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A Bibliometric Analysis of Collective Bargaining: The Future of Labour Relations after the COVID-19 Pandemic

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Abstract: This research presents a bibliometric analysis of the scientific literature on collective bargaining between 2012 and 2021. The main objective of this research is to analyze how scientific research on collective bargaining has evolved during this period and to identify current trends and future lines of research on the institution of governance of labor relations. For this purpose, 1676 documents collected in the Web of Science Core Collection and 1971 in Scopus have been analyzed. This analysis has made it possible to determine which have been the scientific papers with the greatest impact, the most relevant researchers, and the most used keywords. As a contribution, note the classification made in relation to which are the most relevant scientific journals, the most cited papers, or the most influential researchers in the field of collective bargaining. As conclusions and future lines of research identified, this research points out the need to delve into studies related to the promotion of dialogue between human resources management and the legal representation of workers about working conditions that positively affect workplace well-being, as well as investigations related to the power and legitimacy of negotiation by social and economic agents.

Keywords: collective bargaining; industrial relations; labour market; post-COVID-19; future of work; bibliometric analysis; scientific literature; Web of Science; Scopus



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1. Introduction

The late 20th century brought a profound economic and technological transformation. This, together with globalisation and the integration of markets for goods, services and labour, increased uncertainty and risk in the global economy. As a result, firms were forced to adapt to increasingly competitive conditions (Appelbaum and Schettkat 1990; Dunning and Lundan 2008).

In this context of neoliberal hegemony, the International Labour Organisation (ILO) reaffirmed the fundamental nature of the right to collective bargaining (ILO 1998).

However, bodies like the Organisation for Economic Cooperation and Development (OECD) have pointed to collective agreements or government labour policies as the main causes of labour rigidity that may hold back business competitiveness and, consequently, job creation. As a result, flexibility of labour markets and flexibility of working conditions have become the paradigms that should characterise industrial relations if they are to strengthen firms' competitiveness while also increasing the capacity of economies to create employment (Block 2003; OECD 1999, 2018; Windmuller et al. 1987).

According to Bedoya Bedoya (2014) and Hayter (2011a), collective bargaining is conceived in the framework of social dialogue as the key tool to be used by economic agents—firms—and the legal representatives of workers when agreeing on balanced working conditions from among those expected by both groups.

The agreement reached between the parties, known as a “collective bargaining agreement”, aims to regulate, depending on its scope and type, the working conditions of people employed within a territory, sector, or firm (Hayter 2011b; Liukkunen 2019), providing them with greater job security. At the same time, it allows companies to reach the most appropriate decisions to adapt to competitive environments (Haipeter and Lehndorff 2009; Marginson and Galetto 2014), aligning human resources policies with business strategy.

Traditionally, collective bargaining agreements have focused on job quality, employee training, labour relations, job performance and, more recently, gender equality (Freyssinet and Seifert 2001; Sisson and Martín Artiles 2000). These aspects highlight the importance of developing human resources management practices that focus on employee well-being (Guest 2017).

The benefits of collective bargaining on countries’ economies—at both macro and micro levels—and on the actors involved in each of these aspects (Table 1) have been widely addressed in the scientific literature (Adam et al. 2021; Addison 2016; Aidt and Tzannatos 2002, 2008; Garnero 2021; Tzannatos and Aidt 2006; Vaughan-Whitehead and Vazquez-Alvarez 2018; Vernon and Rogers 2013).

Table 1. Benefits of collective bargaining.

Areas	Benefits
Quality of employment	By improving wages, access to social benefits, defining aspects related to health and safety at work, and improving work organisation in terms of work–life balance.
Equality	It favours equal opportunities between women and men in terms of salaries, job promotion, facilitating the reconciliation of work and family life, and putting a stop to situations of harassment and sexual violence against women.
Training	It makes it possible to reconcile the training needs of workers with the development of the professional skills required by companies.
Labour relations	It makes it possible to advance labour rights for workers, facilitate worker participation, and improve the working climate through conflict resolution scenarios. It also makes it possible to adapt labour legislation to the conditions of each company.
Firm performance	It can make it possible to adjust companies’ production to market demand. It has a positive influence on the job performance of workers by improving well-being at work and reducing job insecurity.
Macroeconomy	It makes it possible to reduce levels of social inequality through the distribution of wealth. It can facilitate the adaptation of companies to changes in the economic and industrial environments. It makes it possible to define public policies aimed at favouring the dynamism of the labour market.

Source: (ILO 2016).

The general framework of collective bargaining represents the foundation of sound and healthy industrial relations, guaranteeing the stability and social peace inherent in the “Keynesian pact” reached during the second half of the 20th century (Davies and Freedland 1983; Krugman 1999) and, in turn, the foundation of the welfare state (Rodgers et al. 2009).

On the other hand, the particular framework of relations between firms’ representatives and workers has always been characterised by the tension arising from the competitive demands of the former and the expectations of the latter to improve working conditions (Hyman 2004; Lucio and Stuart 2005; Munduate et al. 2012; Walton and McKersie 1991). However, there are a number of aspects of shared interest such as innovation, continuous learning, occupational health and safety, gender equality (Pulignano et al. 2012) or well-being and job satisfaction (Guest 2017; Troth and Guest 2019). In short, in order to overcome conflicts and reach the desired social and labour consensus, it is necessary to develop, as the European Union has been demanding for years, innovative and cooperative spaces

for dialogue (European Commission 2013), which is the task of firms' human resources management departments.

