the ILO Declaration on Social Justice for a Fair Globalization, 2008* (ILO, 2012). It should be noted that in 2018, the ILO published the sixth edition of *Freedom of association: Digest of decisions and principles of the Freedom of Association Committee of the Governing Body of the ILO* (ILO, 2006) under a new subtitle, *Freedom of association: Compilation of decisions of the Committee on Freedom of Association* (ILO, 2018).

that the ILO supervisory system is also guided by these definitions facilitates the act of coding itself, given our heavy reliance on textual sources produced by the ILO supervisory system.

Transparency. A key rationale for the large number of evaluation criteria is to eliminate catch-all evaluation criteria for violations of FACB rights not elsewhere coded, that is, violations for which there are no explicit evaluation criteria. This addresses a criticism of the Kucera (2002 and 2007) method and of Sari and Kucera's (2011) prior work on these issues (Barenberg, 2011). More generally, the aim was to avoid pigeonholing violations that are not of a similar character or level of severity. After all, the coding can always be aggregated into various clusters of evaluation criteria, depending on the user's area of interest. This level of detail also contributes to the transparency of the method, in that specific violations are easier to trace back to individual textual sources. This possibility is provided by the coding itself, in which violations are coded with the letters "a" through to "i", where each letter stands for one of the nine textual sources coded, as discussed below.

Inter-coder reliability. We endeavoured to develop clear and comprehensive coding rules and definitions for each of the evaluation criteria with the aim of making the indicators reproducible. We informally assessed inter-coder reliability in the process of training three teams of labour lawyers to do the coding (sequentially and independently of each other), by double-checking their coding ourselves and having them double-check each other's coding for selected countries. In the initial phases of the project, this resulted in a number of revisions to the coding rules and definitions. This process led us to believe that the method is indeed highly reproducible. In our view, the extent of inter-coder reliability depends not on the clarity or comprehensiveness of the method as such, but on the coders being sufficiently well-trained and, in particular, on them being sufficiently well-versed in the coding rules and definitions as to be able to apply them consistently. That is, coders must develop a detailed working knowledge of what constitutes compliance with international FACB rights as defined by the ILO. Having a large number of evaluation criteria and corresponding definitions, we are mindful that there is a fine line between being exhaustive and exhausting. Yet this process is less daunting than it may seem when we consider the branching relationship among these evaluation criteria, which we discuss below. Still, a concern in this regard is that coding errors may creep in as a result of the ambiguous wording of textual sources or, indeed, simple fatigue. This is one of the issues we intend to address in the future through more formal statistical tests of inter-coder reliability (e.g. Hayes and Krippendorff, 2007).

The 108 evaluation criteria

Table A1 in the Appendix enumerates our 108 evaluation criteria and groups them into categories. The five broader categories are: I. Fundamental civil liberties; II. Right of workers to establish and join organizations; III. Other union activities; IV. Right to collective bargaining; and V. Right to strike. These cat-

egories are themselves split into violations of FACB rights in law and in practice, yielding ten categories altogether (represented in the table as Ia, Ib, etc.).⁴ In other words, most of the evaluation criteria representing violations in law have a partner representing violations in practice, and vice versa.⁵

In addition to facilitating an assessment of the relative prevalence of violations in law and in practice for any given evaluation criterion or cluster of evaluation criteria, the split between violations in law and in practice enables a more nuanced analysis of how the causes and effects of FACB rights violations may differ in these two permutations, and how changes in law may be reflected in changes in practice over time. Aside from these analytical advantages, the rough doubling of the number of evaluation criteria by splitting them into violations in law and in practice makes their sizeable number more tractable for both coders and users. These branching relationships among the evaluation criteria extend to two additional types of criteria addressing “Lack of guarantee of due process and/or justice” and “Violations committed against trade union officials”.

The evaluation criteria related to “Lack of guarantee of due process and/or justice” are incorporated into the ten categories of evaluation criteria as the last-listed evaluation criterion within each, with the exception of the category on “Fundamental civil liberties in practice” (Ib). This is based on the premise that the exercise of FACB rights depends on their effective protection, defined in terms of fair and sufficiently prompt trials by an independent and impartial judiciary. Under the category of “Fundamental civil liberties in practice”, on the other hand, these evaluation criteria are attached to each of the six more specific evaluation criteria (EC 6, 9, 12, 15, 18 and 21). This emphasis on fundamental civil liberties in practice is meant to reflect the position of the Committee of Experts on the Application of Conventions and Recommendations (CEACR) and the Committee on Freedom of Association (CFA), in particular their view that a free and independent trade union movement can develop only where fundamental human rights are respected and where, in the event of violations, measures are taken to identify, bring to trial and convict the guilty parties (ILO, 2006, paras 33 and 51). In addition, these criteria are attached to “Anti-union discriminatory measures” (EC 43) and “Acts of interference of employers and/or public authorities” (EC 46) under the category of “Right

⁴ Violations in law refer to national legislation that is not in conformity with FACB rights as defined by the ILO and to actions taken on the basis of such legislation. Violations in practice refer to acts committed and in violation of the existing national legislation that is in conformity with FACB rights as defined by the ILO. In cases where there is no relevant national legislation, violations in practice refer to acts committed in violation of FACB rights as defined by the ILO’s supervisory bodies.

⁵ It should be noted that these evaluation criteria and this article in general use “trade union rights” as a synonym for FACB rights, and that the evaluation criteria group together violations committed by employers and public authorities. This is because the textual sources typically do not distinguish between employers and public authorities in this regard, and because the distinction is difficult to make when public authorities also act in their capacity as employers, such as in public enterprises or enterprises resulting from public-private partnerships.

of workers to establish and join organizations in practice” (Iib), motivated by Article 3 of ILO Convention No. 98 which states that “Machinery appropriate to national conditions shall be established, where necessary, for the purpose of ensuring respect for the right to organise...”.

The evaluation criteria “Violations committed against trade union officials” are attached to the first five of the six more specific evaluation criteria (EC 6, 9, 12, 15 and 18) under the category of “Fundamental civil liberties in practice” (Ib) (EC 21 is not included). In addition, this criterion is attached to “Anti-union discriminatory measures” (EC 43) under the category of “Right of workers to establish and join organizations in practice” (Iib), as well as to “Imposing excessive sanctions in case of legitimate strikes” (EC 106) under the category of “Right to strike in practice” (Vb). The emphasis on trade union officials is motivated by the view that violations against them are particularly damaging to the exercise of FACB rights.⁶

Textual sources

The Kucera (2002 and 2007) method was based on the coding of three publicly available recurring reports: The ILO’s *Reports of the Committee on Freedom of Association*, the International Trade Union Confederation’s (ITUC) *Annual survey of violations of trade union rights*, and the US State Department’s *Country reports on human rights practices*. Yet the more textual sources there are, the better it is for the purposes of coding, in that these sources provide additional credible information consistent with the ILO’s definition of FACB rights. Moreover, additional sources need to be produced on a regular basis in order to minimize information bias over time, and these sources need to be publicly available so that the indicators are reproducible.

This incremental effect is reinforced in so far as the use of a given textual source offsets potential bias in the indicators, resulting from the use of other textual sources. Such bias can be the result not of biased information in the sources themselves but of asymmetries between the availability of information for different countries and types of FACB rights violations.⁷ Of particular concern is the information bias that may arise between countries that have and have not ratified ILO Conventions Nos 87 and 98 (hereafter, ratifying and non-ratifying countries) and between FACB rights violations in law and in practice. Some ILO sources only apply to ratifying countries and, while it is not possible to collect all relevant information for FACB rights violations in practice, we are able to do this for FACB rights violations in national legislation itself, if not for actions taken on the basis of such legislation.

⁶ For those interested in the comparison, we constructed a correspondence table (available on request) between the 37 evaluation criteria used by Kucera (2002 and 2007) and the 108 evaluation criteria of our new method. This shows that the latter can be largely mapped onto the former.

⁷ For example, about two-thirds of cases brought before the CFA in recent years originate in Latin America, suggesting that workers’ organizations in these countries rely on this mechanism more actively.

Accordingly, the present method makes use of five additional publicly available ILO textual sources: Reports of the CEARC; reports of the Conference Committee on the Application of Standards; country baselines under the 1998 ILO Declaration Annual Review; representations under article 24 of the ILO Constitution; and complaints under article 26 of the ILO Constitution.

