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Industrial Democracy in Europe: a quantitative approach

Industrial democracy is a dimension of industrial relations which has been largely studied. However, the international comparison of the different features and outcomes of industrial democracy has attracted much less attention. The article addresses this gap by developing three tools: a dashboard of indicators, a composite indicator aiming to measure performance, and a typology addressed to better understanding varieties of national industrial relations systems. Whilst industrial democracy performance is defined in a normative way, the typology includes also other aspects related to industrial relations institutions, processes and actors. Both normative and non-normative indicators are included in the dashboard. The three tools allow for cross-time analysis and are seen as complementary for the comparative analysis of industrial democracy in Europe.

Key words

Industrial democracy, industrial relations, dashboard, composite indicator, typology

Introduction

Industrial democracy, broadly understood as the governance of the employment relationship based on social dialogue, collective bargaining and workers' participation at company level, is a defining feature of European industrial relations in comparison to other industrialised or industrialising regions of the world mostly relying on the market or the State (Marginson, 2017; Eurofound, 2016).

Comparative research on industrial democracy has become a key issue, particularly at European level, where recent research has shown, especially since the 2008 crisis, persisting country diversity as well as complex patterns of change (ETUI, 2019; Hyman, 2018). The starting point for the empirical comparative analysis of industrial democracy is to establish a definition, a task which is essentially normative in nature. Yet specialised literature offers diverse definitions and is rather fragmented (González Menéndez and Martínez Lucio, 2016), making it complex to delimitate the boundaries of the concept of industrial democracy and carry out an international comparison of its different features and outcomes.

While it is central to most of the current approaches to industrial democracy that employees have the opportunity and the means to have a say in an employer's decision-making process at different levels, there is not a consensual definition (Markey and Townsend, 2013). Conceptualisations of industrial relations differ in terms of their main focus. Whilst some approaches rely on the micro or company level, analysing the institutional characteristics and outcomes of different forms of employee participation at company level (Brewster et al., 2015; C Van Gyes 2016; Eurofound, 2015), the large majority of comparative research focuses on the macro or institutional level, addressing topics such as corporatism, social dialogue and multi-employer bargaining.

Beyond the problem of definition, there is also the thorny question of how to systematise the changing patterns of industrial democracy across Europe. Industrial relations typologies have proven to be relevant heuristic tools to understand cross-country diversity by grouping national industrial relations systems that share common patterns and institutions (Hyman, 2018). The most quoted industrial relations typologies, such as the one created by Visser (2009), have been theoretically inspired by production and employment regimes approaches (Hall and Soskice, 2001; Gallie, 2007). Visser's (2009) typology, which distinguishes five main clusters, has been confirmed in alternative typologies focused on employee representative institutions at company level and relying on different indicators (Berg et al., 2013). However, it has been also criticised for the presumed homogeneity of some of its types, such as the 'state-centred' model in southern Europe (Meardi, 2018) and, especially, the 'mixed or transitional' cluster (transition to where?), which groups together most of the post-communist central eastern European countries (Bernaciak, 2015; Bohle and Greskovits (2007, 2012).

From a theoretical perspective, typology-building has been mainly criticized for its emphasis on system cohesiveness and stability, considering it echoes the institutional functionalism approach of many contributions in this field (González Menéndez and Martínez Lucio, 2014). Other aspects of existing industrial relations typologies have been also criticised, namely their focus on institution and norms, which entails neglecting or

underestimating the importance of actor-based factors (Baccaro and Howell, 2017), and their failure to take into account changes, and namely the impact of the 2008 crisis, due to an oversimplification of the complex realities in the countries (Meardi, 2018). Alternative approaches have analysed and discussed recent patterns of change by focusing on national systems of industrial relations instead of clusters of countries. Methodologically, these studies rely either on dashboards of quantitative indicators (Marginson, 2017; Baccaro and Howell, 2017) or composite indicators (Meardi, 2018; Kim et al., 2015) as tools to analyse and assess national trends. Nevertheless, these studies show great differences in terms of results, both in regard to the overall assessment (stability vs. change) as well as in relation to patterns of change (convergence vs. divergence).

The current article, which is based on two research projects commissioned by Eurofound, draws on a comprehensive definition of industrial democracy developed by Eurofound (2016) which covers both the macro or institutional level and the micro or company level. The definition relies on the theoretical pluralistic perspective, and was developed in consultation with Eurofound's tripartite stakeholders (employers, trade unions, governments) in order to foster a shared understanding of the concept. It is also in line with the key institutional pillars of the industrial relations approach of the European social model. Drawing on this definition, the article develops three methodological tools to analyse industrial democracy. First, it selects a set of indicators to build an index or composite indicator to measure performance in industrial democracy. Performance is defined in a normative way, meaning that the index only includes indicators which can be interpreted unambiguously, either "positive" or "negative" in terms of industrial democracy. Second, it selects a set of non-normative indicators to measure other features of industrial democracy, related to institutions, processes and actors. Third, the resulting dashboard of normative and non-normative indicators are used to conduct a cluster analysis to map varieties of industrial democracy, considering not only differences in the extent of performance but also diversity in other relevant features. The three tools (dashboard, index and typology) include annual data for the period 2008-2017 from different European data sources, which are summarised in two time periods (2008-2012 and 2013-2017). This means that both performance and other features can be analysed over time.

The main goal of this research is to help scholars, policy makers and social partners to monitor and analyse the contribution of industrial democracy to the governance of employment relationships in Europe. For this purpose, the article provides three different and complementary tools, which are not only based upon well-accepted theoretical elements, but also aligned with the industrial relations approach of the European social model and the underlying consensus among trade unions, employers' organisations and policy makers. Having accurate tools for enabling comparative analysis and supporting reflection and mutual learning processes is of utmost importance in current times, characterised by controversy about the meaning and purpose of industrial democracy, complex evolving trends and, in some countries, sharp recent changes. In this sense, the three tools are seen as complementary for monitoring and analysing industrial democracy trends across countries and over time. While the index is built to measure and summarise performance, the typology is useful for better understanding cross-country diversity in terms of both performance and institutional features. Finally, the dashboard allows for monitoring both normative and non-normative indicators and enables to conduct further analysis.