For decades, and especially after the global economic crisis at the beginning of the 21st century, the legislative procedures promoted in the world's most developed countries to reform industrial relations (Glassner et al. 2011; Glassner and Keune 2012) have aimed to introduce greater levels of flexibility in the regulatory framework of labour markets in order to align them with global economic dynamics (Brodsky 1994; Howell 2021; Marginson and Sisson 1998; Sisson and Martín Artiles 2000). In this way, labour relations and labour markets, across capitalist societies, have been made less rigid and more permeable to the needs of firms and their strategies (Escribano Gutiérrez 2013; Howell 2021).

At the same time, these legislative changes were accompanied by research by the scientific community. Interpreted as an interdisciplinary field of study (Müller-Jentsch 2004), industrial relations have been widely studied from different perspectives for decades (Gordon and Purvis 1991; Hayter 2011a).

Several studies (e.g., Anner et al. 2021; Hayter and Visser 2021; Peetz 2019) point out that such processes of labour reform have led to a progressive weakening of traditional forms of collective bargaining and, consequently, to a decrease in the bargaining power of workers and their representatives. This has led to a gradual degradation of labour markets around the world, characterised by precariousness, inequality, insecurity, and exclusion (Greer and Doellgast 2017; Hayter and Visser 2018; Keune 2021; Piketty 2015).

On 11 March 2020, the World Health Organisation declared the SARS-COV-2 pandemic. In the specific area of the world of work, the COVID-19 pandemic posed a threat to three essential aspects: the quantity and quality of employment and protection for the most vulnerable groups of workers. As Kim argues, the impact that a period of crisis has on the quality of working life and well-being of employees as a result of changing working conditions and economies unexpectedly leaves workers physically, financially, and emotionally drained (Kim et al. 2021).

In order to minimise this threat, the ILO called for social dialogue to promote appropriate measures to ensure business restructuring and job preservation (ILO 2020).

This concern of the ILO was reflected in various scientific studies (e.g., Béland et al. 2020; Lee et al. 2020; Pouliakas and Branka 2020), which identified how the existing precariousness, inequality, insecurity, and exclusion were aggravated by the impact of COVID-19 on the world of work.

The experience gained from the management of the health crisis has highlighted the importance of the real economy and has made visible the importance of the care economy (Jenkins and Smith 2021) and has also made it clear that some of so-called "essential jobs" are poorly paid and precarious (Leach et al. 2021). At the same time, the employment consequences of the pandemic on working conditions have particularly affected women, young people, and people in temporary and low-skilled jobs (Soares and Berg 2021). Overall, COVID-19 is causing overall poverty and inequality rates to rise in societies around the world (Chancel et al. 2022; Palomino et al. 2020).

Together with the above, after the COVID-19 crisis, the global context of the world of work is accelerating its transformation. It is rapidly approaching more disruptive scenarios (Makridis and Han 2021; Mitchell et al. 2021; Ng et al. 2021) characterised by the technological advances of recent years such as robotisation (Acemoglu and Restrepo 2020), digital transformation processes (Amankwah-Amoah et al. 2021; Manyika et al. 2017), artificial intelligence (Harborth and Kumpers 2021; Santoni de Sio et al. 2021; Todoli-Signes 2019) and the definitive appearance of the platform economy (Kaine and Josserand 2019; Marengo and Seidl 2021).

At the same time, the social and labour dynamics derived from the COVID-19 pandemic have had a decisive influence on aspects relevant to industrial relations such as teleworking, gig work, displacement of work, compensation benefits, work-life balance, the need to acquire new professional skills and competences, and occupational health and well-being

(Ng et al. 2021; Oxford Economics and Society for Human Resources Management 2021; World Economic Forum 2020).

So, the learning obtained after the management of the health crisis in terms of socio-labour dynamics reinforces the meaningfulness of the assumptions of the theory of quality of life at work (Nadler and Lawler 1983) to foster both commitment (Kim et al. 2021) and job performance, and to reduce turnover (Agus and Selvaraj 2020). This happens when employees experience well-being in the workplace, and the fulfilment of the psychological contract takes place, resulting in a positive employment relationship (Guest 2017).

Nevertheless, actors involved in these processes are calling for the formulation of strategies that, in the medium and long term, will bring a new economic equilibrium and revitalise the economy after the pandemic. This would allow to take advantage of the technological transformation processes mentioned above to offer new business models and new employment options and opportunities, thus achieving greater social and labour protection for workers, especially the most vulnerable ones (European Parliament 2017; Gereffi et al. 2021; Nicola et al. 2020; World Economic Forum 2020). Todoli-Signes (2021) argues that economic growth, as an argument for the social legitimacy of labour standards, can be based more on the balance between greater business productivity and broad labour rights than on the processes of deregulation and flexibility of labour markets.

To this end, the World Economic Forum (2020) suggests adopting a multi-stakeholder perspective, which would lead economic agents to commit to a long-term return on investment in human and social capital, and should involve strengthening social dialogue scenarios between governments, companies, and trade unions. Consequently, it seems necessary to renew collective bargaining mechanisms, making them more cooperative and innovative (European Commission 2013; World Economic Forum 2020).