The method also codes relevant national legislation for non-ratifying countries. We consider the coding of national legislation as particularly important in offsetting information asymmetries between ratifying and non-ratifying countries as regards FACB rights in law. We define ratifying countries as those that have ratified both Conventions Nos 87 and 98, in which case their national legislation is not coded at present. Non-ratifying countries, on the other hand, fall into two categories, those that have ratified neither Convention No. 87 nor Convention No. 98 and those that have ratified only one of these Conventions. If a country has ratified only Convention No. 87, its national legislation is coded for violations pertaining to Convention No. 98, as violations under Convention No. 87 fall under the remit of both the ILO's Committee of Experts and Committee on the Application of Standards. Similarly, if a country has ratified only Convention No. 98, its national legislation is coded for violations under Convention No. 87. It should be noted that, in the case of federal states, we only code federal-level legislation. A useful example of how labour standards indicators can be constructed for jurisdictions within federal states is provided by Block and Roberts, who developed such indicators for the 50 states of the United States and the 13 provinces and territories of Canada (Block and Roberts, 2000; Block, 2007).

The nine textual sources are listed in table 1, alongside the letters with which they are coded and an indication of whether they refer to ratifying

Table 1. Textual sources

	Coding letter	Ratifying countries (both C. 87 and C. 98)	Non-ratifying countries
<i>Reports of the Committee of Experts on the Application of Conventions and Recommendations</i>	a	X	
<i>Reports of the Conference Committee on the Application of Standards</i>	b	X	
<i>Country baselines under the 1998 ILO Declaration Annual Review</i>	c		X
<i>Representations under Article 24 of the ILO Constitution</i>	d	X	
<i>Complaints under Article 26 of the ILO Constitution</i>	e	X	
<i>Reports of the Committee on Freedom of Association</i>	f	X	X
National legislation	g		X
<i>ITUC's Annual survey of violations of trade union rights</i>	h	X	X
<i>US State Department's Country reports on human rights practices</i>	i	X	X

Note: ITUC = International Trade Union Confederation.

countries, non-ratifying countries, or both. Some of these textual sources may be regarded by users as less credible than others. To accommodate such concerns, the project's website enables the scores for any given country to be automatically recalculated by deselecting any source or combination of sources.

Using the Delphi method to construct evaluation criteria weights

The Kucera (2002 and 2007) method of constructing trade union rights indicators assigned weights of 1, 1.25, 1.5, 1.75 or 2 to each of 37 evaluation criteria, based solely on one non-lawyer's impressionistic sense of the level of severity of trade union rights violations. This clearly leaves room for improvement, and the use of the Delphi method to construct evaluation criteria weights represents our efforts in this regard (for more on the Delphi method, see Hsu and Sandford, 2007). To our knowledge, ours is the first use of the Delphi method to establish weights for the construction of statistical indicators.

Our application of the Delphi method involved two rounds of surveys conducted via email and sent to internationally recognized experts in labour law with knowledge of the ILO's supervisory system and particular knowledge of FACB rights, as defined by the ILO, taking regional representation into consideration. The experts remained anonymous with respect to one another throughout the process. Initial invitations to participate were sent to 37 experts, of whom 18 agreed to participate initially and 14 went through both survey rounds. Of these 14 experts, 13 were lawyers and one was a political scientist; five were based in western Europe, one in eastern Europe, three in the United States, two in Latin America, two in Asia and one in Africa.

The experts were asked to provide ratings of 1 to 5 for each of the evaluation criteria, as follows:⁸

On a scale of 1 to 5, how would you rate the 108 evaluation criteria in terms of the severity of their impact on the development of a free and independent trade union movement, voluntary collective bargaining and the exercise of trade union rights? (with 1 indicating least severe and 5 indicating most severe). The severity of each of these violations depends, of course, on how frequently it occurs. For the purposes of responding to the survey, however, we ask experts to consider each violation in its own right independently of the frequency with which it might occur. Put in other words, the weights are meant to compare any single violation represented by a given evaluation criterion against any single violation represented by other evaluation criteria.⁹

After having received the first round of replies, the experts' average first-round ratings for each evaluation criterion were sent back to each of the experts alongside their first-round ratings. The experts were invited to make

⁸ Given their expertise on these issues, experts were not provided with the full definitions for each of the evaluation criteria, but rather with a set of clarifying footnotes (available on request). Experts were also invited to make overall comments as well as comments on each of the evaluation criteria.

⁹ Extract from the survey email.

changes to their first-round ratings. Final ratings used to construct the weights were the average second-round ratings awarded by the experts for each evaluation criterion.

The main results of the two survey rounds are shown in table A1 in the Appendix. Consistent with the logic of the Delphi method, there was considerable convergence in the experts' ratings in the second round. As the table shows, variation in their ratings as measured by standard deviations declined for 103 of 108 of the evaluation criteria, remained the same for three (EC 6, 38 and 77), and increased (slightly) for only two (EC 26 and 98). As for variation in final ratings across the evaluation criteria, these ranged in value from 2.79 (EC 63, 74 and 90) – considerably higher than the possible minimum rating of 1 – to 5 (EC 1, 6, and 7). The average value among these final ratings is correspondingly high, at 4.03. Accordingly, from the point of view of the experts, all of the 108 evaluation criteria represent FACB rights violations of at least moderate severity. For the purpose of constructing indicators, it is worth noting that the lower the variation in ratings among the evaluation criteria, the closer weighted indicators are to equally weighted indicators.

These ratings are not the weights themselves, however. The ratings can be converted into weights using different ranges of minimum and maximum weighting and rating values. For our purposes, we follow Kucera (2002 and 2007) and let minimum and maximum weighting values range from 1 to 2 (shown in the last column of table A1 in the Appendix), based on possible minimum and maximum rating values ranging from 1 to 5. This is, in effect, a relatively light weighting scheme. For the purposes of statistical analysis, though, the sensitivity of findings could be tested against alternative weighting schemes.¹⁰

¹⁰ Teitelbaum (2010) applied item response theory analysis (analogous to factor analysis for continuous variables) to Kucera's binary coding for the mid-1990s to construct an alternative trade union rights indicator. This indicator is based on a reduced set of evaluation criteria, dropping five criteria that, Teitelbaum argues, do not relate to the underlying concept of trade union rights, (strikingly) including general prohibitions of the right to establish and join unions and general prohibitions of collective bargaining. Teitelbaum's alternative indicator is also based on weights derived from variation in the coding itself and on different default score rules. While we find this approach certainly worth consideration, we are concerned that it is too mechanically based on the pattern of coded violations for a given point in time rather than on more long-standing considerations based on the judgement of experts in the ILO and academia, and also that it does not adequately account for the possibility of information bias in the textual sources. In our view, the derivation of weights based on our survey among internationally recognized experts (in our new method) is considerably more transparent and therefore in keeping with our key premises. The method is also more readily conveyed to a wide range of users. Moreover, by basing our evaluation criteria directly on relevant ILO Conventions and the related body of comments of the ILO supervisory bodies (in both our old and new methods) and all the accumulated knowledge that went into developing them, we believe that they do indeed reflect the underlying concept of trade union rights. In particular, Teitelbaum's finding that general prohibitions of the right to establish and join unions and general prohibitions of collective bargaining are not related to the underlying concept of trade union rights appears to us to be largely the result of information bias in the textual sources, as discussed below in the context of our default score rules.

Applying the weights, normalization and default scores

The raw coding uses the letters “a” through to “i” (again, with each letter corresponding to one of the nine textual sources) to represent coded violations of FACB rights for each evaluation criterion, yielding a column of 108 cells for any given country and year. To apply the weights, any cell containing one or more letters is assigned a value of 1 and any blank cell for which there are no coded violations is assigned a value of 0, creating a binary coding column. As with Kucera (2002 and 2007), the number of letters in a cell does not affect the construction of the binary coding column in order to avoid double-counting, given that the textual sources commonly reference each other. The cells of the column of weights are then multiplied by corresponding cells of the binary coding column, and adding the cells of the resultant column yields a weighted non-normalized score for any given country and year. A hypothetical example is provided in table 2, showing only those evaluation criteria with coded violations. In this example, 24 evaluation criteria are coded. Applying the weights yields a non-normalized score of 42.3 and a normalized score of 4.5, based on the rules described below.