The article is structured as follows. First, the article provides the theoretical definition of industrial democracy used in the study. Second, it describes the methodology followed for selecting indicators, building the index and conducting the cluster analysis. Third, it presents the results of both methodological tools from a static and a dynamic point of view. Finally, the article discusses the results obtained.

Defining industrial democracy

Scholars often disagree about the terminology and definitions used for different forms and schemes through which workers and employees' representatives (trade unions, work councils, etc.) can have a say on employment and working conditions. Whilst some authors prefer the term 'employee involvement', others adhere to the term 'voice' or 'employee participation'. Different terms reflect competing theoretical and methodological foundations or 'frames or references', basically the unitarist, pluralist and radical schools of thought (Heery, 2015). Accordingly, terms addressing industrial democracy have multiple meanings and focus on different forms or schemes (Markey and Townsend, 2013; Wilkinson et al., 2014). Economic or business arguments within HRM approaches support a functional understanding of voice or 'employee involvement' which, in the hardest unitarist variants, is only acceptable if it entails benefits for employers (Johnstone and Ackers, 2015). On the contrary, the classic and contemporary pluralist approaches (Webb and Webb, 1898; Clegg, 1960; Budd, 2004) conceive industrial democracy as an end in itself, based on moral and political fundamental rights, and as a means to achieve other ends. The ends to be achieved are associated with the maximization of shared interests in the employment relationship and the conciliation of conflict of interests between management and workers through strategies of pursuing mutual gains (Heery, 2015). Authors ascribed to radical or critical approaches agree with pluralist approaches that industrial democracy is both an end in itself and also a means to achieve other valued ends (Gumbrell-McCormick and Hyman, 2013). However, as opposed to pluralists, critical approaches mainly understand industrial democracy as a means to improve working conditions or, in the most radical versions, to establish alternative forms of work organisation and production that enhance workers' control (Heery, 2015; Hartzén, 2019).

In this article we use the term industrial democracy coined by Sidney and Beatrice Webb (Webb and Webb, 1897, 1898) and follow Eurofound's (2016, 2018) definition. Industrial democracy is defined as encompassing all the participation rights of employers and employees in the governance of employment relationships, either directly or indirectly, via trade unions, works councils, shop stewards or other forms of employee representation at any level (Eurofund, 2016). In order to operationalise the above definition, Eurofound decomposes industrial democracy in four dimensions:

- autonomy: the principle of autonomy of social partners, is mainly understood as the autonomy of collective bargaining. This principle is embedded in most of the legal systems of the EU28ⁱ as well as in a variety of texts of international and European organisations, such as Articles 5 and 6 of the European Social Charter, Article 11 of the European Convention on Human Rights of the Council of Europe, and Conventions 87 and 98 of the ILO. The principle of autonomy of the social partners, being anchored both in national as well as in international legal systems, has been recognised as one of

the general principles of EU law according to Article 152 of the Treaty on the Functioning of the European Union (TFEU);

- representation: the right of employees to seek a union or works council/working committee to represent them for the purpose of bargaining. Employee representation is rooted in the labour codes on trade unions and representation of workers at the workplace in most of the Members States of the European Union (EU). At macro-level it is associated with trade unions, collective bargaining and social dialogue institutions and processes. At micro-level it is associated with various forms of workers' representation, such as trade union sections, work councils, etc.;
- participation: refers to employees' involvement in management decision making at company level either directly or indirectly. Participation at company level can be mapped along a continuum from no participation to co-determination. Intermediate levels would include participation practices in which, in line with Directive 2002/14/EC, employees receive information or are, in a further step, consulted;
- influence: influence is linked to bargaining power and the relative ability of the two sides of industry to exert influence over the other side in the context of collective bargaining or management decision making (Eurofound, 2016).

This definition of industrial democracy has several advantages over other alternatives for comparative research. From a normative point of view, it draws on a pluralistic theoretical approach which recognises the goals of employers and employees on an equal footing (Barbash, 1984; Meltz, 1989; Budd, 2004). In accordance to this pluralistic approach, this definition relies on a shared understanding between social partners and governments, as it has been discussed and accepted by the social partners and governments which are represented within Eurofound's Management Board. Moreover, the definition is in line with the key institutional pillars of the industrial relations approach of the European social model (Marginson and Sisson, 2006). Finally, it is a multi-dimensional and comprehensive definition which covers both the macro or institutional level and the micro or company level of industrial relations.

Analysing industrial democracy: methodology

Based on Eurofound's (2016, 2018) definition of industrial democracy and a review of comparative literature, two different analytical tools have been developed: a composite indicator measuring performance of industrial democracy and a typology of industrial democracy in EU countries mapping cross-country diversity. Both analytical tools allow for a dynamic analysis, comparing two time periods (2008-2012 and 2013-2017).

Measuring performance and mapping diversity

A composite indicator measures a multi-dimensional concept which cannot be captured by a single indicator: it is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measuredⁱⁱ. In this article, the multidimensional concept is the performance of EU Member States in industrial democracy.

Whilst the main purpose of the composite indicator is to measure performance, the typology is a heuristic tool which helps to understand cross country diversity: the objective is to group countries with similar characteristics of industrial democracy. This means to put the emphasis on two different aspects: performance in industrial democracy (as measured by the composite indicator) and diversity of industrial relations actors, institutions and processes.

There is a clear difference between these two aspects. Performance is by definition normative and therefore has to be measured using indicators which can be unambiguously interpreted as either 'positive' or 'negative' in terms of industrial democracy. However, there are key industrial democracy issues which cannot be interpreted normatively in a straightforward way, namely collective bargaining settings and the role played by the state.