Regarding cooperative mechanisms, various political, economic and academic instances suggest that adopting measures that facilitate the self-organization of workers and companies to address collective bargaining processes, together with the recognition of the right to collective bargaining of self-employed workers (who have the legal consideration of a sole proprietorship), the legitimization to negotiate, or the flexibility for the parties to adapt labour regulations to their specific conditions, may be suitable to maintain and increase the effectiveness of collective bargaining (European Parliament 2017; OECD 2019; Ortega Lozano 2022; Valizade et al. 2016).

On the other hand, in relation to innovation, collective bargaining processes have the duty to address such issues. Such issues include the unification of the rights and labour conditions of workers who provide their services in outsourced firms. Attention to new organizational and productive realities derived from the digital transformation of the world of work is also necessary, which requires the regulation of new labour rights (Baylos Grau 2020) that include, beyond wages, a concern for labour well-being and the health and safety of workers (Guest 2017; Wright et al. 2019).

However, the following questions could be asked: Is scientific research on collective bargaining really advancing in the direction of addressing this renovation? Or, on the contrary, are these investigations still stuck in the classical paradigms? To answer these questions, the use of research methodologies such as bibliometric analysis is appropriate. Through this methodology, it is possible to quantitatively analyse the production and impact of scientific documents in a certain area of study (Broadus 1987).

Bibliometric analysis is a methodology that has been used in several research studies in the field of industrial relations (e.g., Casey and McMillan 2008; Kataria et al. 2020; McMillan and Casey 2010; Mitchell et al. 2021; Salmerón-Manzano and Manzano-Agugliaro 2017). Unlike previous research focused on the scientific literature of certain journals and generally on the field of labour relations, this research will carry out a bibliometric analysis focused on a more specific field within labour relations such as collective bargaining. In this way, a greater number of scientific journals will be addressed, and the study will be carried out in a more recent period. This analysis will be carried out over a period of 10 years that begins in 2012—a time in which many countries in the European Union had made progress

in the reforms of their labour markets ([European Commission 2013](#))—and continues until 2021, one year after the declaration of the COVID-19 pandemic.

This analysis will make it possible to answer questions such as the following: Which researchers have led studies on collective bargaining? In which countries has research on collective bargaining been most developed? Have studies on collective bargaining evolved quantitatively? What have been the main areas or keywords addressed by researchers?

So, the main objective of this paper is to answer these questions by performing a bibliometric analysis of the state of the scientific literature on collective bargaining. Answering these questions will make it possible to identify new lines of research that allow researchers to broaden, deepen and renew applied knowledge on collective bargaining as an interdisciplinary field of study in areas such as applied economics, the sociology of work, labour law or business organization ([Troth and Guest 2019](#); [Zupic and Čater 2014](#)). For the university and the research community, both the answers to the above questions and the new ideas that we wish to offer can be an important practical contribution to the development and evolution of collective bargaining. Thus, from its responsibility and commitment to knowledge creation, the research community can respond to the suggestions for the renewal of collective bargaining processes made by institutions such as the [World Economic Forum \(2020\)](#) or the [European Commission \(2013\)](#), and by research such as that of [Baylos Grau \(2020\)](#).

With the sense of being able to answer the questions asked and to achieve the stated purpose, this research is structured as follows. The following section presents the methodology used. Next, the results obtained are analysed considering the study variables. Finally, the conclusions and practical implications of this research are presented.

2. Methodology

Bibliometrics is a methodology for quantitative and systematic analysis. By using different techniques and indicators, it makes it possible to collect, systematise and analyse information and data of a bibliometric nature, and thus to evaluate the impact of the scientific literature ([Broadus 1987](#); [Grant and Booth 2009](#); [Martínez et al. 2014](#); [Pollack and Adler 2015](#); [Ravenscroft et al. 2017](#); [Zupic and Čater 2014](#)). [Grant and Booth \(2009\)](#) suggest that bibliometrics can be carried out by means of critical review, literature review, meta-analysis, systematic search and review itself.

Thus, while indicators such as the H-index ([Hirsch 2005](#)) can be used to assess the impact of researchers and the impact of a given scientific paper can be assessed using classical citation analysis ([Garfield 1977](#)) and the H-core ([Martínez et al. 2013](#)), in the case of scientific journals, it is very common to use the impact factor as an indicator ([Garfield 1979](#)).

In general terms, this research adapts the methodology proposed by [Zupic and Čater \(2014\)](#) and takes the following steps: (i) Conceptualisation and design of the research in which the search terms, as well as suitable bibliometric methods and indicators, are defined, which are presented in this methodological section. (ii) Collection of bibliometric data, selecting the most relevant scientific databases and obtaining, filtering, and exporting the bibliographic data from 4 to 9 February 2022; (iii) Data analysis, where the most appropriate software is selected to clean, filter and process the data obtained in the previous stage so that the bibliometric or statistical techniques that best fit the data analysis can be used. The results of this step are presented in the third and fourth sections of this research; (iv) Visualisation using appropriate mapping software so that the results of the data obtained can be presented graphically. The results of this phase are presented in section four. (v) Interpretation, which seeks to analyse and describe the findings and is carried out in the fourth and fifth sections of this research.

Considering the objectives and in accordance with the methodological framework, this research will first carry out an analysis of scientific performance and, secondly, a scientific mapping. If with performance analysis it is possible to evaluate the impact of the scientific literature of each researcher, with scientific mapping, using techniques such as citation analysis, bibliographic coupling analysis and analysis of shared words, it becomes possible

to visualize structural reactions and the dynamics of research and the scientific literature (Cobo et al. 2011).