Given that Kucera (2002 and 2007) only coded one point in time, normalization was conducted with respect to the maximum observed value, taking the score for the country with the worst weighted non-normalized score as the maximum. This is problematic, however, when normalizing over time, given that the maximum observed value can change. We addressed this by looking at the top third of countries in terms of the number of coded violations of FACB rights for the years 2000, 2005, 2009 and 2012 and calculating their weighted non-normalized score for these same four years. The highest weighted non-normalized score for several countries hovered around 80. As such, we decided to set the maximum weighted non-normalized score for the overall LR indicator at 95, roughly equal to one half of the hypothetically possible maximum weighted non-normalized score of 189.7 (that is, the sum of weights across all 108 evaluation criteria). On this basis, the non-normalized score for any given country and year is normalized to range from 0 to 10, the best and worst possible scores respectively. In the future, non-normalized scores will be capped at 95, yielding a normalized score of 10.¹¹

We also construct separate LR indicators in law and in practice following similar rules and yielding indicators ranging from 0 to 10 as the best and worst possible scores. Here again, we looked at the top third of countries in terms of the number of coded violations of FACB rights for the years 2000, 2005, 2009 and 2012 and calculated the weighted non-normalized scores. For both LR in law and in practice, the highest weighted non-normalized scores stood at around 50. We decided to apply a proportionate buffer in normalizing the indicators for LR in law and in practice as the overall LR indicator, setting the maximum weighted non-normalized score at 60. Again, in the

¹¹ The formula is thus: $(x \times 10/95)$, where x = the weighted non-normalized score for a given country and year and is capped at 95.

Table 2. Hypothetical example of coding and indicator construction (for a single country and year)

Evaluation criteria	Textual coding	Binary coding	Weights	Binary coding x weights
la. Fundamental civil liberties in law				
2 Infringements of trade unionists' basic freedoms	i	1	1.93	1.93
lb. Fundamental civil liberties in practice				
6 Killing or disappearance of trade unionists in relation to their trade union activities	fhi	1	2.00	2.00
9 Other violent actions against trade unionists in relation to their trade union activities	fhi	1	1.82	1.82
12 Arrest, detention, imprisonment, charging and fining of trade unionists in relation to their trade union activities	hi	1	1.95	1.95
IIa. Right of workers to establish and join organizations in law				
25 Exclusion of other workers from the right to establish and join organizations	ahi	1	1.86	1.86
31 Lack of adequate legal guarantees against anti-union discriminatory measures	a	1	1.75	1.75
34 Infringements of the right to establish and join federations/confederations/international organizations	abhi	1	1.73	1.73
IIb. Right of workers to establish and join organizations in practice				
43 Anti-union discriminatory measures in relation to hiring, during employment (e.g. transfers and downgrading) and dismissal	fhi	1	1.70	1.70
44 Committed against trade union officials re violation No. 43	hi	1	1.89	1.89
45 Lack of guarantee of due process and/or justice re violation No. 43	hi	1	1.80	1.80
IIIa. Other union activities in law				
51 Infringements of the right to freely elect representatives	ah	1	1.80	1.80
52 Infringements of the right to freely organize and control financial administration	ahi	1	1.59	1.59
54 Prohibition of all political activities	ahi	1	1.73	1.73
IIIb. Other union activities in practice				
58 Infringements of the right to freely organize and control financial administration	fhi	1	1.71	1.71
61 Lack of guarantee of due process and/or justice re violations Nos 56–60	f	1	1.79	1.79
IVa. Right to collective bargaining in law				
69 Acts of interference in collective bargaining	a	1	1.66	1.66
IVb. Right to collective bargaining in practice				
76 Exclusion of other workers from the right to collective bargaining	abhi	1	1.84	1.84
80 Acts of interference in collective bargaining	hi	1	1.64	1.64
Va. Right to strike in law				
87 Exclusion/restriction based on the objective and/or type of the strike	af	1	1.46	1.46
88 Provisions in law allowing for the suspension and/or declaration of illegality of strikes by administrative authority	ahi	1	1.59	1.59
94 Imposing excessive sanctions in case of legitimate strikes	afhi	1	1.82	1.82
Vb. Right to strike in practice				
105 Acts of interference during the course of strike action	hi	1	1.64	1.64
107 Committed against trade union officials re violation No. 106	h	1	1.80	1.80
108 Lack of guarantee of due process and/or justice re violations Nos 96–107	h	1	1.77	1.77
Sum (non-normalized score)		24		42.29
Normalized score (0 = best, 10 = worst)				4.45

Note: The weighted non-normalized score is capped at 95, as described in the text.

future non-normalized scores will be capped at 60, yielding a normalized score of 10.¹² One could apply similar rules to construct indicators for other clusters of evaluation criteria, for example, focusing just on categories IIa and IIb on the right of workers to establish and join organizations.¹³

In addition, the method applies the notion that general prohibitions in law imply general prohibitions in practice (though not vice versa). In terms of coding, this means that the direct coding of “General prohibition of the right to establish and join organizations” in law (EC 23) automatically triggers the coding of “General prohibition of the development of independent workers’ organizations” in practice (EC 36); the direct coding of “General prohibition of the right to collective bargaining” in law (EC 62) automatically triggers the coding of the “General prohibition of collective bargaining” in practice (EC 73); and, lastly, the direct coding of “General prohibition of the right to strike” in law (EC 84) automatically triggers the coding of the “General prohibition of strikes” in practice (EC 96). Given that the general prohibition of the development of independent workers’ organizations implies the general prohibition of collective bargaining (though not vice versa), similar coding rules apply. That is, the direct coding of EC 23 automatically triggers the coding of EC 62 and EC 73 (and, as noted, EC 36) and the direct coding of EC 36 automatically triggers the coding of EC 73.

Similar to Kucera (2002 and 2007), there is one deviation from the above normalization rules. A “default” worst possible score of 10 is given for all-encompassing violations of FACB rights, that is, for “General prohibition of the right to establish and join organizations” in law (EC 23), “General prohibition of the development of independent workers’ organizations” in practice (EC 36), “General prohibition of the right to collective bargaining” in law (EC 62), and “General prohibition of collective bargaining” in practice (EC 73). These rules apply both to the overall LR indicator and to the LR indicators in law and in practice.

One of the advantages of applying the default score rules is that it partly enables us to address a source of information bias in the textual sources. In many cases, the textual sources read like an insurance assessor’s report on an automobile damaged in an accident. For a minor accident, the report will address the specifics of surface damage. For a moderately serious accident, the report will additionally address issues such as damage to the frame, axles and engine. When an automobile is beyond repair – analogous to general prohi-

¹² The formula is thus: $(x \times 10/60)$, where x = the weighted non-normalized score for either evaluation criterion in law or in practice for a given country and year and is capped at 60.

¹³ One of our reasons for setting the overall LR indicator, as well as the in law and in practice indicators, to range between 0 and 10 was to facilitate the direct comparison of the magnitude of coefficient estimates in econometric analysis. Depending on the user’s area of interest, however, one could alternatively normalize the in law and in practice indicators, and other categories of indicators, by assigning 95 as the maximum weighted non-normalized score for each component. In this case, the indicators for the full set of components (across all 108 evaluation criteria) would add up to the overall LR indicator, leaving aside for the moment the default score rules discussed below.

bitions in our case – the insurance assessor’s report can be brief and not explicitly refer to the damage that would be reported in a minor or moderately serious accident, even though such damage has occurred. Similarly, our reading of the textual sources suggests to us that the lack of reporting of other less sweeping violations when general prohibitions occur does not mean that these other violations do not occur, but rather that they are underreported because the sources do not trouble to report them.¹⁴