A defining feature of industrial democracy is the extent of centralisation and coordination of collective bargaining. While centralisation refers to the relevance of multi-employer collective bargaining, coordination can be defined as the integration or synchronization of wage policies of distinct bargaining units (Visser, 2013). However, neither centralisation nor coordination can be interpreted in a normative way. On the contrary, these settings have been at the core of recent debates on changes of industrial relations in Europe, in particular in relation to decentralisation trends promoted in the wake of the crisis.

The same holds true concerning the role played by the state, which is a crucial aspect of industrial democracy as discussed in the academic literature (Molina, 2014; Meardi, 2018). Collective autonomy in a specific country depends on historical factors as well as trade unions legacies and power resources. As a result, the assessment of state intervention in collective bargaining and wage regulation tends to vary across actors and countries - a fact which was clearly observed, for instance, in the debates on a possible European legal instrument on a national minimum wage. Moreover, state intervention in collective bargaining and wage regulation may have different purposes and rationales, leading to different outcomes in terms of efficiency, equity and industrial democracy.

Normative and contextual indicators

The computation of the index of industrial democracy (ID index) was based on the OECD-JRC methodology on building composite indicators (Nardo et al., 2005) which stresses that the quality of a composite indicator depends primarily on the soundness of its theoretical framework and the data used. The same can be said for typology building. In both cases, the point of departure was the definition of industrial democracy provided in the previous section, which is well-grounded in the literature and aligned with the main institutional pillars of European industrial relations. Furthermore, its relevance has been tested at national level through the Eurofound network of correspondents (Eurofound, 2016).

This conceptual approach guided the initial search of the most adequate indicators, combined with a literature review including the main international statistical sources from international associations and organisations such as ETUC, Eurofound and the ILO.

The indicators were assessed through the conceptual and statistical quality criteria presented in table 1 below, which are based on the quality assessment and assurance framework of the European Statistical System (ESS)ⁱⁱⁱ and the literature on selecting indicators.

Table 1. Quality assessment of the indicators

Conceptual and statistical criteria	
Relevance	Indicators should have a clear conceptual link with the industrial democracy dimensions of interest.
Accuracy and reliability	Indicators should be accurate and measure in a reliable way the phenomenon it intends to measure and is not confounded by other factors. Indicators should be sensitive to changes and changes in their values should have a clear and unambiguous meaning.
Intelligibility and easy interpretation	Indicators should be sufficiently simple to be intuitive and unambiguously interpreted in practice. Indicators should have a clear meaning with respect to the phenomenon analysed, either “positive”, meaning that higher values are considered positively, or “negative”.
Timeliness and punctuality	Indicators should be released in accordance with an agreed schedule and soon after the period to which they refer. There should be minimal time lag between the collection and reporting of data to ensure that indicators are reporting current rather than historical information.
Sustainability	It indicates the updating frequency of indicators. If an indicator aims to monitor progress, special one-off surveys should not be included.
Coherence and comparability	It shows whether concepts, definitions, methodologies and actual data are consistent internally and across space and over time.
Accessibility and clarity	It indicates if data is available and accompanied with adequate explanatory information (metadata).
Presence of missing data	It shows if indicators present missing values by Member State and time.
Identification of double counting	Each indicator should not overlap with other indicators, filling an essential gap in the theoretical framework or substantially increase the relevance of already existing indicators.

Source: Own elaboration.

Based on this assessment, potential indicators were divided in two groups: normative indicators, which measure performance and have a clear interpretation, either “positive” or “negative”, and contextual indicators, which measure other aspects of industrial democracy that cannot be interpreted in normative terms. Normative indicators were used to compute the index of industrial democracy whilst the typology was developed using both normative and contextual indicators.

Building the industrial democracy index

The industrial democracy index was built in the framework of a broader exercise, as one of the four composite indicators that form part of the Eurofound's industrial relations index (Eurofound, 2018; Meardi, 2020).

Once the initial list of potential normative indicators was selected, the next steps to build the index followed the OECD-JRC methodology (Nardo et al., 2015)^{iv} for guiding the final selection of indicators and the methodological choices for aggregation and weighting:

- Process indicators through different steps: time aggregation, imputation of missing data, winsorisation (to avoid the presence of outliers) and normalisation. Reversion was not necessary, as all the indicators are oriented in the same direction, meaning that higher values indicate better performance. The data was aggregated in two different periods (2008-2012 and 2013-2017) and three normalisation methods were applied, all of them designed to allow for comparisons over these two time periods.
- Establish the measurement framework: it is the final set of indicators used to compute the index and their structure in dimensions. This set is obtained from the initial list of potential indicators by applying different statistical methods: correlation analysis, Principal Component Analysis and Cronbach's Alpha Coefficient. This multivariate analysis enabled to study the overall structure of the data and to identify the set of indicators that work well together verifying statistically a structure of dimensions in line with the conceptual framework. The final set of indicators is presented in Table 2 below.
- Weight and aggregate indicators: The aggregation process requires to take a decision about the relative importance of each indicator and dimension, that is the weights to be used. According to the literature, any decision is essentially a value judgment as to the importance of each element that integrates the index. To build the index, three weighting methods were tested: equal weights by dimension, equal weights by indicators and statistical weights of indicators.^v Regarding the aggregation, indicators were combined using the arithmetic mean to calculate the dimension indices. To calculate the index two alternative were tested (geometric and harmonic averages) with the aim to reduce the compensability effect: a country with a low score for one dimension will need a much higher score on the others to improve the global score.