Thus, since its development by Garfield (1977), citation analysis has been used to identify the scientific documents, authors or journals that have received the greatest number of citations in a given field of research. Thus, a greater number of citations makes it possible to identify the topics, journals or authors that have received the most attention over a given period of time and that can therefore be considered to be in the lead in that field of research (Zupic and Čater 2014). This analysis is complemented, based on the methodology proposed by Martínez et al. (2013), by analysis of the H-classics in the field of study. This makes it possible to identify a set of documents considered to have a high impact or high performance with respect to the scientific career of an author in the field of collective bargaining (Jin et al. 2007).

However, this analysis does not make it possible to see any networks or collaborative links existing, for example, among researchers (Zupic and Čater 2014), which is why other techniques such as bibliographic coupling analysis are carried out.

Bibliographic coupling analysis (Kessler 1963) makes it possible to determine, by analysing bibliographic references shared by two documents, what Egghe and Rousseau (1990) called coupling strength, whereby stronger coupling indicates a greater conceptual relationship between the documents. This technique allows for the identification of both current and emerging research trends by pointing to the cutting edge of research (Vogel and Güttel 2012). In this study, we analyse both researchers and published scientific papers.

Finally, co-word analysis makes it possible to determine any conceptual relationships and structures and networks of themes among a set of documents, thus identifying the conceptual scope of a field of study (Callon et al. 1983). This procedure can consider the words used in titles, keywords or, for example, document abstracts. In this paper, we take the keywords used by the databases chosen to index scientific papers.

The bibliometric analysis carried out in this study analyses the scientific literature of articles, reviews, books, and book chapters indexed in the Web of Sciences Core Collection (WoS-CC) and Scopus on collective bargaining separately. The option of offering a separate analysis, followed by other research that has used bibliometric analysis (i.e., AlRyalat et al. 2019; Alviz-Meza et al. 2022; Camón Luis and Celma 2020; Martin-Martin et al. 2018; Mongeon and Paul-Hus 2016), has the advantage of offering a broader view of the scientific literature on collective bargaining in each database so that the research community can assess each dataset separately.

On the other hand, determining an appropriate search strategy underpins any bibliometric study (Huang et al. 2015). Thus, in this research, a search strategy on the concept of “collective bargaining” was used. To identify those works published on this topic in journals, books, book chapters and literature reviews, the search strategy in WoS-CC was executed in the topic field and was carried out in the Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation Index (SSCI), Emerging Sources Citation Index (ESCI), Book Citation Index—Social Sciences & Humanities (BKCI-SSH) and Book Citation Index—Science (BKCI-S). In Scopus, it was executed in the title, abstract and words fields. Table 2 shows the structure of the search strategy followed, presenting the databases in which the terms were searched, the type of research carried out, the fields and search phrases used as well as total documents.

Data collection was carried out between 4 and 9 February 2022. Once the data obtained separately from each of the databases had been cleaned, bibliometric analysis was carried out using the VOSViewer software (Van Eck and Waltman 2010).

Table 2. Strategies for the identification of papers about collective bargaining.

Database	Types of Research	Search Fields	Search Phrase	Period	Index	Type of Document	Total Documents
WoS-CC	Basic search	TS = Topic (title, summary, author's keywords, and keywords plus)	"Collective bargaining"	2012–2021	SCI-EXPANDED; SSCI; ESCI; BKCI-SSH; BKCI-S	Scientific papers Book chapter Bibliographic reviews Books	1.676
Scopus	Document search	TITLE-ABS-KEY (Article title, Abstract, Keywords)	"Collective bargaining"	2012–2021		Scientific papers Book chapter Bibliographic reviews Books	1.971

3. Results

3.1. Results Obtained

3.1.1. Web of Sciences Core Collection

Between 2012 and 2021, a total of 1676 publications on collective bargaining were recorded in this database. The distribution of these publications over this period is shown in Table 3.

Table 3. Number of publications per year in WoS-CC.

Year	Number of Records	%	Variation
2012	153	9.1%	-
2013	154	9.2%	0.7%
2014	154	9.2%	0.0%
2015	172	10.3%	11.7%
2016	150	8.9%	-12.8%
2017	138	8.2%	-8.0%
2018	179	10.7%	29.7%
2019	225	13.4%	25.7%
2020	187	11.2%	-16.9%
2021	164	9.8%	-12.3%
TOTAL	1676	100.0%	

Additionally, Table 4 shows how the vast majority of works on the subject are articles. Note that the sum of the number of records is not the same as the number of publications because in WoS-CC, the same document may be classified under various headings.

Table 4. Type of documents published in WoS-CC.

Documents Type	Number of Records
Article	1633
Book chapter	91
Book reviews	36
Books	2

In the case of WoS-CC, the H-index calculated for the area of study is 33. According to Martínez et al. (2013), the documents that in a specific period, in this case between 2012 and 2021, received more than 33 citations constitute the H-core of the area under study. Thus, a total of 36 documents indexed in WoS-CC constitute the H-classics group.

Table 5 shows the top ten H-classics documents, that is, those that are most relevant to the object of study of this research. In general, these studies have addressed how collective bargaining has evolved in different parts of the world under different socio-labour, political and economic circumstances. These analyses have been carried out from different perspectives, such as legislative, business competitiveness or labour rights.

Table 5. Publications with the highest relevance by number of citations in WoS-CC.

