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QUICK GUIDE ON SOURCES AND USES OF COLLECTIVE BARGAINING STATISTICS



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1. Introduction

The goal of achieving decent work for all means attaining full and productive employment which gives workers access to decent working and living conditions.¹ Industrial relations and social dialogue play a crucial role in this regard, especially through collective bargaining, which provides an explicit means for securing satisfactory working conditions by formalizing social partners' involvement in the process of setting conditions of employment. ILO Convention No. 154 (*Collective Bargaining Convention, 1981*) defines collective bargaining as “all negotiations which take place between an employer, a group of employers or one or more employers' organisations, on the one hand, and one or more workers' organisations, on the other, for: (a) determining working conditions and terms of employment; and/or (b) regulating relations between employers and workers; and/or (c) regulating relations between employers or their organisations and a workers' organisation or workers' organisations.”² Freedom of association and the right to collective bargaining are fundamental principles and rights at work, at the heart of healthy industrial relations and effective social dialogue.

In order to assess the labour market situation, understand the latest trends and identify the main labour market issues, it is important to rely on a comprehensive, timely and accurate body of labour statistics.³ Given that social dialogue in general and collective bargaining in particular are fundamental aspects of decent work, social dialogue statistics, and more precisely, collective bargaining statistics, are a crucial part of labour statistics, instrumental in the effective measurement of decent work. The potential impact of collective bargaining on wages and other terms and conditions of work is such that in order to have a proper picture of the labour market situation it is critical to complement labour market analyses with collective bargaining statistics.

Collective bargaining statistics allow for the assessment of the extent to which wages and terms and conditions of work are negotiated collectively and the coverage of workers by these collective contracts. It facilitates comparisons in this regard across countries, regions and over time. Relevant collective bargaining indicators are useful in monitoring progress toward the realization of freedom of association and the right to collective bargaining as well as in evaluating the quality of industrial relations and their role in labour market governance. Collective bargaining statistics inform the work of policy-makers, social partners, researchers and other labour market agents. However, finding an appropriate way to measure collective bargaining raises challenges, as there are many different aspects of collective bargaining that should be accounted for. Collective bargaining is highly determined by the national context, the legal framework and the industrial relations system. Thus, a comprehensive set of collective bargaining data would include both statistical indicators and qualitative information about the corresponding legal framework. Furthermore, a number of issues related to data availability, the variety of possible sources, and the heterogeneity of methodologies used to derive collective bargaining statistics make this a challenging field of labour statistics.

This guide gives an overview of the main aspects of collective bargaining statistics, including their relevance and uses. It also presents the international standards governing collective bargaining statistics,

¹ Decent work is part and parcel of the 2030 Agenda for Sustainable Development, clearly stated as Sustainable Development Goal 8 but also underlying many other Sustainable Development Goals. For information about the ILO's Decent Work Agenda, visit <http://www.ilo.org/global/topics/decent-work/lang--en/index.htm>. For information about the 2030 Agenda and the SDGs, visit <https://sustainabledevelopment.un.org/post2015/transformingourworld>

² The full text of ILO Convention No. 154 (*Collective Bargaining Convention, 1981*) is available at http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312299

³ For more information on the sources and uses of labour statistics, refer to the ILO's *Quick Guide on Sources and Uses of Labour Statistics*, available at http://ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_590092.pdf

as well as the most common practices at the international level in terms of collective bargaining indicators produced. The guide also reviews the various types of potential sources of collective bargaining statistics, highlighting their advantages and disadvantages. Finally, the guide points to the main challenges surrounding the compilation of collective bargaining statistics.

This guide is intended as an introductory manual to collective bargaining statistics, providing valuable but non-exhaustive information. It is a useful reference tool for data producers first dabbling in the field of collective bargaining statistics, social partners using collective bargaining indicators to inform their work, researchers, labour market analysts, students of related areas, and data users interested in social dialogue or industrial relations in general.

2. Relevance, uses and scope of collective bargaining statistics

2.1. Role of collective bargaining in labour markets

The ILO identifies the effective recognition of the right to collective bargaining as a fundamental right at work, stating in its 1998 *Declaration on Fundamental Principles and Rights at Work* that this universal right should be applied to all workers in all countries, regardless of the level of development or national income.⁴ Social dialogue plays a crucial role in the achievement of social cohesion and decent work for all. Healthy employment relationships benefit everyone involved, including workers, employers, social partners, and economic agents in general. Collective bargaining is an essential element of social dialogue, constituting a means for trade unions and employers (or employers' organizations) to establish wages and terms and conditions of employment through negotiations. Freedom of association allows workers and employers to form and/or join organizations of their choosing in order to defend and further their interests. Together, collective bargaining and freedom of association promote fair, transparent negotiations between employers and workers (and/or their respective organizations) and outcomes beneficial to all parties, preventing labour disputes and favouring decent work. Collective bargaining can cover a wide array of issues pertaining to working conditions, such as remuneration, working time, perks and benefits, and occupational safety and health.⁵

The potential role of collective bargaining in labour markets and particularly in labour market governance is critical. It may contribute significantly to quality of employment, and is linked to broader social and economic dimensions, such as workers' living conditions and wellbeing, consumption and expenditure, economic performance and productivity growth, inequalities, and labour disputes, among others. Thus, the degree to which collective bargaining governs workers' terms and conditions of employment has an impact on labour market outcomes at the macro and microeconomic levels.

2.2. Uses of collective bargaining statistics

Given the importance of collective bargaining on labour market performance, economic outcomes and social cohesion, it is crucial to have reliable and timely data on collective bargaining so as to assess its coverage, scope and other main characteristics.

⁴ For information about International Labour Standards on collective bargaining, see <http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/collective-bargaining/lang-en/index.htm>

⁵ For more information about collective bargaining and labour relations, visit <http://www.ilo.ch/global/topics/collective-bargaining-labour-relations/lang-en/index.htm>

Statistics on collective bargaining provide information on the particularities of the industrial relations system as well as on the corresponding legal framework. They can enable assessments of the industrial relations, identify areas of particular concern in the labour market and the socio-economic context in general, and point to the need to consider regulation, improvements or targeted campaigns on certain issues. Collective bargaining statistics are also useful in the evaluation of the results of specific measures and policies implemented, and can reveal progress or deterioration of industrial relations and social dialogue. Valid collective bargaining indicators show the extent to which workers' conditions are secured through negotiation and social dialogue and to what extent they are formally determined, unveiling potential deficits in this regard.

Reliable, relevant, accurate and timely collective bargaining indicators are valuable tools to support policy formulation and implementation and decision-making concerning the labour market. They are also useful for social partners (trade unions, employers and/or employers' organizations) participating in or preparing for collective bargaining: such statistics can illustrate the scope and outcomes of past collective bargaining while also providing the basis for future collective bargaining negotiations. This information (in the form of statistics) is critical to the negotiating parties.

2.3. Scope of collective bargaining statistics

The scope of collective bargaining statistics can potentially be wide and cover a large array of topics related specifically to collective bargaining, or more generally to social dialogue, industrial relations, the labour market, the socio-economic context and the legal framework.

Regarding collective bargaining and collective agreements per se, statistics could refer to everything pertaining to the coverage of collective bargaining (in terms of workers covered, parties involved, establishments covered, economic sectors covered, geographic regions covered, etc.), the configuration of collective bargaining (including the level of bargaining, the degree of bargaining coordination, the number of bargaining parties, and the characteristics of bargaining parties) and the specificities of collective agreements (such as the existence of extension clauses, the topics negotiated, the outcomes of the negotiations, and the duration of validity).

Statistics on the industrial relations configuration and the state of social dialogue are also of interest when analysing collective bargaining. These could include indicators on union membership, type of union members (employees, self-employed, unemployed, retired, students), union density, the number of unions and their size, the number of union confederations and their size (number of unions affiliated and number of members of each affiliated union), the number of other types of workers' associations and their size, the number and duration of strikes and lockouts, the number of workers involved in strikes and lockouts, the amount of days not worked due to strikes or lockouts, among others.

To understand the impact of collective bargaining it is necessary to analyse it within its context. Thus, it is important to also have relevant information on the labour market, and particularly the main labour market indicators such as the employment-to-population ratio, the unemployment rate, the vulnerable employment rate, the share of informal employment, labour productivity, mean and median wages, mean and median working time, etc. It is particularly important to have statistics on the reference population for collective bargaining, which depending on the circumstances may be total employment (all persons employed, including self-employed and employees) or paid employment (employees only, who represent the type of workers holding paid employment jobs). Thus, statistics on the total number of employed and the distribution of employment by status category (employees versus self-employed, which could be

further disaggregated into employers, own-account workers and contributing family workers and members of producers' cooperatives) are key.⁶

Other indicators on the national context may also be enlightening for collective bargaining analyses, such as indicators on the size of the economy and the economic performance, economic growth, indicators on inequalities and social cohesion, labour share in GDP, and social protection expenditure.

It is noteworthy that a comprehensive collective bargaining information system would include both statistical (quantitative) indicators and qualitative indicators (for instance, legal framework or governance indicators).