Table 2. Indicators of the Industrial Democracy Index

Indicator	Source
Trade union density	ICTWSS, ILO
Employers' organisation density	ICTWSS
Existence of a standard (institutionalised) bipartite council of central or major union and employers' organizations for purposes of wage setting, economic forecasting and/or conflict settlement	ICTWSS
Collective bargaining coverage	ICTWSS, ILO
Routine involvement of unions and employers in government decisions on social and economic policy	ICTWSS
Board-level employee representation rights	ETUC
Rights of works councils	ICTWSS
Status of works council	ICTWSS
Employee representation at the workplace (coverage)	Eurofound, ECS
Information provided to employee representation body (incidence)	Eurofound, ECS

Degree of information provided to employee representation body	Eurofound, ECS
Influence of the employee representation in decision-making at the workplace	Eurofound, ECS
Management holds regular meeting in which employees can express their views about the organisation	Eurofound, EWCS

Finally, the computation of the index was done following the multi-modelling approach applied in the construction of the Gender Equality Index (EIGE, 2017). It consists of the calculation of different indices considering the alternatives previously mentioned: normalisation (3 alternatives), weights (3 alternatives) and aggregation methods (2 alternatives)^{vi}. The index chosen is the option that provides the most robust results meaning the index that lies closest to the median of all the different options.

As a result of this procedure, the industrial democracy index is calculated as follows:

- Normalisation: min-max method based on the theoretical ranges. For each indicator, the value of each country is subtracted from the minimum value that the indicator can register theoretically, then divided by its range and finally, multiplied by 100. In case of indicators without a clear theoretical minimum or maximum, we take the corresponding minimum or maximum observed across countries for the two time periods considered together increased in one standard deviation. As a result of this process all the indicators normalized have an identical range, [0, 100].
- Weighting: equal weights indicators. All the indicators have the same weight. The weight of each dimension is calculated adding the weight of all the indicators that it includes.
- Aggregation: indicators are grouped with the arithmetic mean creating the index for each dimension. They are next grouped with the geometric mean to build the index.

Building the industrial democracy typology

The main purpose of the typology is to enable a better understanding of country-specific diversity in terms of industrial democracy. As explained earlier, the typology relies on two different kinds of indicators. On one hand, it includes the normative indicators of the index, which allow performance to be measured in different aspects. On the other hand, the typology includes contextual indicators which do not have a straightforward normative interpretation to assess industrial democracy performance but are considered useful with a view to achieve a more nuanced description of industrial democracy in the EU. In particular, contextual indicators were selected to address two aspects: 1) collective bargaining institutions or structures; and 2) the role played by the state in collective bargaining and wage regulation.

The methodology followed the OECD-JRC and other relevant literature^{vii}. The selection of contextual indicators applied the same conceptual and statistical criteria used for selecting normative indicators, except the criterion which refers to clear normative interpretation. This step proved to be challenging, because of some conceptual problems in the available sources. The contextual indicators were normalised following the same method used for the normative indicators in the index. This means that all indicators have an identical range,

[0, 100], although in this case the direction of the indicators is not related to any "positive" or "negative" meaning in terms of industrial democracy. Then, a Principal Component Analysis was carried out to explore the structure of the complete set of indicators, both contextual and index indicators. Finally, a cluster analysis following the Ward method was applied. This cluster analysis included both time periods. Table 3 below presents the five contextual indicators selected.

Table 3. Contextual indicators

Indicator	Direction	Source
Degree of centralisation of collective bargaining	Higher values mean higher degree of centralisation	Eurofound, EurWORK
Degree of collective wage coordination	Higher values mean higher degree of coordination	ICTWSS
Extension mechanisms	Higher values mean higher use of extension mechanisms	Eurofound, EurWORK
State intervention in collective bargaining	Higher values mean lower degree of state intervention	ICTWSS
Statutory minimum wage	Higher values mean lower degree of minimum wage regulation	Eurofound, EurWORK

Two indicators refer to collective bargaining settings: centralisation and coordination. The indicator built to measure centralisation is based on the 'EurWORK database on wages, working time and collective disputes'. It summarises the importance of multi-employer and single-employer collective bargaining in the EU. Following Visser (2013), coordination is measured through the highly used indicator taken from the ICTWSS database.

The role played by the state in collective bargaining and wage regulation is a crucial issue as discussed in the academic literature (Molina, 2014). Several industrial relations typologies share this view and include variables to describe different national patterns in terms of collective autonomy and state intervention (Visser, 2009). This is approached by means of three highly used indicators in industrial relations comparative research: government intervention in collective bargaining (ICTWSS); mechanisms for the legal extension of collective agreements (EurWORK database); and the existence of a statutory minimum wage (EurWORK database).

Main results

Dimensions of industrial democracy

Considering both normative and contextual indicators, the Principal Component Analysis identified four main empirical dimensions: 1) associational governance; 2) representation and participation rights at company level; 3) social dialogue at company level and 4) trade union strength and government intervention in industrial relations (see Table 4). All the conceptual dimensions of industrial democracy are covered by these empirical dimensions.

Table 4. Dimensions and indicators of industrial democracy

Dimension	Type of indicator	Indicator
Associational governance	Contextual	Degree of centralisation of collective bargaining
	Contextual	Degree of collective wage coordination

	Contextual	Extension mechanisms
	Normative	Employers' organisation density
	Normative	Existence of a standard (institutionalised) bipartite council of central or major union and employers' organizations for purposes of wage setting, economic forecasting and/or conflict settlement
	Normative	Collective bargaining coverage
	Normative	Routine involvement of unions and employers in government decisions on social and economic policy
Representation and participation rights	Normative	Board-level employee representation rights
	Normative	Rights of works councils
	Normative	Status of works council
Social dialogue at company level	Normative	Employee representation at the workplace (coverage)
	Normative	Information provided to employee representation body (incidence)
	Normative	Degree of information provided to employee representation body
	Normative	Influence of the employee representation in decision-making at the workplace
	Normative	Management holds regular meeting in which employees can express their views about the organisation
Trade union strength and government intervention in industrial relations	Normative	Trade union density
	Contextual	State intervention in collective bargaining
	Contextual	Statutory minimum wage

The **associational governance** dimension is similar to the homonymous index built by Meardi (2018). It is made up of variables which measure the social partners' involvement in the governance of the employment relationship through collective bargaining and social pacts. Similar to Visser's (2009) cluster analysis, only employer organisation density is included here given its strong correlation with collective bargaining coverage. Additionally, it includes contextual variables which measure the coordination of collective bargaining and the actual or predominant level at which collective agreements are concluded, as well as the existence of mechanisms for legal extension of collective bargaining. These variables are highly correlated with associational governance, appearing therefore as relevant to understand collective bargaining coverage and concertation. In difference to Meardi (2018), this sub-dimension includes one indicator measuring corporatism. In line with Visser (2009), it is considered that tripartite negotiation favours corporatist regulation, which is more aligned to industrial democracy than state regulation. Furthermore, the indicator selected makes it possible to distinguish concertation processes based on their degree of institutionalisation (full, regular and frequent concertation vs. partial and irregular concertation).