#	Authors	Pub. Year	Title	Content	Journal	Cited
1	Breman, Jan Van der Linden, Marcel	2014	Informalizing the Economy: The Return of the Social Question at a Global Level	Evolution and future development of the concept of collective bargaining based on a new interpretation of the working-class concept.	Development and Change	99
2	Marginson, Paul	2015	Coordinated bargaining in Europe: From incremental corrosion to frontal assault?	The way in which collective bargaining, as an institution regulating industrial relations, has been shaped in Europe towards a more decentralised approach to the detriment of multi-employer agreements.	European Journal of Industrial Relations	91
3	Chan, Chris King-Chi Hui, Elaine Sio-Ieng	2014	The Development of Collective Bargaining in China: From Collective Bargaining by Riot to Party State-led Wage Bargaining	To examine the effect of labour strikes on the development of collective bargaining in China.	China Quarterly	91
4	Donaghey, Jimmy Reinecke, Juliane Niforou, Christina Lawson, Benn	2014	From employment relations to consumption relations: balancing labor governance in global supply chains	This article proposes an analytical framework conceptualizing the interface of employment relations and consumption relations within global supply chains, identifying four regimes of labour governance: governance gaps, collective bargaining, standards markets, and complementary regimes.	Human resource management	70
5	Ibsen, Christian Lyhne Tapia, Maite	2017	Trade union revitalisation: Where are we now? Where to next?	This article reviews and evaluates research on the role of trade unions in labour markets and society, the current decline in trade unions and trade union revitalisation.	Journal of Industrial Relations	67
6	Miles, Sandra Jeanquart Mangold, W. Glynn	2014	Employee voice: Untapped resource or social media time bomb?	Worker participation in the enterprise and as part of this collective bargaining can be targeted and managed for strategic advantage when organisations provide the right organisational context together with appropriate mechanisms for employees.	Business Horizons	65
7	Visser, Jelle	2016	What happened to collective bargaining during the great recession?	How this relates to changes in bargaining coverage, multi-employer and multi-level bargaining, rules on extension and opening clauses are the subject of this paper, which surveys developments in 38 OECD and EU countries.	IZA Journal of Labor Policy	60
8	Noelke, Andreas	2016	Economic causes of the Eurozone crisis: the analytical contribution of Comparative Capitalism	The article discusses Comparative Capitalism scholarship's role in the Eurozone crisis, highlighting four main mechanisms: lack of coordinated wage bargaining, specialization in price-sensitive goods, weak innovation systems in Southern economies, temporary masking by increased public and private indebtedness, and systemic causes due to the construction of a common currency for heterogeneous economies.	Socio-Economic Review	56
9	Egels-Zanden, Niklas Merk, Jeroen	2014	Private Regulation and Trade Union Rights: Why Codes of Conduct Have Limited Impact on Trade Union Rights	The study analyses how corporate codes of conduct have influenced labour rights such as freedom of association and collective bargaining.	Journal of Business Ethics	55
10	Friedman, Eli Kuruvilla, Sarosh	2015	Experimentation and decentralization in China's labor relations	The article discusses the legislative changes taking place in China to reform the regulatory framework for industrial relations and collective bargaining, making it adopt a more decentralised approach.	Human Relations	54

On the other hand, Table 6 shows the top five of the researchers with the highest scientific output in the field of collective bargaining. All these researchers belong to universities of OECD countries. The average H-index of this group of researchers is 10.8, with 10 of the 19 researchers above this value, indicating a consolidated research career. Of these nineteen people, 73.7% are men and only 26.3% are women.

In addition, Table 7 shows which are the ten journals with the highest number of published documents. This table highlights the anomalous position of *Revista General de Derecho del Trabajo y de la Seguridad Social*, a journal that, despite not having an IF

and not appearing in the Journal Citation Reports, is a prestigious journal among legal researchers in Spain, which would explain this anomaly.

Table 6. Researchers with the highest number of publications in WoS-CC.

Position	Author	Documents Published	H-Index	Sex	University	Country
1	Addison, John T. Marginson, Paul	11	32	Man	University of South Carolina	United States
			23	Man	University of Warwick	England
2	Heery, Edmund Teixeira, Paulino	10	11	Man	Cardiff University	Wales
			12	Man	University of Coimbra	Portugal
3	Bellmann, Lutz McCrystal, Shae Pulignano, Valeria	9	13	Man	University of Erlangen	Germany
			6	Woman	University of Sydney	Australia
			14	Woman	KU Leuven	Belgic
4	Brandl, Bernd Hauptmeier, Marco Ibsen, Christian Lyhne Marianno, Bradley D. Strunk, Katharine O.	8	13	Man	Durham University	England
			11	Man	Cardiff University	Wales
			11	Man	University of Copenhagen	Denmark
			6	Man	University of Nevada	United States
			1	Woman	Michigan State University	United States
5	Bray, Mark Doerflinger, Nadja Gahan, Peter Goberman, Leon Ilsoe, Anna Pekarek, Andreas Schnabel, Claus	7	9	Man	RMIT University	Australia
			8	Woman	KU Leuven	Belgic
			12	Man	University of Melbourne	Australia
			5	Man	Cardiff University	Wales
			8	Woman	Lund University	Denmark
			8	Man	University of Melbourne	Australia
			4	Man	University of Erlangen	Germany

Table 7. Main scientific journals by number of publications in the WoS-CC.