Global trends and key drivers

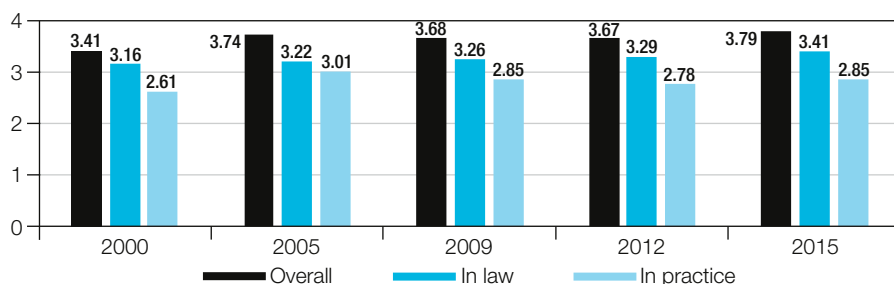
Figure 1 shows the average LR indicator values – overall, in law and in practice – across 171 ILO member States for the years 2000, 2005, 2009, 2012 and 2015.¹⁵ Readers are reminded that lower indicator values represent stronger FACB rights and higher indicator values represent weaker rights, so that increases represent worsening FACB rights and decreases represent improvement. The overall LR indicator jumps from around 3.4 in 2000 to 3.7 in 2005, holds fairly steady around 3.7 until 2012, and then increases to around 3.8 in 2015. Underlying the overall LR indicator is a monotonic increase in the LR in law indicator, from about 3.2 in 2000 to about 3.4 in 2015, suggesting a sustained worsening of FACB rights in law over this period. In contrast, the LR in practice indicator improved overall from 2005 to 2015, decreasing from 3.0 to 2.85.¹⁶ The total number of coded FACB rights violations across these countries (shown in figure 2) paints a similar picture. There is a monotonic increase in the number of coded violations in law, from 1,516 in 2000 to 1,787 in 2015,

¹⁴ While one could test the sensitivity of findings of statistical analysis by using indicators that do not apply the default score rules, Kucera and Sari (2016) provide evidence that applying these rules makes the indicators more sensitive to the FACB rights situation in a country.

¹⁵ We constructed LR indicators for the 185 ILO member States at the time of coding for the year 2015 (there are 187 member States at the time of writing, with the Cook Islands joining in 2015 and Tonga in 2016). Similar to Kucera (2002 and 2007), we dropped 14 of the 185 countries from the sample on the grounds that their implausibly favourable scores primarily reflected a large degree of information bias, and specifically an underreporting of violations. Accordingly, only violations coded in the remaining 171 countries are shown in all figures presented. Exclusion was based on whether the difference between the overall LR indicator and the Freedom House civil liberties indicator is 5.0 or more for two or more (of five) years after rescaling the latter to also range from 0 to 10 as the best and worst possible scores, respectively. These countries are Afghanistan, Angola, Azerbaijan, Chad, the Congo, Gabon, The Gambia, Guinea, Kyrgyzstan, Maldives, Somalia, South Sudan, Tajikistan and Yemen. Furthermore, given that Montenegro and Serbia did not exist as independent countries until 2006, we apply the LR indicator values for Yugoslavia for 2000 and 2005 to these countries in constructing cross-country averages and drop Yugoslavia from these averages, in order to maintain consistency in the country sample over time. In counting the number of observed violations over time, however, we count the violations for Montenegro and Serbia only once for 2000 and 2005, so as to avoid double-counting violations within the same territory.

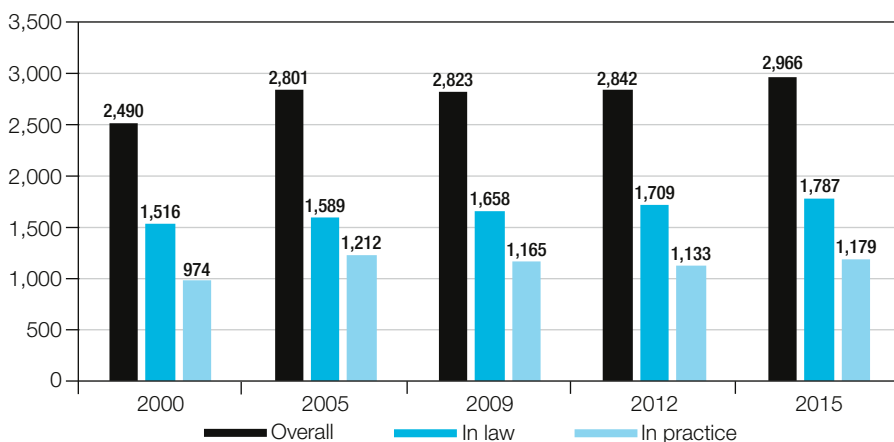
¹⁶ Much of the increase in the LR in practice indicator from 2000 to 2005 (which largely drives the increase in the overall LR indicator over these years) may result from more thorough reporting in the ITUC’s *Annual survey of violations of trade union rights* over these years, and thus would not reflect an actual increase in FACB violations in practice. Given our use of what we call “retroactive coding”, such changes in reporting do not impact our coding of in law violations. For more on retroactive coding, see the link to the companion article in note 2.

Figure 1. Global labour rights indicators values, 2000–15 (country averages)



Source: Authors' calculations based on Labour Rights Indicators.

Figure 2. Global number of coded violations, 2000–15



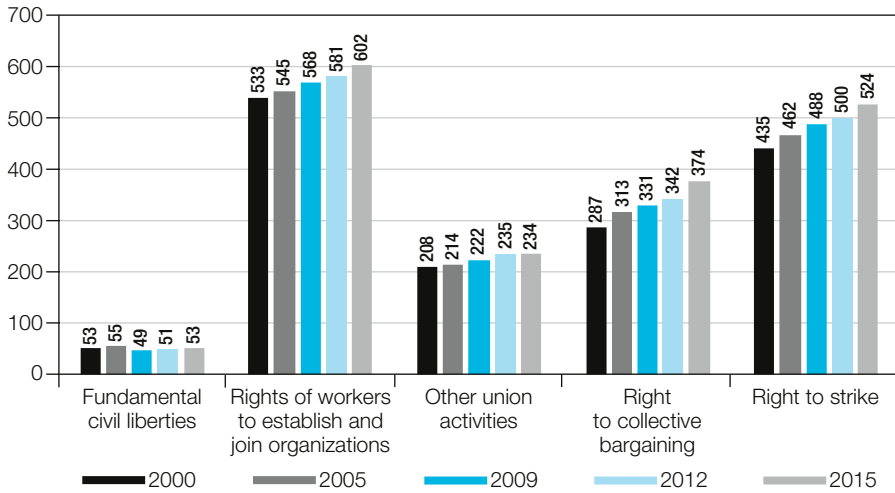
Source: Labour Rights Indicators.

while the number of coded violations in practice peaks at 1,212 in 2005 and declines overall thereafter. It is also worth noting that, in figures 1 and 2, the consistent pattern over time points to higher LR indicator values in law than in practice and correspondingly a greater number of coded violations in law than in practice. Figure 2 also shows that the overall number of discrete coded violations in 2015 is a considerable 2,966, for an average of just over 17 coded violations per country.¹⁷

For a better understanding of what accounts for the worsening of the LR in law indicator, it is instructive to look at which of the main categories of violations drives this trend. Figure 3a shows that the number of coded violations of FACB rights in law increases most from 2000 to 2015 for the “Right

¹⁷ The figure 2,966 is discrete in the sense that it represents the number of violations coded across the evaluation criteria based on binary coding (coded 0 or 1) and does not reflect the many cases where the same type of violation is coded multiple times within any given evaluation criterion based on textual coding (coded “a” through to “i”).

Figure 3a. Number of coded violations in law by main category of violations, 2000–15

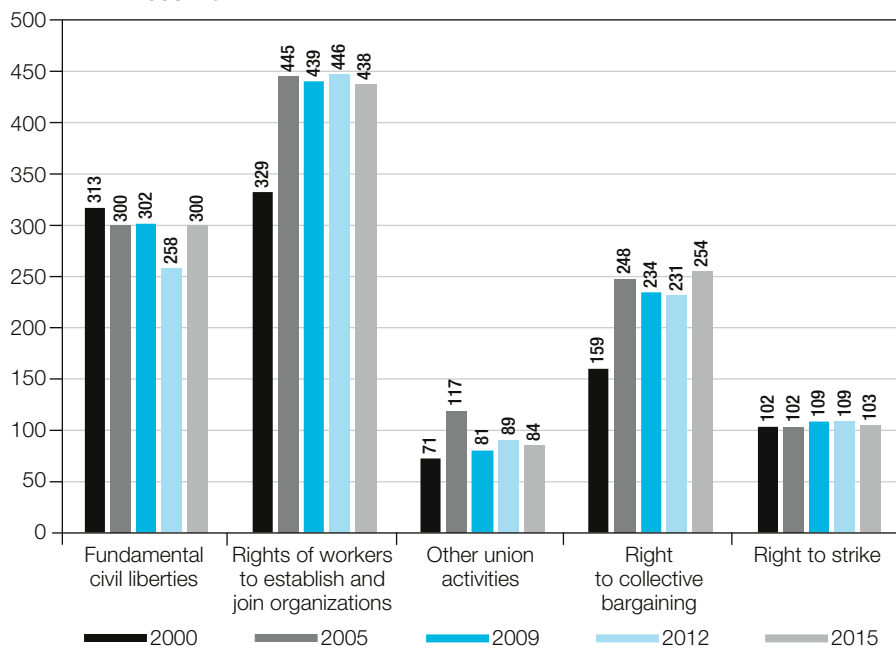


Source: Labour Rights Indicators.