To the extent possible, data should be disaggregated using all the relevant breakdowns, as disaggregated data pinpoints the differences across population groups and areas and reveals challenges faced by specific groups or regions. Useful disaggregations include sex, age, labour force status (employed, unemployed or outside the labour force), status in employment (employees versus self-employed), economic activity (sectors), occupation, urban or rural areas, migrant or national workers, to name a few.

3. International standards and common practices on collective bargaining statistics

3.1. Resolution concerning statistics of collective agreements

The *Resolution concerning statistics of collective agreements*, adopted by the Third International Conference of Labour Statisticians in 1926 represents the only international standard on the compilation of collective bargaining statistics.⁷ There are unfortunately no international standards on the compilation of unionization statistics or statistics of employers' organizations. When it comes to the collection of industrial disputes statistics, the *Resolution concerning statistics of strikes, lockouts and other action due to labour disputes*, adopted by the Fifteenth International Conference of Labour Statisticians in 1993, is the main international standard.⁸

Even though the *Resolution concerning statistics of collective agreements* may seem dated (it was adopted almost a century ago) it is still highly relevant and the main guidelines it sets out are in no way obsolete. This resolution promotes the collection of data on coverage and contents of collective agreements, including on the number of collective agreements (in force, concluded and expired), the number of establishments covered and workers they employ, the number of workers covered, the nature of the contracting parties

⁶ The categories of employment by status in employment mentioned here refer to the groups of the 1993 International Classification by Status in Employment. For detailed definitions of each group refer to the *Resolution concerning the International Classification by Status in Employment (ICSE)*, adopted by the 15th International Conference of Labour Statisticians in 1993 (available at http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087562/lang--en/index.htm). This classification is expected to be revised soon, to account for the latest developments in the labour market. The revision of the ICSE-93 will be discussed during the 20th International Classification of Labour Statisticians in October 2018.

⁷ The full text of the *Resolution concerning statistics of collective agreements*, adopted by the 3rd International Conference of Labour Statisticians is available at http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087547/lang--en/index.htm

⁸ The full text of the *Resolution concerning statistics of strikes, lockouts and other action due to labour disputes*, adopted by the 15th International Conference of Labour Statisticians is available at http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087544/lang--en/index.htm

(employer, employers or employers' organization(s) and workers or workers' organization(s)), the scope of application of collective agreements (the corresponding establishment, the whole region, sector, country, etc.), the subjects regulated (wages and earnings or other working conditions), the duration of validity of collective agreements, the method of conclusion (direct negotiation or with intervention of a third party), etc. These statistics should ideally be compiled at annual intervals and be representative of the country as a whole.

Although not adopted as international standards at the higher level, there are other guidelines and methodological references supporting the compilation and dissemination of collective bargaining statistics. Most notably, the ILO's Decent Work Indicators Framework includes various social dialogue indicators, one of which deals specifically with collective bargaining (the collective bargaining coverage rate), and thus, the *Decent Work Indicators Manual* presents the relevant methodological description.⁹ Also, UNECE's¹⁰ Statistical Framework for Measuring Quality of Employment includes the collective bargaining coverage rate as part as the indicators pertaining to social dialogue, and the *Handbook on Measuring Quality of Employment* presents a detailed information sheet on this indicator.¹¹

3.2. Main concepts and definitions

The following are the definitions of the main concepts most commonly used at the international level and which represent the best practices in terms of methodologies for deriving collective bargaining statistics.

- **Collective bargaining:** all negotiations between an employer, a group of employers or one or more employers' organizations, on the one hand, and one or more workers' organizations, on the other, for: (a) determining working conditions and terms of employment; and/or (b) regulating relations between employers and workers; and/or (c) regulating relations between employers or their organizations and a workers' organization or workers' organizations¹². However, for statistical purposes, collective bargaining should involve the determination of remuneration and other equally significant terms and conditions of employment. This is to avoid the lack of data consistency that may arise when using statistics referring to collective agreements regulating a wide array of working conditions with different impacts on workers' lives. For instance, if we considered collective agreements establishing very marginal benefits but not the actual basic remuneration and these agreements covered a large number of workers, we would be substantially over-estimating workers' negotiating power and how secure their key working conditions are. Thus, even though it is interesting to have information on all collective bargaining agreements, for the purposes of collective bargaining statistics, and particularly collective bargaining coverage statistics, it is

⁹ The manual *Decent Work Indicators - Guidelines for producers and users of statistical and legal framework indicators* is available at http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_229374.pdf. The chapter on social dialogue, workers' and employers' representation comprises the following statistical indicators: trade union density rate, employers' organization density rate, collective bargaining coverage rate and days not worked due to strikes and lockouts. It also comprises the following legal framework indicators: freedom of association and the right to organise, collective bargaining right and tripartite consultations.

¹⁰ United Nations Economic Commission for Europe.

¹¹ For more information on the Quality of Employment Statistical Framework, refer to UNECE's *Handbook on Measuring Quality of Employment*, prepared by the Expert Group on Measuring Quality of Employment and available at https://www.unece.org/fileadmin/DAM/stats/publications/2015/ECE_CES_40.pdf

¹² ILO Convention No. 154 (Collective Bargaining Convention, 1981), available at http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312299

important to refer to collective bargaining negotiating items with a strong impact on workers' conditions, i.e. remuneration or other comparable items. It is also crucial to note that, according to this definition, collective bargaining involves only the workers and the employers in the negotiation process, implying that negotiations involving the government would not be considered as collective bargaining.

- **Collective agreement:** agreement in writing regarding working conditions and terms of employment concluded between an employer, a group of employers or one or more employers' organizations, on the one hand, and one or more representative workers' organizations, on the other. For statistical purposes, collective agreements should involve the determination of remuneration and other equally significant terms and conditions of employment. (See the definition of collective bargaining above for clarification on this).
- **Collective bargaining coverage:** the number of workers whose pay and/or conditions of employment is determined by one or more collective agreement(s). This number should include individuals whose pay and/or employment conditions are determined by collective bargaining agreements on the basis of the extension of those agreements, and refer to all agreements in force. The reference population used will determine what type of workers to refer to: usually, collective bargaining is studied only within paid employment (that is, employees, thus excluding the self-employed) and in those cases, “collective bargaining coverage” would refer to the number of employees who are covered by one or more collective agreements. However, it is also possible to expand the scope and use total employment as the reference population, in which case “collective bargaining coverage” would refer to all employed persons (whether employees or self-employed) covered by one or more collective agreements. It is necessary to clearly specify the reference group used for the statistics and what type of workers are included. It is also noteworthy that one worker could be covered by more than one collective agreement, and hence, care should be taken to avoid double-counting and ensure that collective bargaining coverage statistics refer indeed to the number of workers covered by at least one collective agreement (and not to the cumulative sum of workers covered by each agreement). Collective bargaining coverage should include all workers covered by at least one collective agreement in force, regardless of the date of conclusion of the agreement. Thus, workers covered by a collective agreement concluded before the reference period for the statistics but still in force during this reference period for the statistics should be included in the collective bargaining statistics (this is all the more important in cases where agreements tend to have a duration of several years).
- **Collective bargaining coverage rates:** calculated as the number of workers covered by collective bargaining divided by the total number of workers and multiplied by 100, these convey the share of workers covered by collective bargaining. Different reference populations can be used to account for labour market segmentation and/or the legal framework (see section 3.3 for further details on this). The most common (and in most cases also the most appropriate) way to calculate the collective bargaining coverage rate is referring to the proportion of employees who are covered by one or more collective agreements. However, in specific contexts or in view of data availability challenges, it would be possible to refer to the proportion of persons employed who are covered by one or more collective agreements, where persons employed comprise both employees and self-employed. The numerator and the denominator of the rates should pertain to the same reference period and reference area, and have the same reference population: if collective

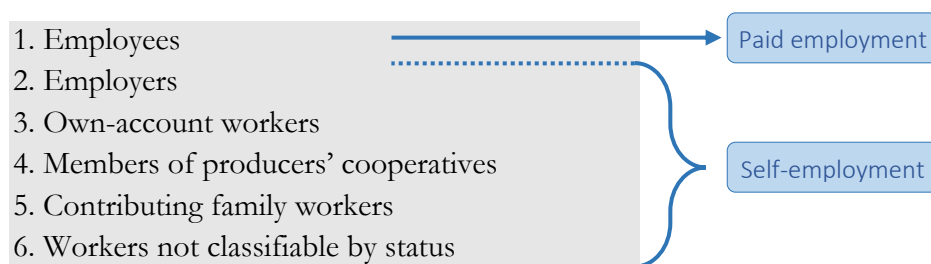
bargaining coverage is being measured as employees who are covered by one or more collective agreements, then the total number of employees should be used as the denominator, but if collective bargaining coverage is being measured as persons employed (whether employees or self-employed) who are covered by one or more collective agreements, then the appropriate denominator would be total employment. If data for the numerator covers only some geographical regions or only some economic activities (for instance, it refers only to urban areas or only to non-agricultural activities) then the denominator should have the same coverage to ensure accuracy of the results. It is also possible to calculate a collective bargaining coverage rate within the scope of the right to collective bargaining –taking into account the legal framework in terms of collective bargaining coverage by law. It is often the case that some groups of workers do not have the right to collective bargaining, and in such cases, these groups could be excluded from the denominator of the collective bargaining coverage rate to limit the reference group to those workers who could actually be covered by collective bargaining. The collective bargaining coverage rate calculated in this way would convey the share of workers covered by collective bargaining as per those who could potentially be covered. If such an adjustment is applied, it should be applied systematically and consistently, and be clearly stated in the metadata accompanying the statistics.