Position	Journal	#TD	IF 2020	IF 5 Years	BQ	Publisher
1	Revista General de Derecho del Trabajo y de la Seguridad Social	63	–	–	–	Iustel
2	European Journal of Industrial Relations	55	2.553	2.754	Q2	Sage
3	Journal of Industrial Relations	55	2.079	2.259	Q3	Sage
4	Transfer, The European Review of Labour and Research	54	1.370	2.886	Q3	Sage
5	Economic and Industrial Democracy	48	2.947	2.810	Q2	Sage
6	British Journal of Industrial Relations	44	3.323	3.443	Q2	Wiley
7	ILR Review	39	4.543	4.415	Q1	Sage
8	Employee Relations	34	2.248	3.091	Q3	Emerald
9	Industrial Relations Journal.	33			Q3	Wiley
10	Labor History	30	0.561	0.805	Q4	Taylor & Francis

#TD = Number total of documents published; IF 2020 = Impact Factor 2020 Journal Citation Reports; IF 5 years = Impact Factor 5 years Journal Citation Reports; BQ = Best quartile. The best journals are those that are in the first quartile Q1.

Table 8 presents the research areas on which different publications on collective bargaining have focused. In this case, the number of documents is not the same as the total, because a single document may be classified under various headings. Most research has addressed the study of collective bargaining focusing on matters related to business economics, the regulatory frameworks of states, or social sciences in a general sense.

Table 8. Main research areas on which research on collective bargaining in WoS-CC has focused.

Position	Research Areas	Documents Published
1	Business economics	1044
2	Government law	360
3	Social sciences. Other topics	102
4	Sociology	84
5	History	79
6	Education educational research	60
7	Public administration	46
8	Area studies (studies by geographical areas or countries)	38
9	International relations	25
10	Development studies	23

3.1.2. Scopus

From 2012 to 2021, a total of 1971 papers on collective bargaining were registered in Scopus. Table 9 shows the distribution of these publications over these ten years.

Table 9. Number of publications per year in Scopus.

Year	Number of Records	%	Variation
2012	201	10.2%	-
2013	189	9.6%	-6.0%
2014	189	9.6%	0.0%
2015	218	11.1%	15.3%
2016	176	8.9%	-19.3%
2017	170	8.6%	-3.4%
2018	211	10.7%	24.1%
2019	206	10.5%	-2.4%
2020	195	9.9%	-5.3%
2021	216	11.0%	10.8%
TOTAL	1971	100.0%	

As regards the type of documents published in Scopus, Table 10 shows that, once again, most of these documents are articles.

Table 10. Type of documents published in Scopus.

Documents Type	Number of Records
Article	1457
Book chapter	295
Reviews	149
Books	70

In Scopus, the H-index calculated for the study area is 37. Thus, the documents that in the study period received more than 37 citations constitute the H-core (Martínez et al. 2013). In the case of Scopus, 38 indexed documents constitute the H-classics group. Table 11 shows the top ten H-classics documents. Many of these articles are the same as those that appeared as the most influential in the case of WoS-CC, which is why the general analysis of the lines of research of these articles is the same as previously analysed in Table 5.

Table 12 shows the top five authors with the highest scientific production on collective bargaining indexed in Scopus. As with the results obtained in WoS-CC, the fifteen researchers in this group belong to universities in OECD countries. The average H-index value for this group of researchers is 14.7. Only six of the fifteen most relevant researchers are above this average value. Of the fifteen people, 86.7% are men and only 13.3% are women.

Table 11. Publications with the highest relevance by number of citations in Scopus.