The **representation and participation rights** dimension includes three normative indicators which measure the scope of employee representation and participation rights at company level. These rights are implemented through statutory legislation or general collective agreements between trade unions and employers. While two indicators refer to work councils or similar bodies (ICTWSS database), the third deals with board-level employee representation (and is included in the European Participation Index elaborated by ETUI).

The **social dialogue at company level** dimension builds on five normative indicators which measure the quality of social dialogue at company level. Four indicators are extracted from the European Company Survey (ECS): 1) share of employees in companies with an ER body; 2) whether the ER body receives information from management; 3) the scope of information provided by management (number of topics) to ER body; and, finally, 4) the influence exercised by the ER body. The fifth indicator is based on the European Working Conditions Survey (EWCS) and refers to the share of companies holding regular consultation (either through collective or individual means). Therefore, this dimension goes beyond the measurement of representation, information and consultation and allows for the measurement of influence. This is in line with our conceptual definition of industrial democracy and makes a difference with regard to weaker concepts of voice which only focus on the mechanisms which allow employees to have a say in workplace decisions without assessing the effective impact of these mechanisms.

The dimension **trade unions strength and government intervention in industrial relations** includes three variables measuring trade union density and government intervention in two key aspects: collective bargaining and minimum wage. This dimension shows the positive correlation between collective autonomy, understood as collective self-regulation, which refers to the capacity of social partners to produce norms and regulations autonomously, and trade union strength (Molina and Rhodes, 2007; Molina, 2014).

Industrial democracy clusters: performance and main features

The cluster analysis makes it possible to distinguish six clusters showing a high degree of stability between the two periods analysed, as presented in Table 5 below. The only country recording a change in the classification is Greece.

Table 5. Clusters of industrial democracy

Clusters		Countries
1	Corporatist-framed governance	Austria, Belgium, Luxembourg and the Netherlands
2	Voluntary associational governance	Germany, Denmark, Finland and Sweden
3	State-framed governance	Spain, France, Italy, Portugal Slovenia (and Greece for 2008-12)
4	Statutory company-based governance	Croatia, Hungary, Slovakia
5	Voluntary company-based governance	Bulgaria, Cyprus, Czech Republic, Ireland, Latvia, Lithuania, Malta, Romania (and Greece for 2013-17)
6	Market-oriented governance	Estonia, Poland, UK

Figure 1 below shows that levels of industrial democracy performance vary to a large extent across countries and clusters.

Insert **Figure 1**. Industrial democracy index: scores by countries and clusters, 2013–2017

Note: CL 1-6 refer to clusters.

There are 12 countries with scores above the EU28 average: all the Nordic and continental European countries plus Croatia, France, Slovenia and Spain. Austria, the Netherlands and Sweden are the three best performing countries. On the opposite side, Latvia, Lithuania and Poland are ranked in the three last positions. In terms of clusters, the figure shows a clear division between two main groups: cluster 1 and cluster 2 group together the countries which record the best scores in industrial democracy while countries in the remainder clusters score far worse. The data also shows that differences in the average score of each cluster are statistically significant and relevant. Cluster 1 and cluster 2 score above 70 points, far above the EU28 average; cluster 3 scores close to the European mean, whilst clusters 3, 4 and 5 score well below the EU28 average.

Table 6 presents the complete set of normative and contextual indicators by clusters, and allows for a more nuanced description of the main features of each cluster.

Insert **Table 6**. Normative and contextual indicators of industrial democracy by cluster, 2013-2017

Cluster 1 refers to a '*corporatist-framed governance*' model, similar to the 'social partnership' cluster identified by Visser. It includes the central-western European countries (Austria, Belgium, Luxembourg and the Netherlands) with the exception of Germany. A defining feature of this cluster is the strength of associational governance, namely with regard to collective bargaining: it presents the highest coverage rates, the highest level of centralisation and a high degree of coordination, in combination with bipartite institutions for wage setting, economic forecasting and / or dispute settlement. A second relevant trend is corporatism: in all countries there is a high degree of institutionalised involvement of trade unions and employer organisations in policy making. Compared to cluster 2, trade unions are weaker, and the state plays a stronger role in collective bargaining (including the provision of legal extension mechanisms or functional equivalences) and wage setting mechanisms (there is a statutory national minimum wage). The relative weakness of trade unions contrasts with the strength of employer organisations, as it is the cluster with the highest employer organisations density rates, with all the countries recording a density rate above 80%. At company level, this cluster groups some of the countries which have granted the most extensive legal rights to works councils (Austria and the Netherlands) and board-level employee representation rights (the only exception is Belgium). Furthermore, it records a comparative good performance of social dialogue at company level, substantially higher than the EU average but lower than cluster 2.