to strike in law” (Va), from 435 to 524; followed by the “Right to collective bargaining in law” (IVa), from 287 to 374; and the “Right of workers to establish and join organizations in law” (IIa), from 533 to 602. Monotonic increases are found in the number of coded violations for each of these three categories between end-point years, again suggesting a sustained worsening of FACB rights in law. As regards the specific evaluation criteria driving the increase in coded violations within these three categories, the top four criteria with the largest increases in coded violations within each category are listed in table A2 in the Appendix (based on average differences between each year of data). Under the “Right of workers to establish and join organizations in law”, the largest increase is for “Lack of adequate legal guarantees against anti-union discriminatory measures” (EC 31); under the “Right to collective bargaining in law,” the largest increase is for “Acts of interference in collective bargaining” (EC 69); and under “Right to strike in law”, the largest increase is for “Infringements of the determination of minimum services” (EC 90). Regarding the other main categories of in law violations, there are small increases in the number of coded violations under “Other union activities in law” (IIIa), while “Fundamental civil liberties in law” (Ia) shows little change.

Subtler changes in the LR in practice indicator could be subtended by changes in opposing directions at the violation category level. Yet figure 3b shows this not to be the case. Leaving aside jumps in the number of coded violations from 2000 to 2005 – specifically for “Right of workers to establish and join organizations in practice” (IIb), “Right to collective bargaining in practice” (IVb) and “Other union activities in practice” (IIIb) – there are no evident trends in coded violations of FACB rights in practice over the 2000–15 period.

Figure 3b. Number of coded violations in practice by main category of violations, 2000–15

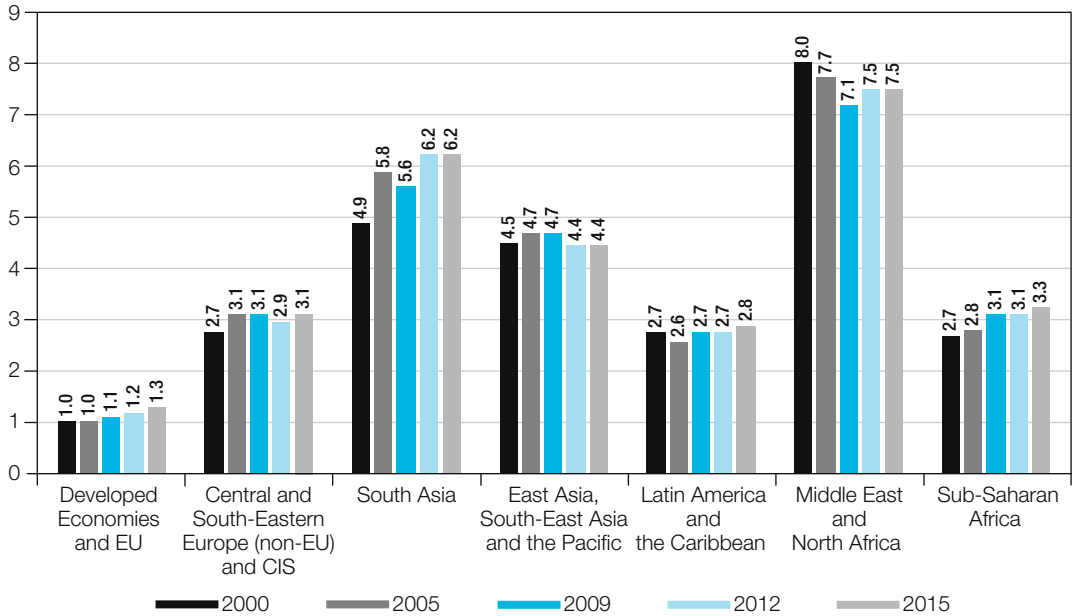


Source: Labour Rights Indicators.

Comparing figures 3a and 3b, for both violations in law and in practice, the greatest number of coded violations across all years is found under “Right of workers to establish and join organizations”. While for violations in law “Fundamental civil liberties” has the lowest number of coded violations, for violations in practice this category ranks second only to the “Right of workers to establish and join organizations” across all years.

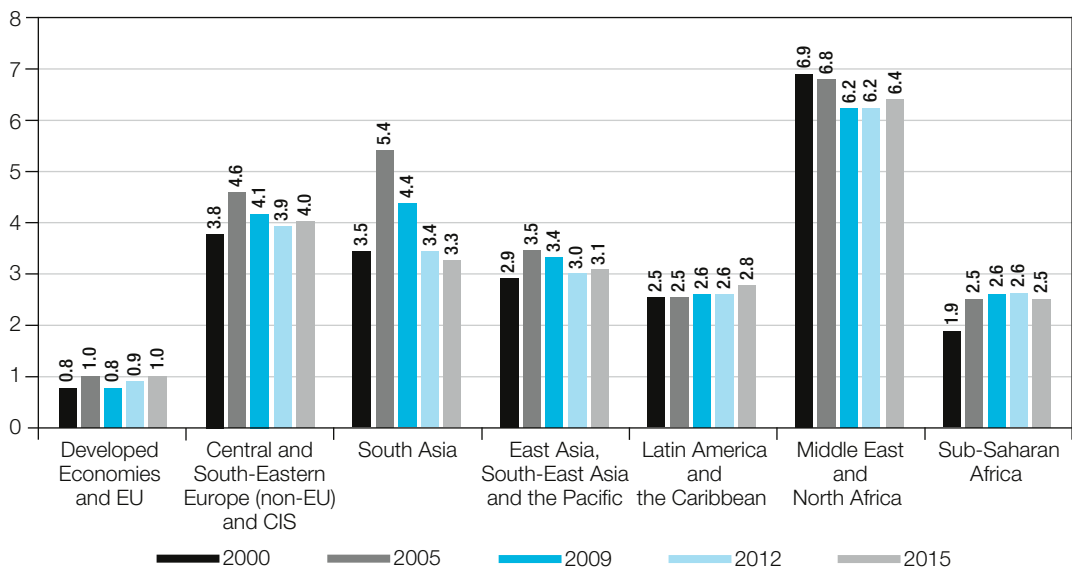
Changes in the LR indicators are driven not just by different categories of violations and specific evaluation criteria within these categories but by different regions and specific countries within these regions. Regional averages of the LR in law and in practice indicators are shown in figures 4a and 4b, respectively, based on country groupings used in the ILO’s *Global Employment Trends* (ILO, 2014). For the LR in law indicator, the lowest average scores across all years relate to the Developed Economies and the European Union (EU), while the highest average scores are for the Middle East and North Africa. Yet there was a monotonic worsening in the LR in law indicator in the Developed Economies and the EU in contrast with an overall improvement in the Middle East and North Africa. We see similar patterns in terms of both levels and changes with respect to LR in practice for these two regions. Within the Developed Economies and the EU, the strongest drivers of the deterioration of the LR in law indicator are Romania, Greece, the Czech Republic and

Figure 4a. Labour rights in law indicator values by region, 2000–15 (country averages)



Source: Authors' calculations based on Labour Rights Indicators.

Figure 4b. Labour rights in practice indicator values by region, 2000–15 (country averages)



Source: Authors' calculations based on Labour Rights Indicators.

Hungary (the last two in equal measure). Within the Middle East and North Africa, conversely, the strongest drivers of the improvement of the LR in law indicator are Bahrain and Oman.¹⁸

LR in law indicator values worsen most from 2000 to 2015 for South Asia, increasing from 4.9 to 6.2 over these end-point years; followed by Sub-Saharan Africa, from 2.7 to 3.3; Central and South-Eastern Europe (non-EU) and the Commonwealth of Independent States (CIS), from 2.7 to 3.1. In other words, these three regions are the strongest drivers of the global deterioration of the LR in law indicator shown in figure 1. Within these three regions, the main drivers are Pakistan in South Asia; Mauritania, Rwanda and the Central African Republic in Sub-Saharan Africa; and the Russian Federation in Central and South-Eastern Europe (non-EU) and the CIS.