#	Authors	Pub. Year	Article	Content	Journal	Cited
1	Deakin, Simon Wilkinson, Frank	2012	The Law of the Labour Market: Industrialization, Employment, and Legal Evolution	This book analyses the evolution of the labour market and the employment contract in Britain through a thorough investigation of the changes in its legal form during and since the industrial revolution. In particular, the book addresses the influence of collective bargaining and social legislation on the standardisation of such important aspects as the conceptualisation of the modern labour market today. In turn, the book analyses the ways in which current proposals for the employment model should be addressed in the face of intensifying technological and institutional change.	The Law of the Labour Market: Industrialization, Employment, and Legal Evolution	152
2	Elfström, Manfred Kuruvilla, Sarosh	2014	The changing nature of labor unrest in China	This study deals with the reforms that are taking place in the Chinese labor market because of workers' protests and strikes. Especially how the general framework of collective bargaining is evolving in the Asian giant.	ILR Review	95
3	Breman, Jan van der Linden, Marcel	2014	Informalizing the economy: The return of the social question at a global level	Evolution and future development of the concept of collective bargaining based on a new interpretation of the working-class concept.	Development and Change	89
4	Vernon, Raymond	2014	The location of economic activity	This paper makes a particular analysis of multinational companies, pointing out that their most salient characteristics are their size and their decentralisation. Decentralisation can point not only to geographical location, but also to management policies and techniques. In this respect, there are various facets to the characteristics of collective bargaining in this type of enterprise. Thus, among other factors, this paper presents a comparative analysis of firms' capacity to pay and their bargaining power.	Economic Analysis and Multinational Enterprise	84
5	Chan, Chris King Chi Hui, Elaine Sio Ieng	2014	The development of collective bargaining in China: From collective bargaining by riot to party state-led wage bargaining	To examine the effect of labour strikes on the development of collective bargaining in China.	China Quarterly	84
6	Marginson, Paul M.	2015	Coordinated bargaining in Europe: From incremental corrosion to frontal assault?	The way in which collective bargaining, as an institution regulating industrial relations, has been shaped in Europe towards a more decentralised approach to the detriment of multi-employer agreements.	European Journal of Industrial Relations	78
7	Donaghey, Jimmy Reinecke, Juliane Niforou, Christina Lawson, Benn	2014	From Employment Relations to Consumption Relations: Balancing Labor Governance in Global Supply Chains	This article proposes an analytical framework conceptualizing the interface of employment relations and consumption relations within global supply chains, identifying four regimes of labour governance: governance gaps, collective bargaining, standards markets, and complementary regimes.	Human Resource Management	78
8	Miles, Sandra Jeanquart Mangold, W. Glynn	2014	Employee voice: Untapped resource or social media time bomb?	Worker participation in the enterprise and as part of this collective bargaining can be targeted and managed for strategic advantage when organisations provide the right organisational context together with appropriate mechanisms for employees.	Business Horizons	75
9	Ibsen, Christian Lyhne Tapia, Maite	2017	Trade union revitalisation: Where are we now? Where to next?	This article reviews and evaluates research on the role of trade unions in labour markets and society, the current decline in trade unions and trade union revitalisation.	Journal of Industrial Relations	72
10	Doellgast, Virginia L.	2012	Disintegrating democracy at work: Labor unions and the future of good jobs in the service economy	This book discusses how moving from a manufacturing-based economy to a service economy must be accompanied by improvements in wages and good working conditions for service sector workers. But this transition depends on the existence of strong trade unions and all-encompassing collective bargaining institutions needed to give workers a voice in decisions affecting the design of their jobs and the distribution of productivity gains.	Disintegrating Democracy at Work: Labor Unions and the Future of Good Jobs in the Service Economy	66

As for the scientific journals that are indexed in Scopus and have published papers on collective bargaining, Table 13 shows the ten journals that have published the greatest number of documents.

Table 12. Researchers with the highest number of publications in Scopus.

Position	Authors	Documents Published	H-Index	Sex	University	Country
1	Pulignano, Valeria	12	17	Woman	KU Leuven	Belgium
2	Addison, John T.	11	26	Man	University of South Carolina	United States
3	Schulten, Thorsten	10	10	Man	University of Tübingen	Germany
	Teixeira, Paulino		13	Man	University of Coimbra	Portugal
4	Marginson, Paul	9	26	Man	University of Warwick	England
	Bellmann, Lutz		16	Man	University of Erlangen	Germany
	Ibsen, Christian Lyhne		12	Man	University of Copenhagen	Denmark
5	Forsyth, Anthony	8	5	Man	RMIT University	Australia
	Heery, Edmund		24	Man	Cardiff University	Wales
	Brandl, Bernd		13	Man	Durham University	England
	Marianno, Bradley D.		8	Man	University of Nevada	United States
	Gahan, Peter		14	Man	University of Melbourne	Australia
	Bosch, Gerhard		19	Man	University of Duisburg-Essen	Germany
	Glassner, Vera		8	Woman	Chamber of Labour	Austria
	Keller, Berndt Karl		10	Man	University of Konstanz	Germany

Table 13. Main scientific journals by number of publications in the Scopus.

Position	Journal	#TD	CiteScore 2020	H-Index	BQ	Publisher
1	European Journal of Industrial Relations	56	2.5	43	Q1	Sage
2	Journal of Industrial Relations	55	3.5	29	Q1	Sage
3	Economic and Industrial Democracy Transfer: European Review of Labour and Research	52	3.4	40	Q1	Sage
			4.1	23	Q1	Sage
4	ILR Review	39	5.6	78	Q1	Sage
5	Industrielle Beziehungen	38	0.4	10	Q2	Verlag Barbara Budrich
6	British Journal of Industrial Relations	37	3.8	70	Q1	Wiley
7	Employee Relations	35	2.8	52	Q2	Emerald
8	Labor History	29	0.3 ⁽¹⁾	20	Q1	Taylor & Francis
9	Lavoro e Diritto	22	0.4	8	Q3	Il Mulino Publishing House
10	Trabajo y Derecho	21	0.16	2	Q4	Wolters Kluwer

#TD = Number total of documents published; H-Index = h-index calculated from SCImago Journal Rank; BQ = Best quartile. The best journals are those that are in the first quartile Q1. (1) Value for the year 2019.

Finally, the main research areas are presented in Table 14. The same document may be classified under various headings, so the number of documents is not the same as the total. In this case, most of the publications address the study of collective bargaining from the point of view of social sciences (including legal sciences), management and business administration, and economics and finance.

Table 14. Main research areas on which research on collective bargaining in Scopus has focused.

Position	Research Areas	Documents Published
1	Social sciences	963
2	Business, management and accounting	945
3	Economics, econometrics and finance	481
4	Arts and humanities	184
5	Medicine	98
6	Environmental science	38
7	Nursing	32
8	Engineering	31
9	Psychology	29
10	Agricultural and biological sciences	17

The differences with the results obtained in WoS-CC are relevant. Thus, while in WoS-CC the main research field is business economics, in Scopus the list is headed by the general field of social sciences, which includes legal sciences, followed closely by business, management and accounting. This indicates that in WoS-CC there is a clear orientation towards those papers that deal with collective bargaining research from a perspective clearly focused on aspects related to companies and their management. On the other hand, in Scopus, there is a shared prominence between research that addresses collective bargaining from the integral perspective of the social sciences and law, and those that focus on the business world.