- **Employee:** worker who holds the type of job defined as paid employment jobs. Paid employment jobs are those where the incumbents hold explicit (written or oral) contracts or implicit employment contracts giving them a basic remuneration not directly dependent on the revenue of the unit for which they work (whether it is an enterprise, a non-profit institution, a government agency or a household).¹³
- **Employment:** work performed for others in exchange for pay or profit.¹⁴ Employment includes paid employment (that is, employees with jobs giving them a basic remuneration independent on the revenue of the employing economic unit) and self-employment (that is, persons with jobs where the remuneration is directly dependent on the profits derived from the goods and services produced).
- **Employment by status in employment:** classification of employment according to the status in employment, which refers to specific job characteristics such as the type of explicit or implicit contract of employment, the type of economic risk (including the attachment between the person and the job), and the type of authority over establishments and other workers. The latest international standard for the breakdown of employment by status in employment is the 1993 International Classification of Status in Employment (ICSE-93). The groups in the ICSE-93 are defined based on the distinction between paid employment (jobs giving a basic remuneration independent on the revenue of the employing economic unit) and self-employment (jobs where the remuneration is directly dependent on the profits derived from the goods and services produced).

¹³ According to the *Resolution concerning the International Classification by Status in Employment (ICSE)*, adopted by the 15th International Conference of Labour Statisticians in 1993 (available at http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087562/lang--en/index.htm), expected to be revised in the near future.

¹⁴ As defined in the *Resolution concerning statistics of work, employment and labour underutilization*, adopted by the 19th International Conference of Labour Statisticians in 2013, available at http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm.

These are the groups included in the ICSE-93:



The ICSE-93 is expected to be revised in the near future to account for recent developments in the labour market, including changes in employment arrangements, the rise of non-standard forms of employment and the blurring boundary between paid employment and self-employment. The revision of the ICSE-93 will be discussed during the 20th International Conference of Labour Statisticians in October 2018.¹⁵

- **Extension of collective agreements:** clauses establishing that the collective agreement is applicable to all workers in the corresponding establishment, economic sector or geographic region and not just to those covered by the negotiating party. In other words, where there is extension of collective agreements, workers or employers who are not members of the bargaining parties are also automatically covered by the agreements in question.
- **Level of bargaining:** level at which bargaining occurs (at the firm level, in several firms at once, at the industry level, or at the national level).
- **Degree of coordination of collective bargaining:** degree of coordination between different bargaining units. Normally the integration of different bargaining levels and units would prevent bargaining parties from blocking their respective purposes or hindering their respective bargaining positions.
- **Union (or trade union):** an independent workers' organization constituted for the purpose of furthering and defending the interests of workers.
- **Union membership (or trade union membership):** total number of persons affiliated to a trade union. A person's affiliation to a trade union could be linked to the payment of union dues, but the criteria of paying union dues is not necessarily always used to measure union membership. The reference population used will determine what type of union members are included: usually union membership is studied only within paid employment (that is, employees, thus excluding the self-employed and persons not in employment), and in those cases, "union membership" would refer to the number of employees who belong to one or more trade union. However, it is also possible to expand the scope and use total employment as the reference population, in which case "union membership" would refer to all employed persons (whether employees or self-employed) who belong to a trade union. It is possible to expand the scope of coverage even further to the whole working-age population, including not only persons in employment but also those unemployed or outside the labour force, in which case "union membership" would refer to all persons of working

¹⁵ The *Resolution concerning the International Classification by Status in Employment (ICSE)*, adopted by the 15th International Conference of Labour Statisticians in 1993 is available at http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087562/lang--en/index.htm.

age who are members of a trade union (including persons employed, unemployed, students and retired affiliated to a trade union). It is necessary to clearly specify the reference group used for the statistics and what type of workers are included. Care should be taken to consider only persons currently affiliated to a trade union, avoiding double-counting of persons who belong to more than one union or who changed unions, and not counting persons who used to be members of a union but no longer are.

- **Union density rate (or trade union density rate):** calculated as the number of union members divided by the total number of workers and multiplied by 100, these convey the share of workers affiliated to a trade union. Different reference populations can be used to account for labour market segmentation and/or the legal framework. The numerator and the denominator of the rates should pertain to the same reference period and reference area, and have the same reference population: if union membership is measured as the number of employees who belong to a union, then the total number of employees should be used as the denominator, but if union membership is measured as persons employed (whether employees or self-employed) who belong to a union, then the appropriate denominator would be total employment. Even though it may be revealing to study the number of union members by type of union member, with information on the number of union members not in employment (unemployed, retired, students), when calculating the trade union density rate union members not in employment should always be removed from the numerator¹⁶. If data for the numerator covers only some geographical regions or only some economic activities (for instance, it refers only to urban areas or only to non-agricultural activities) then the denominator should have the same coverage to ensure accuracy of the results. It is also possible to calculate a trade union density rate within the scope of the right to unionize (freedom of association), that is, taking into account the legal framework, and particularly, the coverage of the right to unionize: where some groups of workers do not have the right to join or form a trade union, they could be excluded from the denominator of the union density rate to obtain a rate conveying the share of workers affiliated to a trade union as per those who could potentially be unionized. If such an adjustment is applied, it should be applied systematically and consistently, and be clearly stated in the metadata accompanying the statistics.
- **Workers excluded from the right to collective bargaining:** workers who do not have the right to collective bargaining by law.
- **Workers excluded from the right to unionize (freedom of association):** workers who do not have the right to join or form a union by law.

¹⁶ This is to ensure consistency between the numerator and the denominator. The trade union density rate expresses a share (the share of employees or persons employed who are affiliated to a union), so the numerator must be contained in the denominator, by construction. Whether the denominator used is the total number of employees or all persons employed, union members who are unemployed, retired, students or not in employment for any other reason would not be covered by the denominator and should thus also not be covered by the numerator. Including them in the numerator would inaccurately inflate the rate.

3.3. Main collective bargaining indicators

3.3.1. The collective bargaining coverage rate: the main statistical indicator

The collective bargaining coverage rate conveys the number of workers covered by at least one collective agreement expressed as a percentage of the eligible workforce, which may be defined as paid employment, total employment, employees who have the right to collective bargaining, etc. Statistics on the absolute number of workers covered by collective bargaining, although very useful for some purposes, do not say much about the role of collective bargaining in labour market governance or the extent to which collective agreements regulate workers' conditions. Expressing the number of workers covered by collective bargaining as a proportion of the total number of workers in the reference population facilitates the understanding of the actual importance of collective bargaining in the labour market, and the real impact it has on the working population. It is much easier to interpret the patterns and trends of the number of workers covered by collective bargaining when expressed as a share of the total number of workers rather than as an absolute number. Also, the collective bargaining coverage rate reflects the type of labour regulation to which a country subscribes and provides some indication of the exercise of collective bargaining rights.

Nevertheless, as simple as this indicator may seem, its calculation gives rise to a number of methodological issues and requires making some decisions, especially in terms of the reference population used. In order to ensure the consistency and accuracy of this rate, the numerator and the denominator must refer (to the extent possible) to the same time period, the same geographic areas, the same economic activities, the same types of economic units, the same establishment sizes and particularly, the same reference group.

As stated above, the collective bargaining coverage rate aims to convey the share of workers covered by collective bargaining within the eligible workforce, which poses the challenge of defining precisely what categories of workers should the eligible workforce include (and the numerator, that is, the number of workers covered by collective bargaining, would then use the same reference group).

The most commonly used reference group for the study of collective bargaining is paid employment, i.e., all employees (excluding the self-employed). The usual practice of restricting the analysis of collective bargaining coverage only to employees is justified by the fact that historically, collective bargaining focused almost exclusively on employees, and although this is starting to change, in many countries collective bargaining is still associated mostly with employees, and not with the self-employed.

However, in some countries (especially in the developing world) paid employment is far from the norm, and categories of self-employed such as own-account workers and contributing family workers represent a significant share of total employment.

In addition, recent labour market developments have brought about a rise in non-standard forms of employment even in developed countries, highlighting the need for collective bargaining to expand its scope to all persons employed rather than just focusing on employees. In many countries, this implies first ensuring that all workers have collective bargaining rights, both employees and all types of self-employed.

In order to have a better picture of the extent to which all workers (and not just employees) are covered by collective bargaining, it is preferable to use total employment as the reference group for the collective bargaining coverage rate. In contexts where paid employment is the norm, representing the vast majority of total employment, the difference between the collective bargaining coverage rate among employees and

the collective bargaining coverage rate among all persons employed would be rather small, but the higher the share of self-employment in total employment, the larger this difference will be, and thus, the more important it becomes to calculate the two rates. The comparison of the two rates would provide valuable information on the labour market segmentation, and point to the need to ensure that collective bargaining covers all workers, both in law and in practice.