Regarding regional averages of the LR in practice indicator, we can see that the overall average jump from 2000 to 2005 shown in figure 1 was mainly driven by South Asia and Central and South-Eastern Europe (non-EU) and the CIS, and to a lesser extent by east Asia, South-East Asia and the Pacific and Sub-Saharan Africa. From 2005 to 2015, however, South Asia and Central and South-Eastern Europe (non-EU) and the CIS also saw the largest decreases in the LR in practice indicator. Within these two regions, the strongest drivers of the drop in the indicator after 2005 are Nepal, India and Pakistan in South Asia, and the Russian Federation, Georgia and Montenegro in Central and South-Eastern Europe (non-EU) and the CIS.

This section is meant to provide an overview of global trends in the LR indicators and key drivers of these trends by main categories of violations and evaluation criteria, on the one hand, and by regions and countries, on the other hand. For policy-makers working to improve FACB rights, however, what matters is the intersection of these, that is, how particular evaluation criteria are being violated or complied with in particular countries and how this changes over time. While such granular detail is beyond the scope of this article, it is readily available on the accompanying website, along with direct access to all the underlying textual information on which the coding and indicators are based.

Summing up and looking ahead

This article describes a new method of constructing indicators of freedom of association and collective bargaining (FACB) rights as defined by the ILO's supervisory bodies and based on coding of violations in nine textual sources, including six from the ILO, and national legislation. Central to the method are 108 evaluation criteria representing different violations of FACB rights, with weights derived from the Delphi method of expert consultation, yielding overall, in law and in practice labour rights (LR) indicators. The method is ap-

¹⁸ The big drops in the LR indicator values (overall, in law and in practice) in Bahrain and Oman result from the fact that, as of 2005 for Bahrain and 2009 for Oman, these countries no longer receive the worst possible default scores of 10.

plied to 185 ILO member States for five years between 2000 and 2015. Both the LR indicators and the number of coded violations suggest a sustained deterioration of FACB rights in law over this period across most categories of violations and regions, but no evident global trend in FACB rights in practice.

In our introduction, we noted how our new method addresses a number of the shortcomings of earlier efforts. Yet the intrinsic difficulty of capturing such qualitative phenomena as FACB rights through quantitative indicators remains, and developing any method involves making choices and facing potential trade-offs. Our approach has been to prioritize transparency and inter-coder reliability (reproducibility), properties that are particularly valued in statistical methods, and to define FACB rights as international FACB rights directly based on the ILO Constitution, ILO Conventions Nos 87 and 98 and the related body of comments of the ILO supervisory bodies. By choosing to base the LR indicators solely on the coding of violations of FACB rights, we acknowledge that such an approach does not adequately account for the underlying rights context in which these violations occur. Kucera described this problem as follows: “There are clearly cases ... when observed violations are a reflection of a vibrant trade union movement and, conversely, where violations are not observed and indeed do not occur because the trade union movement is suppressed and under threat” (2007, p. 162). In an effort to address one aspect of this concern, we coded not just FACB rights violations but also instances of progress noted in the textual sources, based on our 108 evaluation criteria plus two broad additional evaluation criteria, “Labour law reform” and “Promotional activities”. For 2012, for example, we coded 352 instances of progress, 104 referring to “Labour law reform”, 80 referring to “Promotional activities”, and the remaining 168 instances referring to the 108 evaluation criteria used to code violations.

It was our hope to incorporate the coding of progress into the construction of the indicators. We consider, however, that instances of progress are not reported systematically enough for this. This results in two potential types of information bias, one between ratifying and non-ratifying countries and the other between worse- and better-performing countries, in that more information is available on instances of progress for non-ratifying countries and countries that perform worse.¹⁹ As such, we leave incorporation of the coding of

¹⁹ This seems to result in part from the fact that it is only the *Country baselines under the 1998 ILO Declaration Annual Review* that specifically requests non-ratifying countries to report on “Promotional activities” and “Special initiatives/Progress”. While the form submitted for the *Reports of the Committee of Experts on the Application of Conventions and Recommendations* asks governments to provide information on any new legislative or other measures affecting the application of the Conventions (which explains the high number of coding for “Labour law reform”), in general the sources are more inclined to address progress in response to previously documented violations. Such concerns particularly apply to the *Reports of the Conference Committee on the Application of Standards*, the *Representations under article 24 of the ILO Constitution*, and the *Complaints under article 26 of the ILO Constitution*, where the precondition for these three reports is severe violations of trade union rights. In spite of its limitations, we nonetheless believe that our coding of progress as it stands provides useful background information, and so we make it available on request.

progress into the indicators as a possible future development, until such a time as the textual sources (or additional sources) adequately reflect progress. Still, the underlying rights context remains a concern even with the coding of progress, which is why we believe that analyses based on the LR indicators would be usefully complemented by broader rights indicators constructed through different methods, such as those produced by Freedom House, the Polity IV Project and the Cingranelli-Richards (CIRI) Human Rights Data Project, which address political rights, civil liberties and democracy more generally (Freedom House, 2012; Marshall, Gurr and Jagers, 2014; Cingranelli and Richards, 2010). Of course, the progress of countries regarding FACB rights is captured by the method as it stands, in so far as fewer or less severe violations occur over time.

Another issue is that while our new method uses a weighting scheme to account for differences in the severity of violations across the evaluation criteria, it does not account for differences in the severity of violations within any given evaluation criterion, particularly regarding violations in practice. This too reflects our prioritization of transparency and inter-coder reliability. We tried to address differences in the severity of violations within evaluation criteria by coding the severity of reported violations – severity defined in terms of whether the violations were widespread and/or systematic, and persistently followed by the absence of independent judicial inquiry and judgments against guilty parties – for the following seven evaluation criteria:

- EC 6: Killing or disappearance of trade unionists in relation to their trade union activities
- EC 9: Other violent actions against trade unionists in relation to their trade union activities
- EC 12: Arrest, detention, imprisonment, charging and fining of trade unionists in relation to their trade union activities
- EC 15: Infringements of trade unionists' basic freedoms
- EC 18: Attacks against trade unions' and trade unionists' premises and property
- EC 21: Excessive prohibitions/restrictions on trade union rights in the event of state of emergency
- EC 43: Anti-union discriminatory measures in relation to hiring, during employment (e.g. transfers and downgrading) and dismissal

In practical terms, such coding meant adding an additional row under each of these evaluation criteria, in which severity within the corresponding evaluation criteria is coded with letters representing the textual sources, just as for our other coding. It should be noted that the first six of these evaluation criteria fall under “Fundamental civil liberties in practice” (Ib) and the last under “Right of workers to establish and join organizations in practice” (IIb), but it would be possible to extend such coding to most other evaluation criteria addressing violations in practice. We did not feel, however, that we could

code severity within evaluation criteria with sufficient consistency to ensure a reasonable degree of inter-coder reliability. This is, of course, a testable proposition, and as part of our future testing of inter-coder reliability of the method as it stands, we also plan to test for the inter-coder reliability of the coding of severity within evaluation criteria. The coding of national legislation for all countries in our sample, not just non-ratifying countries (regarding ILO Conventions Nos 87 and 98), would also be an area of interest for future research.

These concerns noted, we believe that the value of these indicators transcends such limitations. While the information used in the construction of these indicators is already in the public domain, we believe there is considerable value in giving it greater structure and making it more readily accessible. This will be made more apparent by perusing the accompanying website and seeing how readily LR indicators for any given country and year can be traced to particular evaluation criteria and to the specific passages of text on which coding is based. Improving FACB rights in law and in practice means not only understanding the causes and effects of their violation, but making such violations clearly and widely known.