Cluster 2 encompasses countries following a '*voluntary associational governance*' model. In line with Visser (2009), this cluster groups together all Nordic countries, although in contrast to Visser's typology it also includes Germany. These countries have strong tradition of regulation based on collective bargaining: they share a coordinated and centralised collective bargaining system which ensures high rates of collective bargaining coverage. This system has however evolved, particularly in Sweden and Denmark, towards

a two-tier system of centralized-decentralised collective bargaining, where national and sectoral framework agreements are supplemented by company agreements covering topics such as vocational training, work organisation, company-level social security and employability/workability. Compared to cluster 1, corporatism is less developed - as measured by the degree of institutionalisation of the involvement of the social partners in policy-making^{viii} (with the exception of Denmark, which records the highest values in both time periods analysed). In parallel, this is the cluster in which the state interferes to a less degree in collective bargaining and wage setting, and trade union are strongest (with the exception of Germany, where trade union densities rates are much lower). Thus, a key defining feature of cluster 2, which clearly contrasts with cluster 1, is the combination of collective autonomy and high associational governance. This cluster also groups countries which provide extensive rights to work councils, particularly in Germany and Sweden, where co-determination rights are established by law. It is also worth noting that in the Nordic countries national and sectoral collective agreements provide higher standards for information and consultation than legal provisions (Van der Berget et al., 2013). Countries under this group also provide widespread participation rights to employees for representation at board level. Finally, this cluster also records the best performance in terms of social dialogue at company level.

In contrast to recent observations raised by Meardi (2020), this article argues that the inclusion of Germany into this cluster is not related to "the effect of giving big weight to company-level codetermination and little weight to the state of collective bargaining and trade union density". Cluster 1 and cluster 2 share good performance in terms of representation and participation rights and social dialogue at company level. They are also similar as regards collective bargaining coverage and levels of centralisation and coordination. In our view, the main reason explaining why Germany is included in this cluster refers to the role played by the state in industrial relations, which is the institutional feature that most differentiates clusters 1 and 2. Germany did not establish a statutory minimum wage until 2015, being aligned with the Nordic countries rather than with most of the continental countries (Belgium, Luxembourg and the Netherlands). In addition, the use of mechanisms for legal extension of collective bargaining is rather exceptional in Germany, as it is in Denmark or Sweden, in contrast to countries such as Austria, Belgium, Luxembourg and the Netherlands, where extension is quasi automatic or widespread in many sectoral collective agreements. A second reason refers to corporatism. Compared to countries such as Austria, Belgium or the Netherlands, Germany shows a lower degree of social partners' involvement in policy making in both periods analysed, in line with the main trends identified in most of the Nordic countries. Additionally, it is worth noting that Germany is the country with the lowest score of performance in industrial democracy of both clusters (see Figure 1). The deterioration of some of the traditional German industrial relations features is a long-term trend highlighted in the literature and linked to the problem of dualism or segmentation of German industrial relations (Müller-Jentsch, 2018).

Cluster 3 reflects the mainly southern '*state-framed governance*' model. Contrary to the Visser analysis, this group also includes Slovenia. It is also relevant to note that Greece is only included in this group in the first time period analysed. This cluster is characterized by relatively strong associational governance (high collective bargaining coverage), although lower than the previous two clusters, within centralized but quite uncoordinated collective bargaining institutions and processes, and with a stronger dependence on state

regulation. This is indeed the cluster which records one of the highest scores in collective bargaining state intervention, which are matched with low trade union densities. This, however, does not apply to Italy, which records the same scores in government intervention as the Nordic countries. At company level, mandatory works councils exist, which have, however, been granted less wide-ranging legal rights than in the continental European and the Nordic countries. Moreover, board-level employee representation rights are more limited than in the previous two clusters. A defining feature of this cluster is the low performance in social dialogue at company level, a phenomenon which is particularly evident in Italy, Portugal and Spain, and less accentuated in France and Slovenia.

The remaining three clusters mix countries which are traditionally subsumed under the liberal market and transition economy industrial relations clusters. Thus, they share some of the institutional features generally attributed to those clusters, especially regarding the associational governance dimension (i.e. low collective bargaining coverage). A common characteristic of these three clusters is their relative low scores in industrial democracy performance compared to the other clusters. However, the typology highlights that they also differ in some relevant features.

Cluster 4 encompasses countries displaying a '*statutory company-based governance*' model of industrial relations. Croatia, Hungary and Slovakia share with clusters 5 and 6 most of the features in terms of associational governance: low union density, decentralized, uncoordinated wage bargaining and low coverage rates of collective agreements (lower than cluster 5 and higher than cluster 6). State intervention in collective bargaining is low, but the state plays a key role in employment relations through the provision of national minimum wages and, particularly, through the statutory regulation of work council rights. Indeed, a key defining feature of this cluster is its comparatively high performance on representation and participation rights at company level, which is higher than the southern countries (cluster 3) and close to the Nordic ones (cluster 2). This outcome results from the existence of far-reaching rights provided to work councils/employee representative bodies, and some of the highest board-level employee representation rights in Europe. Hungary and Slovakia have been assessed as the only CEE countries in which the law confers co-determination rights on work councils and similar employee representative bodies (Glassner, 2012). In Hungary, work councils with co-determination rights were already installed in the early 1990s (Van der Berg et al., 2013). These three countries also appear among the 11 European Member States (mainly continental and Nordic) which record widespread employee participation rights at board-level. However, the actual development of social dialogue at company level in practice is rather poor and does not reflect substantial differences compared to the other two clusters mixing liberal market economy and CEE countries.

Cluster 5 includes countries based on a '*voluntary company-based governance*' model. It groups most of the liberal countries (all except UK), the Baltic States (except Estonia), Bulgaria and Romania, roughly in line with the 'neoliberalist' model of Bohle and Greskovits (2012). However, the group also includes Czechia, which is classified in the group of 'embedded neoliberalism' by Bohle and Greskovits (2012). In the second period analysed, Greece also appears in this cluster, mainly as a result of the deterioration of the associational governance dimension recorded in this country during the economic and financial crisis. This cluster records the lowest score with regard to representation and

participation rights at company level. Countries under this group share the voluntary character of the liberal system of employee participation at company level, in which works councils or employee representative bodies are voluntary or, in case they are mandated by law, there are no legal sanctions for non-compliance. Moreover, board-level employee representation rights are not available in most of the countries belonging to this cluster. Social dialogue performance at company level is comparatively low although higher than in cluster 3. This group also presents comparatively weak associational governance although stronger than cluster 4 and, particularly, cluster 6, in the framework of an uncoordinated and decentralised collective bargaining system. Although trade unions are weak, employer organisations are relatively strong (densities are above 40% in all the countries of this cluster in the period 2013-2017, except for Lithuania).