There are countries where some specific groups of workers are excluded by law from the right to collective bargaining. In this context, the collective bargaining coverage rate expressed as a percentage of paid employment or total employment gives a valuable indication of the extent to which employees or employed persons have their working conditions determined via collective bargaining, regardless of whether or not they actually have the right to collective bargaining. Nonetheless, in order to assess the prevalence of collective bargaining among the workforce that it could actually reach, the number of workers who by law do not have the right to collective bargaining should be excluded from the denominator of the collective bargaining coverage rate. This adjustment of the denominator makes the most sense when using paid employment as the reference group for the collective bargaining coverage rate, as in many countries collective bargaining applies only to employees.

The three variations of the collective bargaining coverage rate (the share of employees covered by collective bargaining, the share of persons in employment covered by collective bargaining and the share of employees who have the right to collective bargaining covered by collective bargaining) are enlightening indicators providing valuable, albeit different information. If data availability permits, it may be beneficial to calculate all three and to interpret not only the rates per se, but also the differences between rates. Here, it is crucial to clearly state what each rate refers to, in order to better understand the statistics and avoid confusion. Analysing these three rates together answers questions such as: is labour market segmentation hindering workers' conditions? To what extent is collective bargaining coverage being held back by the legislation? Is low collective bargaining coverage due to low numbers of workers covered (few collective agreements signed, covering only few, small establishments, etc.) or to the limited potential scope of collective bargaining (for instance, collective bargaining can reach only formal private sector employees in a context where the vast majority of persons employed are own-account workers or contributing family workers)? When only one collective bargaining coverage rate is used, the method chosen for the calculation and the reference group must be plainly indicated. To ensure the robustness and consistency of the statistics, the series must refer always to the same type of rate. The three variations of the collective bargaining coverage rate are explained in more detail below.

- **Share of employees covered by collective bargaining**

The most commonly used method of calculation of the collective bargaining coverage rate refers to the share of workers in paid employment whose conditions of employment are determined by one or more collective agreement(s), that is, the number of employees covered by collective bargaining as a percentage of the total number of employees.

$$\text{Collective bargaining coverage rate 1} = \frac{\text{Employees covered by collective bargaining}}{\text{Total number of employees}} \times 100$$

This is justified in countries where paid employment represents a very large share of total employment, typically developed countries. Moreover, it could seem logical, in principle, to exclude vulnerable employment (which is made up of own-account workers and contributing family workers, highly

associated with informality) from the reference group when analysing the coverage of collective agreements, which are formal agreements by nature.

In cases where some categories of self-employed workers are covered by collective bargaining, care should be taken to remove them from the numerator of the collective bargaining coverage rate when using the total number of employees as the denominator. For consistency between the numerator and the denominator, only employees covered by collective bargaining should be included.

- **Share of employed persons covered by collective bargaining**

Another way of calculating the collective bargaining coverage rate is to express the number of persons in employment (whether in paid employment or self-employment) whose conditions of employment are determined by one or more collective agreement(s) as a percentage of total employment. This calculation is rarely used, as collective bargaining is primarily a wage setting mechanism, thus traditionally focused on employees only (wage and salary earners). However, as labour markets and work relationships change and non-standard forms of employment emerge, it becomes more and more necessary to ensure that all workers have access to collective bargaining. Thus, this calculation is put up for discussion to help measure this situation.

$$\text{Collective bargaining coverage rate 2} = \frac{\text{Employed persons covered by collective bargaining}}{\text{Total employment}} \times 100$$

By considering all those in employment, this indicator can provide a better picture of the coverage of collective bargaining in countries with high levels of vulnerable employment and/or informal employment.¹⁷ Moreover, the inclusion of own-account workers, contributing family workers and self-employment in general in the calculation of the collective bargaining coverage rate can also be useful in developed countries where paid employment was traditionally the norm and where self-employment has slowly started to gain ground.

Although the collective bargaining coverage rate calculated among employees only is highly suitable for the study of collective bargaining trends and patterns in many contexts and the traditions of statistical practices around the world point to the use of this reference group, whenever data for all employed persons is available, it would be desirable to also calculate the rate among all employed persons. The dissemination (and interpretation) of the two rates together will cast light on the vulnerability of self-employed workers, whose conditions of employment are less likely to be determined through collective negotiations. In cases where the self-employed are not covered at all by collective bargaining, the numerator of the collective bargaining coverage rate among employees would be the same as that of the collective bargaining coverage rate among all persons employed, while the denominator will be different, thus revealing the precariousness of the self-employed (especially own-account workers and contributing family workers) and conveying a better picture of the reality in the labour market. In cases where some groups of self-employed are indeed covered by collective bargaining, they should be included in the numerator of the collective bargaining coverage rate using total employment as the reference group.

¹⁷ Even though informal employment includes employees holding informal jobs and employees in informal sector enterprises, the bulk of informal employment usually resides outside the scope of paid employment.

- **Share of employees who have the right to collective bargaining covered by collective bargaining**

It is not uncommon to have some categories of employees or some sectors of activity legally excluded from the right to collective bargaining. The collective bargaining coverage rate could reflect this, by including in its denominator only those employees who actually have the right to collective bargaining. Some examples of groups sometimes excluded by law from this right are public sector workers, the police or the armed forces. The collective bargaining coverage rate adjusted for the right to collective bargaining gives a better indication of the true impact or spread of collective bargaining within its potential scope, that is, the workforce that it could actually reach.

$$\text{Collective bargaining coverage rate 3} = \frac{\text{Employees covered by collective bargaining}}{\text{Employees with the right to collective bargaining}} \times 100$$

However, the calculation of this particular rate requires having precise, accurate information on the legal framework underlying collective bargaining as well as reliable data on the number of workers in each specific group excluded from the right to collective bargaining.

When making a comparative analysis of collective bargaining coverage rates, over time or across countries, it may be advisable to refrain from adjusting the figures for the right to collective bargaining. In fact, the legal framework varies a lot from country to country, as does the availability of detailed information on the labour legislation, so international comparability of the data may be hindered by trying to apply this adjustment. Issues of data availability and reliability may also affect the robustness of the time series when trying to adjust the figures over time. Also, changes in legal exclusions of some groups of workers from collective bargaining would affect the denominator of the adjusted collective bargaining coverage rate, even when the numerator remained the same. This could be misleading, as the change in the collective bargaining coverage rate may be interpreted as a change in the number of workers actually covered, whereas what changed was the potential domain for collective bargaining.

If all the necessary legal information and detailed statistics on the number of workers in each group excluded from collective bargaining are indeed available, it may be interesting to calculate the collective bargaining coverage rate within the eligible workforce, that is, using as the denominator only employees with the right to collective bargaining. However, the coverage rate among all employees (even those without the right to collective bargaining) is also informative, allowing one to assess the impact of collective bargaining on all those in paid employment or in employment and providing an indication of the extent to which collective bargaining governs the labour market. Thus, it would be useful to disseminate the two types of rates together (adjusted for the right to collective bargaining and unadjusted). Here again, it is critical to clearly state what each rate refers to, and to guide the reader through the interpretation of each rate and the differences between them.

3.3.2. Qualitative (legal framework) indicators

There are important qualitative aspects of collective bargaining that the collective bargaining coverage rate fails to convey, most notably the prevailing level of bargaining, the extension of collective agreements and the degree of bargaining coordination, but also other items such the nature of the contracting parties, and the subjects regulated. The right to collective bargaining (and its scope) is another crucial qualitative aspect in the study of industrial relations. Even though the scope of the right to collective bargaining is somewhat conveyed through the use of collective bargaining coverage rates excluding from the denominator workers

without the right to collective bargaining versus rates calculated including them in the denominator, it still seems appropriate to have a separate legal framework indicator on the right to collective bargaining. It is always important to bear in mind that even if the study of collective bargaining coverage provides some indication of the state of collective bargaining, it does not express its quality, nor does it reflect the outcome of the negotiations.

3.3.2.1. Right to collective bargaining

The effective recognition of the right to collective bargaining is a fundamental right at work. It must be guaranteed to ensure that workers and employers and their representatives can negotiate terms and conditions of employment. This right is inseparable from the right to organise or unionize. It is crucial to know if this right is guaranteed and what are the groups excluded from this right, if any. It is also essential to assess the application and exercise of this right, where it exists.

As stated previously, the denominator of the collective bargaining coverage rate could be adjusted to refer only to those persons with the right to collective bargaining. However, this adjustment could also result in a distorted picture of the influence of collective bargaining on the employed population. Even when this adjustment is accurately done, the data still would not reflect the extent to which the right to collective bargaining is actually respected. Thus, it is crucial to always consider the national legal framework, and the situation in practice when interpreting the collective bargaining coverage rate, and to combine it with relevant qualitative indicators.