References

- Barenberg, M. 2011. *Literature review and bibliography for research project: Refining the NAS-ILAB matrix*. Washington, DC, United States Department of Labor.
- Block, R.N. 2007. "Indicators of labour standards: An overview and comparison", in D. Kucera (ed.): *Qualitative indicators of labour standards: Comparative methods and applications*. Dordrecht, Springer, pp. 27–56.
- ; Roberts, K. 2000. "A comparison of labour standards in the United States and Canada", in *Industrial Relations*, Vol. 55, No. 2, pp. 273–307.
- Cingranelli, D.L.; Richards, D.L. 2010. "The Cingranelli and Richards (CIRI) human rights data project", in *Human Rights Quarterly*, Vol. 32, No. 2, pp. 401–424.
- Freedom House. 2012. *Freedom in the world: Aggregate and subcategory scores*. Available at: <https://freedomhouse.org/report/freedom-world-aggregate-and-subcategory-scores> [accessed 23 May 2019].
- Greenhill, B.; Mosley, L.; Prakash, A. 2009. "Trade-based diffusion of labor rights: A panel study, 1986–2002", in *American Political Science Review*, Vol. 103, No. 4, pp. 669–690.
- Hayes, A.F.; Krippendorff, K. 2007. "Answering the call for a standard reliability measure for coding data", in *Communication Methods and Measures*, Vol. 1, No. 1, pp. 77–89.
- Hsu, C.; Sandford, B.A. 2007. "The Delphi technique: Making sense of consensus", in *Practical Assessment Research & Evaluation*, Vol. 12, No. 10, pp. 1–8.
- ILO. 2018. *Freedom of association: Compilation of decisions of the Committee on Freedom of Association*. Sixth edition. Geneva.
- . 2014. *Global Employment Trends 2014: Risk of a jobless recovery*. Geneva.
- . 2012. *Giving globalization a human face: General survey on the fundamental Conventions concerning rights at work in light of the ILO Declaration on Social Justice for a Fair Globalization, 2008*. Geneva.
- . 2006. *Freedom of association: Digest of decisions and principles of the Freedom of Association Committee of the Governing Body of the ILO*. Fifth (revised) edition. Geneva.
- . 1994. *General survey of the Reports on the Freedom of Association and the Right to Organize Convention (No. 87), 1948 and the Right to Organize and Collective Bargaining Convention (No. 98), 1949*. International Labour Conference, 81st Session, 1994. Geneva.

- Kucera, D. 2007. "Measuring trade union rights by violations of these rights", in D. Kucera (ed.): *Qualitative indicators of labour standards: Comparative methods and applications*. Dordrecht, Springer, pp. 145–181.
- . 2002. "Core labour standards and foreign direct investment", in *International Labour Review*, Vol. 141, Nos 1–2, pp. 31–69.
- ; Sari, D. 2016. *New "Labour Rights Indicators": Method and results*. Working Paper No. 2. Center for Global Workers' Rights. State College, PA, Penn State University.
- Marshall, M.G.; Gurr, T.R.; Jaggers, K. 2014. *Polity™ IV Project, political regime characteristics and transitions, 1800–2013, dataset users' manual*. Vienna, VA, Center for Systemic Peace. Available at: <https://usermanual.wiki/Pdf/polity20user20manual.198772255/view> [accessed 23 May 2019].
- Mosley, L.; Uno, S. 2007. "Racing to the bottom or climbing to the top? Economic globalization and collective labor rights", in *Comparative Political Studies*, Vol. 40, No. 8, pp. 923–948.
- Peels, R.; Develtere, P. 2009. "Civil society involvement in international development cooperation: In search for data", in *Social Indicators Research*, Vol. 93, No. 2, pp. 331–349.
- Sari, D.; Kucera, D. 2011. *Measuring progress towards the application of freedom of association and collective bargaining rights: A tabular presentation of the findings of the ILO supervisory system*. Working Paper No. 99, Policy Integration Department. Geneva, ILO.
- Teitelbaum, E. 2010. "Measuring trade union rights through violations recorded in textual sources: An assessment", in *Political Research Quarterly*, Vol. 63, No. 2, pp. 461–474.

Table A1. Evaluation criteria: Delphi method results and weights

Evaluation criteria	Delphi method results				Weights (1–2)
	1st round		2nd round		
	Average (1–5)	Standard deviation	Average (1–5)	Standard deviation	
Ia. Fundamental civil liberties in law					
1	4.92	0.27	5.00	0.00	2.00
2	4.46	0.76	4.71	0.47	1.93
3	3.85	0.83	3.93	0.62	1.73
4	3.68	1.09	3.64	0.63	1.66
5	4.23	0.91	4.43	0.65	1.86
Ib. Fundamental civil liberties in practice					
6	5.00	0.00	5.00	0.00	2.00
7	4.92	0.27	5.00	0.00	2.00
8	4.39	0.76	4.57	0.51	1.89
9	4.16	0.70	4.29	0.47	1.82
10	4.16	0.70	4.29	0.47	1.82
11	4.01	0.83	4.36	0.50	1.84
12	4.62	0.63	4.79	0.43	1.95
13	4.54	0.76	4.79	0.43	1.95
14	4.23	0.83	4.50	0.52	1.88
15	4.23	0.73	4.29	0.47	1.82
16	4.23	0.73	4.29	0.61	1.82
17	4.16	0.89	4.50	0.52	1.88
18	4.01	0.62	4.07	0.47	1.77
19	4.01	0.62	4.07	0.47	1.77
20	4.08	0.77	4.07	0.62	1.77
21	3.68	1.02	3.79	0.43	1.70
22	3.85	1.07	3.93	0.62	1.73

(continued overleaf)

Table A1. Evaluation criteria: Delphi method results and weights (cont.)

Evaluation criteria	Delphi method results				Weights (1–2)
	1st round		2nd round		
	Average (1–5)	Standard deviation	Average (1–5)	Standard deviation	
IIa. Right of workers to establish and join organizations in law					
23 General prohibition of the right to establish and join organizations	4.77	0.43	4.86	0.36	1.96
24 Exclusion of workers in EPZs from the right to establish and join organizations	4.31	0.84	4.43	0.51	1.86
25 Exclusion of other workers from the right to establish and join organizations	4.23	0.73	4.43	0.51	1.86
26 Previous authorization requirements	3.38	0.63	3.50	0.65	1.63
27 Restrictions on the freedom of choice of trade union structure and composition	3.46	0.76	3.50	0.65	1.63
28 Imposed trade union unity	3.83	0.93	3.71	0.61	1.68
29 Dissolution/suspension of legally functioning organizations	4.45	0.74	4.57	0.51	1.89
30 Provisions in law allowing for anti-union discriminatory measures in relation to hiring, during employment (e.g. transfers and downgrading) and dismissal	4.62	0.74	4.71	0.61	1.93
31 Lack of adequate legal guarantees against anti-union discriminatory measures	3.85	1.07	4.00	0.55	1.75
32 Provisions in law allowing for interference of employers and/or public authorities	4.08	0.83	4.21	0.70	1.80
33 Lack of adequate legal guarantees against acts of interference	3.62	1.01	3.79	0.70	1.70
34 Infringements of the right to establish and join federations/confederations/international organizations	3.85	0.77	3.93	0.73	1.73
35 Lack of guarantee of due process and/or justice re violations Nos 23–34	3.93	1.11	4.21	0.58	1.80
IIb. Right of workers to establish and join organizations in practice					
36 General prohibition of the development of independent workers' organizations	4.54	0.65	4.71	0.61	1.93
37 Exclusion of workers in EPZs from the right to establish and join organizations	4.31	0.63	4.36	0.50	1.84
38 Exclusion of other workers from the right to establish and join organizations	4.39	0.51	4.43	0.51	1.86
39 Previous authorization requirements	3.77	0.70	3.79	0.43	1.70
40 Restrictions on the freedom of choice of trade union structure and composition	3.62	0.74	3.79	0.58	1.70
41 Imposed trade union unity	3.91	0.80	3.79	0.70	1.70
42 Dissolution/suspension of legally functioning organizations	4.58	0.52	4.79	0.43	1.95
43 Anti-union discriminatory measures in relation to hiring, during employment (e.g. transfers and downgrading) and dismissal	4.23	0.91	4.29	0.73	1.82
44 Committed against trade union officials re violation No. 43	4.39	0.65	4.57	0.51	1.89
45 Lack of guarantee of due process and/or justice re violation No. 43	3.93	1.18	4.21	0.58	1.80
46 Acts of interference of employers and/or public authorities	3.85	0.83	4.00	0.68	1.75
47 Lack of guarantee of due process and/or justice re violation No. 46	3.85	1.14	4.07	0.73	1.77
48 Infringements of the right to establish and join federations/confederations/international organizations	3.83	0.80	4.14	0.53	1.79
49 Lack of guarantee of due process and/or justice re violations Nos 36–48	3.93	1.11	4.07	0.62	1.77