Cluster 6 is strictly '*market oriented*' and includes three countries: Estonia, Poland and United Kingdom. This group records the lowest score in industrial democracy performance. A defining feature of this group is their weak associational governance, which is the result of very low levels of collective bargaining coverage, rare or absent concertation and weak social partners. At the institutional level, they share very uncoordinated and decentralised collective bargaining systems. This cluster is also characterised by the minor role played by the state in collective bargaining, combined with a more active role in other areas: in all three countries there is a statutory national minimum wage in force and the rights of work councils or employee representation within firms or establishments are mandated by law, partly as a result of institutional industrial relation adaptations due to the implementation of Directive 2002/14/EC. Social dialogue performance at company level shows more heterogeneity, with Estonia and the United Kingdom scoring above the EU average and Poland below.

Dynamic analysis: complex patterns of change

The analysis of trends over the two periods under consideration (2008-2012 vs. 2013-2017) has to be taken with caution bearing in mind that data is only available for the second period (2013-2017) with regard to all indicators included in the dimension 'social dialogue at company level'.

Figure 2 below shows the absolute variation of industrial democracy scores in the two periods analysed. Countries are ranked from the most positive to the most negative variation in performance^{ix}.

Insert **Figure 2**. Industrial democracy index: absolute variation of values by countries, (2008-2012, 2013-2017)

The data shows that the EU28 average of industrial democracy performance follows a negative trend, although the trends show a considerable diversity across countries. Three main groups of countries can be distinguished:

- the countries which record a deterioration of industrial democracy which is higher than EU average: Czechia, Greece, Hungary, Ireland, Malta, Poland, Romania, Slovenia and Spain. Most of these countries have been subject to external pressures demanding structural reforms which have affected collective bargaining institutions. All these countries except Czechia and Malta record a deterioration in some the dimensions of associational governance (a decrease in concertation and/or collective bargaining

coverage). In Romania and Slovenia, a substantial drop in employer organization density is also recorded. With regard to the Czechia and Malta, both countries record a drop in the dimension of representation and participation rights. In both countries, board level representation rights were removed as a result of political decisions (ETUI, 2018);

- the countries which display a substantial improvement of industrial democracy: France and Slovakia, and to a less extent, Croatia and Finland. Slovakia's improvement is exclusively explained as a result of the rise of social concertation since 2013 (2013 and 2014) and due to an extension of rights provided to work councils since 2012. In the case of France, the improvement is only recorded in the dimension of representation and participation rights: change occurred in board-level employee representation rights. France evolved from limited participation rights to widespread participation rights from 2010 to 2015 (the two years covered by the indicator) as a result of a legislation passed in 2013 which greatly extended the range of companies covered by the obligation to have employee representatives at board level (ETUI, 2018). In Croatia, the improvement derives from a raise of social concertation while in Finland it rests on an increase in collective bargaining coverage.
- finally, the remaining countries, Nordic and central- western countries, which show a high stability and continuity in industrial democracy.

The dynamic analysis is enriched when clusters are considered. Table 6 below shows the absolute variation of industrial democracy indicators by clusters. Data suggests both persisting diversity and change. Diversity persists in the sense that the clustering of countries does not change in the two periods considered, with the exception of Greece. However, patterns of change between clusters and within clusters show great variation.

Insert **Table 6.** Normative and contextual indicators of industrial democracy by cluster, absolute variation (2008-2012, 2013-2017)

Countries in clusters 1 (corporatist-framed governance) and 2 (voluntary associational governance) show a very similar trend of stability and continuity in industrial democracy during the years considered. Literature shows on-going debates about the stability of industrial relations models of several 'central' and Nordic countries (Gold and Artus, 2015; Müller-Jentsch, 2018; Baccaro and Howell, 2017). In most of these countries literature has documented long-term changes in the national industrial relations systems. However, Hyman (2018) argues that it is debatable whether recent phenomena (related to the crisis which started in 2008) have transformed their main features. In line with Hyman's conclusions, our data shows that recent phenomena have not led to any profound transformations as opposed to developments in other European countries. It could be also discussed whether the discrepancy between our typology and Visser's concerning Germany could be interpreted as an evidence of such long-term evolving trends.

Secondly, the results show that most of the countries which record a deterioration of performance in industrial democracy (7 out of 9) are in cluster 3 (state-framed governance) and 5 (voluntary company-based governance). In cluster 3, only France and, to a less extent Italy, record a positive variation in the industrial democracy index. In cluster 5, only Latvia shows a small positive variation while Bulgaria and Lithuania remain stable.

In addition to a downward trend in performance in industrial democracy, Cluster 3 and 5 also show similar trends in other relevant aspects. Many of these countries have taken steps towards decentralisation which have also decreased the degree of collective bargaining wage coordination. Several countries (Czechia, Greece, Ireland, Portugal and Romania) have also limited or abolished legal extension of collective agreements. This is not surprising, considering that several countries under both clusters have been subject to external pressures demanding structural reforms which have affected collective bargaining institutions (Marginson and Welz, 2015; Economakis et al., 2016; Hijzen et al., 2017). Those reforms may have had a negative impact on collective bargaining coverage, which dropped in the two clusters, but more pronounced in cluster 5. A final common trend, although much more accentuated in cluster 3, concerns the decrease in concertation and social pacts, which also reflects the negative impact of external political pressures.

Therefore, the analysis suggests that both clusters follow similar trends, although differences persist. Only Greece moves from cluster 3 to cluster 5. The main reason for this change is the country deterioration of performance in industrial democracy and, in particular, the sharp change in some relevant institutional features. This includes the abolishment of social dialogue institutions determining minimum wages (National General Collective Agreement (EGSSE) and several legislative changes promoting decentralization of collective bargaining.