3.3.2.2. Level of collective bargaining

The dominant level at which collective bargaining takes place is a key characteristic of an industrial relations' system. The level at which collective agreements are concluded refers to where negotiations take place and the scope of the negotiating parties involved, in terms of the establishments covered, the economic activities covered and the geographical areas covered. Agreements could be concluded at the firm level (covering only the specific enterprise or establishment in question), the sectoral level (covering all establishments or economic units within the same industry), the inter-sectoral level (covering all establishments or economic units within a number of specified industries), or at the national level (covering all establishments or economic units in the country), among others. The level at which bargaining is carried out is closely linked to the coverage of the agreements: the most aggregated levels of bargaining are associated with higher collective bargaining coverage. Thus, through its impact on collective bargaining coverage, the level of bargaining has a considerable effect on workers' conditions, and hence, it is critical to have accurate information on the level of bargaining in the form of a qualitative indicator.

It is worth noting that collective bargaining rarely takes place at exclusively one level. It is usually done at two or more levels concurrently, and in this case it is necessary to identify which is the prevailing level of bargaining.

There is a recent tendency, particularly in developed countries, towards the decentralisation of bargaining, that is, the conclusion of agreements happens increasingly at the firm level. This is a disconcerting trend, given the adverse effects of bargaining decentralisation on collective bargaining coverage and the promotion of decent working conditions for all. Having a timely and reliable legal framework indicator on the level of bargaining is essential in order to monitor these types of trends.

3.3.2.3. Degree of coordination of collective bargaining

The degree of bargaining coordination refers to the extent to which the various bargaining units are coordinated in order for the parties to maintain coherence at different levels with regard to wages and working conditions. Bargaining coordination can take different forms, ranging from informal discussions to align the interests of several bargaining units, to the highest level of coordination represented by the formal centralisation of collective bargaining at the national level. The degree of coordination of collective bargaining has an important impact on collective bargaining outcomes.

The degree of bargaining coordination is often linked to the level of bargaining, so it is advisable to consider the two when studying collective bargaining. Usually, the most aggregated levels of bargaining are associated with the highest degrees of coordination, that is, centralisation and coordination of bargaining tend to go together, and foster increased collective bargaining coverage.

3.3.2.4. Extension of collective agreements

In the field of industrial relations, a pattern may be observed of a higher collective bargaining coverage rate alongside a substantially lower trade union density rate. In most cases, this is explained by the extension of collective agreements, which entails that these agreements are not only applicable to the employers and members of the trade union(s) negotiating them, but in virtue of an extension clause they are also automatically applied to all enterprises and workers in an economic sector and/or geographic area, depending on the legal context.

The extension of collective agreements is a valuable tool to expand the benefits of a collective bargaining agreement to enterprises and workers who otherwise would not be covered. Thus, it is important to have information on whether extension mechanisms are in place and are used, and if so, under what conditions (to whom it applies, criteria for representativeness, etc.). Although the existence of extension clauses can be inferred by the numerical difference between the trade union density rate and the collective bargaining coverage rate, this deduction would not always be reliable and precise. Thus, the extension of collective agreements calls for a separate qualitative indicator, to ensure the accuracy of the legal framework information.

4. Sources of collective bargaining statistics

One of the biggest challenges for collective bargaining statistics (in addition to lack of data availability) is the variety of possible data sources, which include different types of administrative records (comprising the collective agreements per se), household surveys (most notably labour force surveys), establishment surveys, and special data collections. Naturally, not all of these sources are always available, but it is likely to have more than one data source coexisting. Each type of source has its own advantages and disadvantages, and it is good to keep these in mind when choosing which source to use (where applicable) and when interpreting the data. To ensure the robustness of trends analysis, the source of data should remain stable over time, with as few methodological changes as possible. The following sections present in detail the main types of sources of collective bargaining statistics, specifying their strengths and weaknesses.

4.1. Administrative records

Administrative records are the most common source of collective bargaining statistics. They comprise lists of units of a given population, which include information on each unit (variables associated with each unit, geographical localisation of each unit, and relationship between units), and where each unit can be uniquely identified and the information is regularly updated. These records are created and maintained by a specific agency for administrative purposes, notably having a record of all the elements managed by the agency, so they aim to be a complete list of all objects in the reference group or population (although it is possible to have in practice missing values). In general, as administrative records are intended to allow the relevant agency to keep track of all elements of a specified type (for instance, have an account of all the staff, the resources, the activities carried out, or the members), all elements are identifiable and the recording is comprehensive.

However, as these records are created for administrative purposes and not statistical ones (the production of statistics is a positive secondary effect), the reliability and validity of the statistics will be determined by the administrative processes. The quality of the data, the type of data available, its coverage and timeliness will depend on the characteristics of the record and the registration procedures. Particularly for collective bargaining statistics, the reliability of the data is influenced by whether or not the registration of collective agreements with the agency keeping the record is obligatory. Where registration of collective agreements is not compulsory, the record may be incomplete, and thus, any statistics derived from it would underestimate the coverage and scope of collective bargaining and provide a misleading picture of the state of social dialogue.

There is a wide variety of possible administrative records which could yield statistics on collective bargaining, including records maintained by trade unions on their bargaining activities and their membership, records maintained by employers' organizations, records maintained by the labour ministry or other government agencies, labour relations records, records of conciliation or mediation offices, registrars of associations, and the collective agreements themselves.

One positive aspect of administrative records is that, given their nature, they usually contain information on the legal framework and qualitative indicators in addition to the statistics. The registry of collective agreements, when thoroughly maintained, tends to include information on all aspects of collective bargaining. The most complete registries (and thus, the ones yielding the most comprehensive statistics) are typically kept by the labour ministry or another agency centralizing all the agreements. The topics on which information may be available from administrative records include (but are not limited to): the number of workers covered by each collective agreement (perhaps even with breakdowns such as gender, age, etc.), subjects regulated in each collective agreement and outcome of negotiations, duration of validity of each agreement, method of conclusion of each agreement, level at which each agreement was concluded (for instance, in a firm, at the industry level, or at the national level), degree of bargaining coordination, existence of extension clauses in the agreements, and the characteristics of the bargaining parties.

There are some crucial aspects to keep in mind to ensure the accuracy of the administrative data on collective bargaining, such as the duration of validity of collective agreements. As this duration may vary, it is important to include in the registry information on all agreements in force, specifying not only when the information was entered into the registry, but also the dates of conclusion and expiry of each agreement. This provides complete and accurate information on all agreements in force as opposed to only on those concluded during the registration year. In fact, by focusing only on agreements concluded during a specific year, the scope and coverage of collective bargaining may be largely under-estimated, as it could be possible that numerous agreements concluded in previous years remain valid.

In order to measure the number of workers covered by each agreement and by all agreements in total, it is essential to have all the relevant information on the scope of application of each agreement and reliable estimates of the number of workers in each corresponding group. Care should also be taken to avoid possible double counting of workers covered by more than one agreement simultaneously (for instance when agreements were concluded at different levels).

It may happen that the administrative record does not have full coverage of the national territory, perhaps because agreements pertaining to a specific geographical area or economic activity are kept by a different agency. In these cases, it is crucial to provide detailed information on the coverage of the record along with the statistics, to ensure their correct interpretation. For instance, if the agency keeping the administrative record is only responsible for agreements in non-agricultural activities, then the statistics derived from this record would cover only non-agriculture, and this should be clearly indicated. It should also be kept in mind when calculating collective bargaining coverage rates: in this example, the numerator of this rate would be referring only to non-agriculture, which means that for consistency, the denominator should be employees in non-agriculture rather than all employees.¹⁸ When the registration of agreements with one central agency is not compulsory, the statistics would not be fully comprehensive and it would be hard to know to extent to which they are not. Thus, in those cases it would be best to refrain from disseminating the statistics or using them for collective bargaining analysis.

4.1.1. Collective agreements: the primary source of information

The text of the collective agreements signed per se is a very rich source of information, possibly the richest, but this depends on the regulations and practices underlying the conclusion of collective agreements. For instance, is there a required format for the agreements? What are the required fields in a collective agreement (if any)? Do the signing parties tend to include all the necessary information in the agreements? Can agreements be read independently and understood, or are there usually references to previous agreements? The response to all these questions will have a significant impact on the possibilities for data production, and the data quality will depend greatly on the procedures of registration and storage of collective agreements.

For the purposes of deriving statistics from the information contained in collective agreements, it is desirable to have all the relevant fields filled in (in all agreements), that is, the fewer missing values the better. One way to guarantee that the information is exhaustive is by making all the key fields and clauses in collective agreements mandatory. In fact, imposing the use of a template form for collective agreements and providing detailed guidance on how to fill in this form would significantly benefit the subsequent data production. Data of increased quality on collective agreements is highly useful for the bargaining units to inform their future negotiations, as well as for policy-makers to design evidence-based programs.

The main items of information (variables) which should be clearly and accurately reported in any collective agreement include:

- the name of the bargaining parties
- the date when it was signed
- the term of validity (the date of entry into force and the date of expiry – or conditions for its expiry if its duration was indefinite)
- the relationship with previous agreements (whether it supersedes and replaces previous agreements and if so, which ones)

¹⁸ Or employment in non-agriculture rather than total employment, when the reference group for the rate is total employment instead of paid employment.