Evaluation criteria	Delphi method results				Weights (1-2)	
	1st round		2nd round			
	Average (1-5)	Standard deviation	Average (1-5)	Standard deviation		
IIIa. Other union activities in law						
50	Infringements of the right to freely draw up constitutions and internal rules and administration	3.54	0.85	3.50	0.76	1.63
51	Infringements of the right to freely elect representatives	3.93	0.96	4.21	0.80	1.80
52	Infringements of the right to freely organize and control financial administration	3.46	0.94	3.36	0.93	1.59
53	Infringements of the right to freely organize activities/programmes	3.99	0.83	4.21	0.43	1.80
54	Prohibition of all political activities	3.62	1.34	3.93	0.92	1.73
55	Lack of guarantee of due process and/or justice re violations Nos 50-54	4.00	1.24	4.29	0.73	1.82
IIIb. Other union activities in practice						
56	Infringements of the right to freely draw up constitutions and internal rules and administration	3.92	0.77	4.00	0.55	1.75
57	Infringements of the right to freely elect representatives	4.16	0.70	4.29	0.61	1.82
58	Infringements of the right to freely organize and control financial administration	3.92	0.66	3.86	0.53	1.71
59	Infringements of the right to freely organize activities/programmes	4.07	0.96	4.14	0.77	1.79
60	Prohibition of all political activities	3.69	1.33	3.79	1.05	1.70
61	Lack of guarantee of due process and/or justice re violations Nos 56-60	3.85	1.17	4.14	0.86	1.79
IVa. Right to collective bargaining in law						
62	General prohibition of the right to collective bargaining	4.69	0.61	4.71	0.47	1.93
63	Insufficient promotion of collective bargaining	2.77	0.97	2.79	0.70	1.45
64	Exclusion of workers in EPZs from the right to collective bargaining	4.23	0.83	4.43	0.51	1.86
65	Exclusion of other workers from the right to collective bargaining	4.15	0.77	4.29	0.47	1.82
66	Exclusion/restriction of subjects covered by collective bargaining	3.46	0.85	3.71	0.61	1.68
67	Compulsory arbitration accorded to collective bargaining	3.62	0.93	3.79	0.58	1.70
68	Excessive requirements and/or lack of objective, pre-established and precise criteria for the determination/ recognition of trade unions entitled to collective bargaining					
69	Acts of interference in collective bargaining	3.23	0.99	3.36	0.74	1.59
70	Violations of collective agreements	3.62	1.08	3.64	0.93	1.66
71	Infringements of the consultation with workers' organizations	3.68	1.16	3.57	0.85	1.64
72	Lack of guarantee of due process and/or justice re violations Nos 62-71	3.46	1.02	3.43	0.94	1.61
		3.54	1.45	3.93	0.92	1.73

(continued overleaf)

Table A1. Evaluation criteria: Delphi method results and weights (concl.)

Evaluation criteria	Delphi method results				Weights (1-2)
	1st round		2nd round		
	Average (1-5)	Standard deviation	Average (1-5)	Standard deviation	
IVb. Right to collective bargaining in practice					
73 General prohibition of collective bargaining	4.54	0.65	4.57	0.51	1.89
74 Insufficient promotion of collective bargaining	2.92	0.83	2.79	0.70	1.45
75 Exclusion of workers in EPZs from the right to collective bargaining	4.08	0.77	4.29	0.61	1.82
76 Exclusion of other workers from the right to collective bargaining	4.08	0.66	4.36	0.50	1.84
77 Exclusion/restriction of subjects covered by collective bargaining	3.38	0.50	3.36	0.50	1.59
78 Compulsory arbitration accorded to collective bargaining	3.69	0.93	3.71	0.47	1.68
79 Excessive requirements and/or lack of objective, pre-established and precise criteria for the determination/ recognition of trade unions entitled to collective bargaining	3.62	0.84	3.57	0.76	1.64
80 Acts of interference in collective bargaining	3.77	0.97	3.57	0.85	1.64
81 Violations of collective agreements	4.07	0.88	3.93	0.73	1.73
82 Infringements of the consultation with workers' organizations	3.54	0.85	3.36	0.84	1.59
83 Lack of guarantee of due process and/or justice re violations Nos 73-82	3.85	1.23	3.86	0.86	1.71
Va. Right to strike in law					
84 General prohibition of the right to strike	4.62	0.74	4.79	0.43	1.95
85 Exclusion of workers in EPZs from the right to strike	4.08	1.23	4.36	0.74	1.84
86 Exclusion of other workers from the right to strike	4.16	0.89	4.29	0.73	1.82
87 Exclusion/restriction based on the objective and/or type of the strike	2.77	1.25	2.86	0.95	1.46
88 Provisions in law allowing for the suspension and/or declaration of illegality of strikes by administrative authority	3.16	0.89	3.36	0.63	1.59
89 Lack of compensatory guarantees accorded to lawful restrictions on the right to strike	3.08	1.12	3.21	0.97	1.55
90 Infringements of the determination of minimum services	2.77	0.70	2.79	0.43	1.45
91 Compulsory arbitration accorded to strikes	3.54	1.22	3.57	0.94	1.64
92 Excessive prerequisites required for exercising the right to strike	3.54	0.85	3.86	0.53	1.71
93 Acts of interference during the course of strike action	3.31	1.07	3.43	0.65	1.61
94 Imposing excessive sanctions in case of legitimate strikes	4.08	1.07	4.29	0.73	1.82
95 Lack of guarantee of due process and/or justice re violations Nos 84-94	4.08	1.17	4.21	0.89	1.80

Evaluation criteria	Delphi method results				Weights (1-2)
	1st round		2nd round		
	Average (1-5)	Standard deviation	Average (1-5)	Standard deviation	
Vb. Right to strike in practice					
96 General prohibition of strikes	4.62	0.63	4.71	0.47	1.93
97 Exclusion of workers in EPZs from the right to strike	4.08	0.86	4.36	0.63	1.84
98 Exclusion of other workers from the right to strike	4.16	0.58	4.29	0.61	1.82
99 Exclusion/restriction based on the objective and/or type of the strike	3.08	1.14	3.21	0.80	1.55
100 Suspension and/or declaration of illegality of strikes by administrative authority	3.77	0.70	3.79	0.58	1.70
101 Lack of compensatory guarantees accorded to lawful restrictions on the right to strike	3.17	0.90	3.36	0.74	1.59
102 Infringements of the determination of minimum services	3.08	0.73	3.07	0.62	1.52
103 Compulsory arbitration accorded to strikes	3.54	0.76	3.43	0.65	1.61
104 Excessive prerequisites required for exercising the right to strike	3.54	0.76	3.71	0.61	1.68
105 Acts of interference during the course of strike action	3.54	0.94	3.57	0.76	1.64
106 Imposing excessive sanctions in case of legitimate strikes	4.08	0.92	4.29	0.61	1.82
107 Committed against trade union officials re violation No. 106	4.08	0.92	4.21	0.70	1.80
108 Lack of guarantee of due process and/or justice re violations Nos 96-107	3.93	1.11	4.07	0.83	1.77
Average	3.92	0.85	4.03	0.62	1.76

Table A2. In law evaluation criteria: Largest increases in coded violations for categories IIa, IVa and Va, 2000–15

	Average change
IIa. Right of workers to establish and join organizations in law	
25. Exclusion of other workers from the right to establish and join organizations	4.75
30. Provisions in law allowing for anti-union discriminatory measures in relation to hiring, during employment (e.g. transfers and downgrading) and dismissal	2.25
31. Lack of adequate legal guarantees against anti-union discriminatory measures	5.50
32. Provisions in law allowing for interference of employers and/or public authorities	2.00
IVa. Right to collective bargaining in law	
65. Exclusion of other workers from the right to collective bargaining	3.75
68. Excessive requirements and/or lack of objective, pre-established and precise criteria for the determination/recognition of trade unions entitled to collective bargaining	4.25
69. Acts of interference in collective bargaining	5.25
70. Violations of collective agreements	2.75
Va. Right to strike in law	
87. Exclusion/restriction based on the objective and/or type of the strike	3.75
90. Infringements of the determination of minimum services	4.25
92. Excessive prerequisites required for exercising the right to strike	3.50
93. Acts of interference during the course of strike action	3.75

Note: The average change is based on average differences between each year of data.

Source: Authors' calculations based on Labour Rights Indicators.