Finally, results show that countries within clusters 4 and 6 have experienced different patterns of change.

In the cluster 4, Hungary records a substantial deterioration in the performance in industrial democracy, whereas Croatia remains stable and Slovakia shows an improvement. In Hungary, the downward trend is explained by a pronounced drop in concertation, a decrease in collective bargaining coverage and a reduction of rights provided to work council since 2012. Thus, deterioration is, to a large extent, the result of interventionist role played by government. It is worth stressing that, contrary to other countries in clusters 3 and 5, these unilateral policies undermining industrial democracy have been approved in Hungary in the absence of external pressure (Bernaciak, 2015). The case of Slovakia shows the opposite situation. In this country an improvement in industrial democracy is exclusively explained as a result of the raise of social concertation since 2013 (2013 and 2014) and because of an extension of rights provided to work councils since 2012.

In the cluster 6, Estonia and UK remain very stable in terms of performance in industrial democracy while Poland records a pronounced deterioration. The Polish downward trend is explained by a dramatic drop in social concertation. In the three countries of this cluster, the institutional structures of collective bargaining have remained very stable and the same holds true with regard to collective bargaining coverage.

Conclusions

The article provides three different tools to examine the dynamics of industrial relations and analyse, in a comparative way, how industrial democracy is changing: an index to measure country performance in industrial democracy; a typology of industrial relations systems based on industrial democracy performance and relevant characteristics of industrial democracy, and finally, a dashboard including both performance and contextual

indicators. Rather than discussing the pros and cons of each tool, it can be highlighted that each tool has a different purpose and is suited for a certain kind of analysis. The composite indicators are built to measure and summarise performance, the typology may be of interest to better understand diversity in terms of industrial democracy and the dashboard allows for monitoring and further analysis of both normative and institutional features of industrial relations.

The results of the industrial democracy index suggest a clear division between two main groups which encompasses, on the one hand, Nordic and continental countries which record the best scores in industrial democracy and, on the other hand, southern, liberal and CEE countries, which perform far worse. The cluster analysis, which includes several contextual indicators which do not have a clear normative interpretation, complements these results by interesting findings: while some clusters differ in terms of both institutional characteristics and levels of performance in industrial democracy, other groups of countries differ in terms of industrial democracy characteristics but they are similar in terms of industrial relations performance. As shown, cluster 1 and 2, which group, respectively, Nordic and central European countries, differ in relation to the role played the state in industrial relations. While cluster 2 adheres to a 'voluntarist tradition', in cluster 1 the state plays a more active role in several industrial relations aspects (statutory minimum wage, legal extension of collective bargaining, etc.). The results indicate that this institutional feature does not necessarily preclude comparatively good performance in industrial democracy based on our composite index. At the same time, the cluster analysis shows that there are other institutional features which are positively associated with performance in industrial democracy. The typology clearly shows that performance in industrial democracy goes hand in hand with coordination and centralisation of collective bargaining systems.

When analysing the results over time, our data shows elements of stability, persisting diversity and complex patterns of change. Even in a period marked by the impact of the crisis which started in 2008, the clustering of countries remains stable. Greece is the only country which moves from one cluster to another, due to sharp change in some institutional features.

The index shows that industrial democracy performance records a negative trend in many European countries, suggesting that cross-national differences have been accentuated, deepening previous inequalities concerning the role played by industrial democracy in the governance of employment relationships.

Countries in clusters 1 and 2, well above the EU average of industrial democracy performance, remain stable whilst several other countries record a deterioration. In contrast, industrial democracy has eroded further in two clusters which groups, respectively, Southern European countries (cluster 3) and several liberal and Eastern European countries (cluster 5). Since many of the countries from cluster 3 and most of the countries from cluster 5 already performed below the EU average, this trend means that previous differences between clusters have been deepened.

Although this article has not explored the causes behind those trends, it appears that many of the countries within both cluster 3 and 5 have been subject to external pressures demanding structural reforms, which have affected collective bargaining institutions. In

this sense, the analysis induces the assumption that in both clusters, the negative variation in centralisation and coordination of collective bargaining may have led to a deterioration of performance in industrial relations in general.

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Insert **Annex 1. Dashboard**

ⁱThe **United Kingdom** has withdrawn from the European Union and is a third country as of 1 February 2020. This article follows the guidelines as issued by EUROSTAT; cf. European Commission/EUROSTAT (2020), Guidelines for the production and dissemination of statistical data by Commission services after the UK leaves the EU, Ref. Ares(2020)440467 - 23/01/2020 : “As of 1 February 2020, the new aggregate of the EU with 27 Member States should be prioritised in all statistical data; however, depending on the reference period, the EU28 aggregate may also be published (i.e. for reference periods when the UK was still a Member State).”

ⁱⁱ <https://stats.oecd.org/glossary/detail.asp?ID=6278>

ⁱⁱⁱ The quality assessment and assurance framework of the European Statistical System (ESS), (Eurostat 2014, 2015) evaluates the quality of already produced statistical outputs based on the principles no. 11-15 of the European Statistics Code of Practice (Eurostat 2011).

^{iv} Further methodological details can be found in Eurofound (2018) and its methodological annex.

^v The weights of the indicators are retrieved from the Principal Component Analysis previously carried out.

^{vi} This process was carried out for selecting the most robust Industrial Relation Index, being the Industrial Democracy one of its sub-indices.

^{vii} Further methodological details can be found in Eurofound (2018) and its methodological annex.

^{viii} There is an on-going debate on whether so-called Scandinavian corporatism is in decline or still alive (Vesa et al., 2018). The main indicators we include, although commonly used in empirical research on corporatism (Afonso, 2013, etc.), only partially measures this regulatory or governance approach. It only reflects that the degree of involvement of social partners in policy making in social and economic policy fields in this cluster has been less frequent than in cluster 1 in both time periods analysed.

^{ix} See in annex the complete set of indicators and absolute variation by countries