- the scope of application (geographic areas covered, economic activities covered, establishments covered, types of workers covered, etc.), whether it is automatically applied also to certain groups of workers, and if so, which ones
- the number of employees or persons employed covered
- the definitions of important terms used in the agreement (especially when jargon is used)
- the subjects regulated and the specifications of the regulation
 - Remuneration: the type of remuneration regulated (such as wages or salary), the type of rates of pay (minimum wage, starting out minimum wage, bonuses, etc.), the amount established and per what time unit, when and how remuneration shall be paid (including at what intervals, and whether in arrears or in advance). Ideally, each agreement should stand alone, and thus, the amounts or per cent increase negotiated should be clearly stated rather than presenting for instance an increase in percentage as compared to what was established in a previous agreement.
 - Allowances (such as meal allowance, travel allowance, and training allowance): amount per time unit.
 - Hours of work: number of hours of work for full-time employees (and part-time employees, where applicable) per week, specifications about the work day (starting and finishing time) and work week (rest days).
 - Overtime: definition of overtime, pay rate for overtime, limitations of overtime.
 - Annual leave: number of days or weeks of leave per time unit (calendar year, year of service, month of service), criteria to take leave (notice required, possibility of taking leave in advance, how much leave can be taken at once), conditions for being remunerated for leave not taken.
 - Termination: notice period and other conditions.
- the procedure to settle disputes between signing parties regarding the agreement.

New Zealand represents a good example of providing guidance to workers and employers on collective bargaining and the establishment of collective bargaining agreements. The official website of Employment New Zealand, a unit of New Zealand's Ministry of Business, Innovation and Employment, presents detailed information on what collective agreements are, the requirements they must fulfil and the optional clauses they may include. It also puts at the disposal of the public a downloadable template for collective agreements, with draft clauses and helpful clarifications.¹⁹ Another example is the Spanish Employment and Social Security Ministry, which disseminates useful information on the conclusion and registration of collective agreements, and even publishes statistics on collective bargaining derived from the registry of collective agreements.²⁰ The Ministry's National Consultative Commission on Collective Agreements publishes a guide on collective bargaining annually which comprises valuable information on the legislation regulating collective agreements, good practices in terms of collective bargaining and template forms for the registration of collective agreements.²¹ Also, Chile's Labour Direction publishes online thorough information on collective bargaining, the rights and duties of each party, the accepted negotiation procedures, the legal framework for collective agreements, and suggested contents of the agreements.²²

¹⁹ This information can be accessed in the website of Employment New Zealand, at <https://www.employment.govt.nz/starting-employment/unions-and-bargaining/collective-agreements/>.

²⁰ This information can be accessed in the website of the Spanish Ministry of Employment and Social Security, at http://www.empleo.gob.es/es/sec_trabajo/ccncc/index.htm (in Spanish).

²¹ The annual guides are available at http://www.empleo.gob.es/es/sec_trabajo/ccncc/B_Actuaciones/Guia/guia_negociacion_colectiva.htm (in Spanish).

²² This information can be accessed in the website of the Labour Direction, at <http://www.dt.gob.cl/portal/1628/w3-propertyvalue-23054.html> and <http://www.dt.gob.cl/portal/1628/w3-propertyvalue-22080.html> (in Spanish).

The Labour Direction's *Statistical Yearbook* includes a chapter on collective bargaining presenting detailed statistics derived from the registry of collective agreements.²³

4.2. Household surveys (most notably, labour force surveys)

Data on collective bargaining coverage could also come from a household survey, most typically a labour force survey (labour force surveys are the type of household surveys most likely and better suited to compile information on specific labour market matters such as collective bargaining). Data on collective bargaining can only be derived from household surveys when appropriate questions on collective bargaining are included in the survey questionnaire. Household surveys do not yield information on other aspects of collective bargaining than its coverage (in number of workers covered), as the information is collected directly from individuals (household members), who are not necessarily equipped to respond on specific issues pertaining to collective agreements other than whether or not they are covered by one.

As household surveys cover the whole working-age population within the survey sample (including all persons employed regardless of their economic activity, occupation or status in employment, all those unemployed and persons outside the labour force), they provide a coherent framework for labour market analysis using various labour market indicators, including industrial relations indicators such as the collective bargaining coverage rate. In fact, there are two aspects of union activity which are interlinked and should thus be analysed together whenever possible: union membership and collective bargaining coverage, measured via the trade union density rate and the collective bargaining coverage rate, respectively. Whenever the survey questionnaire includes questions on both unionization and coverage by collective agreements, the survey would be a good potential source for industrial relations statistics, as the consistency between these two indicators would be ensured. The same survey would also provide the statistics required for the denominator of these two rates (paid employment or total employment), which further increases the indicators' robustness. Unionization data, collective bargaining coverage data and employment data from the same survey share the same methodology, geographical coverage, reference population, reference period, etc., making the resulting trade union density and collective bargaining coverage rates coherent and consistent. However, it is important to note that the possible reference groups for statistics on unionization and collective bargaining coverage are determined by the location of the corresponding questions in the survey questionnaire: if these questions are asked to all persons employed, then it would be possible to have unionization and bargaining coverage statistics for both employees and the self-employed, but if on the contrary (and this is the most common practice), these questions are asked only to employees, then the reference group can only be paid employment.

Another major advantage of household surveys as a source of industrial relations statistics is that data can be cross-tabulated with numerous variables of interest, as these surveys also compile information on many items related to the individuals' labour market and socio-economic situation. Statistics on collective bargaining coverage could be presented using breakdowns such as sex, age, economic activity, occupation, earnings, working time, nationality, etc., which is very valuable for in-depth labour market analysis.

Moreover, given that the unit of analysis in a household survey is the individual, each person would only be counted once, avoiding issues of double-counting sometimes encountered in administrative records. Persons covered by more than one collective agreement simultaneously are counted once in the bargaining coverage figures, and persons affiliated to more than one union or who changed unions recently are counted once in the unionization figures. Also, as the information comes from the individual directly, the person would be in a position to accurately state whether they are currently covered by a collective

²³ The *Statistical Yearbooks* of Chile's Labour Direction from the 2010 edition onwards are available at http://www.dt.gob.cl/portal/1629/w3-propertyvalue-76577.html#articulos_periодо_group_pvid_27488 (in Spanish).

agreement or not, regardless of when the agreement was concluded, ensuring that the coverage figures include workers covered by all agreements in force (rather than by just the agreements concluded during the reference period, which is sometimes what administrative data refers to). The respondent is also able to correctly inform whether or not they are currently affiliated to a union, surmounting data quality issues related to the timeliness of updating administrative records (in some cases workers having recently quit or who recently joined the union would be reflected in the unionization statistics only at a much later date).

In addition to increasing data quality and consistency, labour force surveys promote international comparability of collective bargaining statistics, since these surveys' methodologies are more consistent from country to country than those of administrative records or establishment surveys, and usually apply international standards and operational criteria recommended at the international level.

Nevertheless, the reliability of the collective bargaining coverage data derived from household surveys depends heavily on the accuracy of the respondents and the extent to which they are aware of their coverage status. Also, in household surveys, one member of the sampled household will often provide the required information on all the members of the household, and it is possible that the respondent would not know with precision the collective bargaining coverage status of the other persons in the household.

Furthermore, household surveys entail sampling errors, the extent of which depends on the sample design.²⁴

Also, it is necessary to note the critical importance of the formulation of the question on collective bargaining coverage and how respondents understand it. The wording of the question will determine to a great extent the accuracy of the results. When interpreting collective bargaining coverage statistics from household surveys, it is essential to bear in mind the question or questions used to compile the data, as it determines what the data actually refers to. The question design also influences data comparability across countries, as not all questions would obtain exactly the same type of information. Box 1 presents some examples of questions used to compile information on collective bargaining coverage in labour force surveys in various countries.

²⁴ For more information on deriving industrial relations statistics from labour force surveys, refer to *Comparative Note - Collecting information through Labour Force Surveys*, available at <http://laborsta.ilo.org/applv8/data/TUM/Collecting%20Social%20Dialogue%20data%20from%20LFS%20-%20Comparative%20note.pdf>

Box 1. Examples of questions on collective bargaining coverage in labour force surveys

● **Cambodia – 2012 Labour Force and Child Labour Survey²⁵**

Characteristics of the main job/activity in the last 7 days (questions asked only to employees)

Are (NAME)'s pay and conditions of employment directly affected by agreements between (NAME)'s employer and any trade union?

● **Canada – Labour Force Survey²⁶**

Union block (questions asked only to employees)

- Is he/she a union member at his/her job [at name of employer]?

(If yes, skip next question)

- Is he/she covered by a union contract or collective agreement?

● **Malawi – 2013 Labour Force Survey²⁷**

Characteristics of main job/activity (questions asked only to employees)

Is there any collective bargaining agreement at your workplace?

● **South Africa – Quarterly Labour Force Survey²⁸**

Conditions of employment (questions asked only to employees)

How is the annual salary increment negotiated?

Individual and employer

Union and employer

Bargaining council

Employer only

No regular increment

Other

● **United Kingdom – Labour Force Survey²⁹**

Union representation block (questions asked only to employees)

Are your pay and conditions of employment directly affected by agreements between your employer and any trade union(s) or staff association(s)?

● **United States – Current Population Survey³⁰**

Questions asked only to employees

On this job, (are/is) (name/you) a member of a labour union or of an employee association similar to a union?

(If yes, skip next question)

On this job, (are/is) (name/you) covered by a union or employee association contract?

It is necessary to note that owing to the skip patterns in the questionnaires of Canada's Labour Force Survey and the United States' Current Population Survey, it is not possible to obtain data precisely on the number of employees covered by at least one collective agreement, but rather on the number of employees who are members of a union or are covered by a collective agreement. The information on collective bargaining coverage is compiled only for those employees who are not affiliated to a union, which presupposes that all employees members of a union are indeed covered by a collective agreement (i.e., that all unions took part in negotiations and signed agreements).

4.3. Establishment census and surveys

Although less frequently used for the purposes of deriving unionization and/or collective bargaining coverage statistics, establishment censuses and surveys can also provide such data. The statistics coming

²⁵ The survey questionnaire is available in *Cambodia Labour Force and Child Labour Survey 2012 – Labour Force Report*: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms_230721.pdf.

from establishment censuses and surveys tend to be highly accurate, as they are based on information taken directly from the establishments' payroll. Also, the establishment may have more detailed information on the collective agreements covering its employees than simply the number of workers covered (contents of the agreements, duration, method of conclusion, etc.). However, the availability of this information will depend on the questionnaire design.

Establishment censuses and surveys will also accurately refer to the number of persons covered by all collective agreements in force, including those covered by agreements concluded in previous years but still valid. Data from establishment censuses and surveys also correctly count persons in jobs covered by collective bargaining and/or affiliated to a union within each establishment, preventing any double-counting within the establishment. However, it is important to note that the analysis unit in establishment censuses and surveys is the job, not the individual. Thus, a person holding two jobs in two different establishments may be counted twice in an establishment survey (with the specific number of hours worked in each job taken into account). Unique unit identifiers can be used to avoid such double-counting.

Furthermore, data from establishment surveys refer only to employees (who are the type of workers employed in establishments), excluding the self-employed (own-account workers, contributing family workers, etc.). Hence, unionization and collective bargaining coverage could only be studied among employees when data is derived from establishment surveys (preventing the use of total employment as the reference group). Also, establishment surveys are usually limited in their coverage: it is not uncommon for them to cover only establishments above a certain size and/or in certain economic activities such as non-agricultural private enterprises. Thus, data from establishment surveys usually excludes the informal sector and agriculture.

Peru, for example, compiles a vast range of information from a sort of establishment survey in the form of electronic forms to be filled in by establishments. Submitting the completed forms is compulsory for many establishments (establishments fulfilling some specific criteria), which ensures that the resulting statistics are timely and comprehensive. The statistics produced cover a wide range of labour-related topics, including collective bargaining coverage and union membership.³¹ Germany also has an establishment survey, allowing for the compilation of comprehensive information on numerous labour-related indicators, including collective bargaining coverage data. The sample for this survey includes establishments of all sizes and from all economic activities nationwide.³²

²⁶ Canada's Labour Force Survey questionnaire is available at http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=getInstrumentList&Item_Id=250620&UL=1V&.

²⁷ The survey questionnaire is available in the *Malawi Labour Force Survey 2013 Report*: http://www.nsomalawi.mw/images/stories/data_on_line/demography/Labour%20Force/Labour%20Force%20Survey%202013/Malawi%20Labour%20Force%20Survey%202013%20Report.pdf.

²⁸ Information on South Africa's Quarterly Labour Force Survey is available at http://www.statssa.gov.za/?page_id=1854&PPN=P0211.

²⁹ The United Kingdom's Labour Force Survey questionnaire is available at <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance#2018-update>.

³⁰ The Current Population Survey questionnaire is available at <https://www.census.gov/programs-surveys/cps/technical-documentation/questionnaires.html>.

³¹ More information on Peru's Planilla Electrónica can be found in the website of the Ministry of Work and Employment Promotion, at <http://www.mintra.gob.pe/mostrarResultado.php?id=606&>

³² More information on the IAB Establishment Panel can be found in the website of the Institute of Employment Research, at <http://www.iab.de/en/erhebungen/iab-betriebspanel.aspx>

4.4. Special data collections and other sources

Aside from the more traditional statistical sources (household and establishment surveys) and administrative data, other methods can be used to derive collective bargaining statistics, depending on the national context.

These other possible methods of data compilation are numerous and varied. They include making robust estimations based on legislation that is widely implemented and reliable legal framework information (here, the quality of the statistics will be determined by the accuracy of the estimation method used), combining different parcelled sources to obtain a more comprehensive data series or to cancel out the disadvantages of each source (for instance, where data sources are available per region or per economic activity, or when administrative data has a wider coverage than the labour force survey but the survey has better coverage for some specific groups), and doing special data collections by gathering data from different informants (surveying various union confederations and large establishments, conducting research on media reports and academic papers, etc.).

For example, Switzerland's Federal Bureau of Statistics conducts a survey of collective agreements every two years. This is a large data compilation effort where detailed information on each collective agreement signed is requested from the signing parties (employers, employers' organizations and unions). The survey provides data on the number of agreements in force, the number of workers covered, the number of establishments covered, the scope of application of each agreement, and the subjects covered.³³

4.5. Considerations on sources of collective bargaining statistics

The wide variety of potential sources of collective bargaining statistics, each with its own methodology and coverage, hinders data comparability across countries and over time (when different sources are used for different years). To ensure that trends analysis of collective bargaining is accurate and reliable, the statistics must pertain to one time series, coming from one source and with a stable methodology. If data availability is scattered over time, (e.g. only a few data points are available from each source), it is still preferable to choose the source deemed to have the most robust methodology and refer only to the few data points available from that source, rather than filling in the gaps with data from other sources that may not be strictly comparable. Building a time series by putting together data from different sources results in a patchwork of data (referring to different reference populations, areas, time periods, etc.) which fosters misleading conclusions in terms of trends analysis. Even when using one consistent source of data, the methodology for this source may have been revised at certain points in time, causing breaks in the series. The impact of these breaks should be assessed and taken into account when studying the evolution of indicators over time.

For cross-country comparisons or studies of regional patterns, the international comparability of the data is crucial. Thus, it is important to have all the relevant metadata and methodological information on data from each country, and include in the analysis only the data that are sufficiently comparable. When disseminating data, it is essential to publish the accompanying metadata, especially stating any deviations from international standards or common practices.

³³ More information about the Survey of Collective Agreements can be found in the website of Switzerland's Federal Bureau of Statistics, at <https://www.bfs.admin.ch/bfs/fr/home/statistiques/travail-remuneration/enquetes/egs.html> and the results from the latest survey (2016) are available at <https://www.bfs.admin.ch/bfs/fr/home/statistiques/travail-remuneration/conventions-collectives-travail-partenariat-social.gnpdetail.2017-0305.html>

Each possible type of source of data on collective bargaining has a specific methodology, coverage, scope and content. The characteristics of the source used will determine the reliability, quality, coverage, underlying concepts, units, reference periods, etc., of the resulting statistics, and must be kept in mind when interpreting them.

Particular attention needs to be paid when calculating collective bargaining coverage rates to ensure as much as possible that the numerator and the denominator are consistent and have the same coverage, even when the two cannot be derived from the same source.

It is very likely that, in order to make a complete analysis of the state of collective bargaining and its role in the labour market, it will be necessary to use more than one source of data. In fact, a thorough analysis would involve various types of data and information, and include both quantitative (statistical) and qualitative (legal framework) indicators. The data on one indicator should come from the same source for the whole series to ensure consistency, but when several indicators are used, and they are not available all from the same source, various sources can be utilized, as long as the impact of their methodological differences is taken into consideration.

5. Challenges and considerations

5.1. Data availability

The main challenge in the field of collective bargaining statistics is data availability. As mentioned above, there are various possible sources for these statistics, but in many cases none of them are available. Sometimes administrative records with information on collective bargaining do exist, but as they are not comprehensive and they do not follow rigorous recording procedures, the information produced does not fulfil the quality requirements to be considered reliable statistics.

When official collective bargaining statistics are not produced but such records do exist, it is possible to work on the registration process to improve it and turn it into a solid source of statistics at little cost.

In contexts where there is a regular labour force survey in place, or a one-off labour force survey is being planned, it could be beneficial (and cost-effective) to add a question on coverage by collective agreements to the survey questionnaire.

In the absence of any reliable data sources, estimation methods can be used to derive collective bargaining statistics, provided that the underlying information needed for the estimations is available from reputable sources. For instance, if the law states that all employees of certain categories are covered by a nationwide agreement, there are enough respectable sources stating that this holds true in practice, and there are precise statistics available on the number of employees in the relevant groups, then an estimation could be made of the number of employees covered by collective agreements.

5.2. Data comparability across countries and over time

Cross-country labour market analysis and trends analysis are only solid insofar as the data on which they are based is comparable across countries and over time. This implies consistency of methods, in terms of concepts and definitions, coverage, reference periods, units of measurement, units of analysis, etc.

Reference periods are of particular importance in the consistency of collective bargaining coverage statistics. Especially when the source is administrative records, it is crucial to distinguish between the date

of registration of the agreement in the corresponding record, the date of conclusion of the agreement and the dates when it would be valid.

Concerning statistics on the number of workers covered by collective bargaining, these should refer to actual persons (and not to units covered by bargaining), that is, workers covered by more than one agreement should be counted only once, which requires being able to identify individuals under the scope of each agreement and recognise if they overlap. The number of workers covered by collective bargaining should also include workers covered in virtue of extension clauses in the agreements. In addition, the heterogeneity of subjects negotiated collectively and determined through collective agreements hinders the comparability of collective bargaining coverage statistics. Ideally, to refer to collective agreements of similar significance to workers' conditions, only agreements dealing with remuneration should be considered. All of these points should be applied (to the extent possible) to all the statistics comprised in the analysis; that is, all data points across countries and over time. When some values do not respect this, it is necessary to assess the extent to which the deviation hinders data comparability, based on information on the national labour market, industrial relations system and legal framework. If the impact is not considerable, the values can be kept, clearly stating their specificity; otherwise, they should be removed from the analysis and/or the database.

As stated previously, the collective bargaining coverage rate could be calculated for different reference groups: using paid employment as the reference group would give the share of employees who are covered by collective bargaining, while using total employment as the reference group would give the share of persons in employment who are covered by collective bargaining, and using employees with the right to collective bargaining as the reference group would indicate the share of employees with the right to collective bargaining who are covered by collective bargaining. The reference group chosen should be the same for the numerator and the denominator (for instance, own-account workers covered by collective bargaining should be included in the numerator when the reference group is total employment). When disseminating data on collective bargaining coverage rates, it is essential to plainly state what these rates are referring to. It is also important that the reference group is consistent for all data points included in the analysis or database, to avoid reaching misleading conclusions. When interpreting collective bargaining coverage rates, knowing the reference group used for the calculation is crucial, as it greatly impacts what the statistics convey.

5.3. Importance of data disaggregation

When data availability permits, it is useful to produce collective bargaining coverage statistics disaggregated by items such as sex, age, status in employment, economic activity, occupation, job tenure, geographic region, urban/rural areas, nationals/migrants, etc. Disaggregated statistics allow for the identification of specific issues in the labour market, to pinpoint the categories of workers that are most vulnerable, and to single out areas of particular concern. They also show improvements or deterioration in collective bargaining by region or economic activity, which may be masked when looking at the overall national trend. Disaggregated statistics can better guide the work of policy-makers, and help unions and employers' organizations to optimize and target their activities.

Detailed disaggregated data usually comes at the cost of data reliability, at least when it comes to survey data. Sample design enables the production of disaggregated data but only to a certain level of detail. Estimations for very small areas or reduced groups tend to be unreliable. Thus, disaggregated data should be used as a tool for in-depth analysis, but keeping in mind the trade-off with data reliability, and referring to categories broad enough to ensure data quality.

5.4. Impact of the coverage of the statistics

The characteristics of the source determine the coverage of the statistics. The scope of statistical sources is sometimes less than comprehensive (for instance, a source could cover only urban areas, or only non-agricultural activities, or only the private sector), thus, in order to ensure the correct interpretation of the data, it is critical to have all the relevant information on the coverage of the statistics.

It is also crucial to distinguish between the coverage of the statistical source, and the coverage of collective bargaining (or the coverage of the right to collective bargaining).

For example, if a given statistical source covers only the private sector, it will furnish data only on workers covered by collective bargaining in the private sector even though workers in the public sector could also potentially be covered by collective bargaining. When calculating the collective bargaining coverage rate in this case, the most accurate procedure would be to remove public sector workers from the denominator, and have both the numerator and the denominator refer to the private sector only.³⁴ The resulting rate would actually be the private sector collective bargaining coverage rate, and no information is conveyed on the public sector (as no information is available for it). By leaving public sector workers in the denominator (but excluding them from the numerator, given that the data source does not cover them) we would be underestimating the overall collective bargaining coverage rate, assuming that the coverage rate for the public sector is zero per cent.

However, if the statistical source does indeed cover the whole economy (private and public sectors) but public sector workers do not bargain collectively, then the number of workers covered by collective agreements in the public sector is known, and it is zero. In this case it is appropriate to leave both private and public sector workers in the denominator of the collective bargaining coverage rate, as the resulting rate would be properly depicting the extent of collective bargaining in the labour market.

5.5. Analysis of collective bargaining through a coherent set of indicators

In order to do a complete analysis of industrial relations and their impact on the labour market, it is necessary to interpret all the relevant indicators together, as a coherent set, and not to refer solely to the collective bargaining coverage rate. In fact, the collective bargaining coverage rate is a key social dialogue indicator, but an insufficient one, and it should be complemented by other relevant measures.

Union activity is usually assessed through unions' membership and unions' participation in collective bargaining, which are measured through the union density rate and the collective bargaining coverage rate. Collective bargaining and unionization are intertwined, which is why the trends and patterns in union density and collective bargaining coverage rates should be analysed together.

Employers and employers' organizations are part and parcel of social dialogue and industrial relations, so indicators measuring their extension such as the employers' organizations' density rate³⁵ can also be referenced when analysing collective bargaining.

³⁴ Assuming that the denominator is coming from a different source, such as a labour force survey covering the whole economy.

³⁵ The employers' organizations' density rate can be calculated either as the share of employees employed in establishments members of employers' organizations, or as the share of enterprises members of an employers' organization. The first rate would more accurately depict the situation in the labour market, as it would reflect differences in establishment sizes (whereas in the second rate all enterprises have the same weight regardless of the number of workers they employ).

The collective bargaining coverage rate (even when analysed alongside the trade union density rate) does not express the whole reality of industrial relations in a country. It needs to be interpreted cautiously, particularly taking into account the corresponding national legal framework. There are a lot of essential aspects of social dialogue that this rate does not reflect, such as the bargaining power of unions, the outcome of the negotiations, the treatment of the right to collective bargaining and the right to unionize in law and in practice, etc. Thus, a number of legal framework indicators can be added to the analysis to provide contextual information, for instance on the extension of collective agreements, the bargaining structure, the level of bargaining and the degree of bargaining coordination. It may also be useful to have data on the number of collective agreements reached and their characteristics (the subjects covered, the outcome of the negotiation, the duration of validity, etc.). Where data permits, it may be interesting to assess the evolution of the items negotiated from the beginning of the negotiations to the outcome (that is, how far was the end result signed in the agreement from the initially desired outcome for each party).

The structure, composition and developments of the labour market will impact the status of collective bargaining. Thus, the study of collective bargaining should be positioned within a broader labour market study, taking into account the characteristics of the employed population, its composition by age, status in employment, economic activity, occupation, etc., the prevalence of informality and unemployment, the emergence of non-standard forms of employment, the share of part-time workers, and the share of workers with temporary contracts, among others.

6. Concluding remarks

Statistics on collective bargaining and collective agreements are crucial to inform labour market analysis and policy formulation, and to enable social partners to negotiate more effectively. However, data availability remains an important challenge, and even when data is available, several methodological difficulties may affect the reliability of the statistics. Measures should be taken to ensure that collective bargaining data is valid, timely, consistent and comparable.

The collective bargaining coverage rate represents the main statistical indicator on collective bargaining. It is a very useful measure providing an indication of the extent to which workers' conditions are determined through collective bargaining, and insights on the scope and role of collective bargaining in the labour market. Internationally, this indicator commonly refers only to persons in paid employment, that is, employees. With a view to promoting the international comparability of the data and enabling a statistical framework valid in all countries (even those where paid employment does not represent such a prominent share of total employment), the collective bargaining coverage rate can also be calculated referring to total employment. The joint study of the two types of rates casts light on the vulnerability of the self-employed and the extent to which collective bargaining manages to secure decent working conditions for all (not just employees).

The national context, the traditions in terms of industrial relations and the legal framework all have an unquestionable impact on the scope and quality of collective bargaining, which is why they should be taken into account in any type of collective bargaining analysis, and especially when interpreting collective bargaining coverage rates.

The collective bargaining coverage rate is a key labour market indicator, but it is not an exhaustive measure of the state of collective bargaining and social dialogue in a given context. Thus, it should not be analysed alone but rather be complemented with information on the national context, the legal framework, and other labour market indicators. For analysis of collective bargaining trends to be relevant, factual and informative, it should be encompassed in a broader labour market analysis.

Collective bargaining in labour market governance influences many aspects of the labour market, and more importantly, it affects many workers' lives and livelihoods. Collective bargaining is closely linked to unionization, the formalization of the economy, the elimination of inadequate employment situations, and the promotion of decent work in general. Statistics on collective bargaining and particularly on the collective bargaining coverage rate are critical for enabling the measurement of progress towards the achievement of decent work for all. When disseminated and interpreted alongside other crucial labour market indicators covering the key labour-related topics, they become a powerful tool of information for all types of labour market actors.

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