4. Analysis of Results

The data collected from the two databases are presented below in aggregate form and are analysed from two perspectives: (1) publications that are most relevant in terms of the number of citations they have received in WoS-CC and Scopus; and (2) analysis of results using bibliometric maps produced using the VosViewer software. In this case, the results are presented separately because the data obtained from the two different databases are technically incompatible.

4.1. Analysis of Scientific Performance: Results by Citations Received

The data collected from both WoS-CC and Scopus are very similar. Of the ten most cited articles in both WoS-CC and Scopus, six appear in both lists.

As a result of this analysis, six publications are identified, as shown in Table 15, which appear simultaneously in both databases, together with the citations they have received in each. They can therefore be considered the six most influential publications in relation to collective bargaining over the period 2012–2021.

Table 15. Publications with greater global relevance in Web of Sciences Core Collection and Scopus.

Authors	Pub. Year	Article	Journal	Database Cited	
Breman, Jan Van der Linden, Marcel	2014	Informalizing the Economy: The Return of the Social Question at a Global Level	Development and Change	WoS-CC Scopus	99 89
Chan, Chris King-Chi Hui, Elaine Sio-leng	2014	The Development of Collective Bargaining in China: From Collective Bargaining by Riot to Party State-led Wage Bargaining	China Quarterly	WoS-CC Scopus	91 84
Donaghey, Jimmy Reinecke, Juliane Niforou, Christina Lawson, Benn	2014	From employment relations to consumption relations: balancing labor governance in global supply chains	Human Resource Management	WoS-CC Scopus	70 78
Miles, Sandra Jeanquart Mangold, W. Glynn	2014	Employee voice: Untapped resource or social media time bomb?	Business Horizons	WoS-CC Scopus	65 75
Marginson, Paul	2015	Coordinated bargaining in Europe: From incremental corrosion to frontal assault?	European Journal of Industrial Relations	WoS-CC Scopus	91 78
Ibsen, Christian Lyhne Tapia, Maite	2017	Trade union revitalisation: Where are we now? Where to next?	Journal of Industrial Relations	WoS-CC Scopus	67 72

In turn, Table 16 shows the academic affiliation of the authors of the most influential publications. Of these thirteen people, five are women (38.5%) and eight are men (61.5%). Note also that most of the authors are from the United States (46.2%), the United Kingdom (23.1%) and the Netherlands (15.4%).

On the other hand, analysis of the results of the most influential journals in the field of collective bargaining is presented from a dual perspective. First, Table 17 shows the seven scientific journals indexed in both WoS-CC and Scopus in which the largest number of papers have been published. As this table shows, this group of seven journals dominates the research landscape in the field of collective bargaining. Thus, the fact that these journals are classified in the categories presented in the table would explain the fact that most of the

research in the field of collective bargaining is related to the legal and business management fields, as mentioned above.

Table 16. Affiliation of the authors of the most influential publications in Web of Sciences Core Collection and Scopus.

Authors	Sex	Affiliation	Country
Breman, Jan	Man	University of Amsterdam	Netherlands
van der Linden, Marcel	Man	University of Amsterdam	Netherlands
Marginson, Paul	Man	University of Warwick	United States
Chan, Chris King-Chi	Man	Chinese University of Hong Kong	Hong Kong
Hui, Elaine Sio-Ieng	Woman	Pennsylvania State University	United States
Donaghey, Jimmy	Man	University of South Australia	Australia
Reinecke, Juliane	Woman	King's College London	United Kingdom
Niforou, Christina	Woman	University of Birmingham	United Kingdom
Lawson, Benn	Man	Cambridge Judge Business School	United Kingdom
Ibsen, Christian Lyhne	Man	Michigan State University	United States
Tapia, Maite	Woman	Michigan State University	United States
Miles, Sandra Jeanquart	Woman	Murray State University	United States
Mangold, W. Glynn	Man	Murray State University	United States

Table 17. Most influential journals according to the number of documents published in Web of Sciences Core Collection and Scopus.

Title	Publisher	JCR Category	Scopus Category
European Journal of Industrial Relations	Sage	Industrial relations and labor	Business, Management and Accounting. Management of Technology and Innovation. Organizational Behavior and HRM. Strategy and Management.
Journal of Industrial Relations	Sage	Industrial relations and labor	Business and International Management. Industrial Relations.
Transfer, The European Review of Labour and Research	Sage	Industrial relations and labor	Industrial Relations. Organizational Behavior and HRM
Economic and Industrial Democracy	Sage	Industrial relations and labor	General Business, Management and Accounting. Organizational Behavior and HRM Strategy and Management. Management of Technology and Innovation.
British Journal of Industrial Relations	Wiley	Industrial relations and labor	General Business, Management and Accounting. Organizational Behavior and HRM Management of Technology and Innovation.
ILR Review	Sage	Industrial relations and labor	Organizational Behavior and HRM Strategy and Management. Management of Technology and Innovation.
Employee Relations	Emerald	Industrial relations and labor. Management.	Industrial Relations. Organizational Behavior and HRM

Regarding the categories into which each of these journals is classified, most are in areas such as industrial relations, organisational behaviour, and human resources management.

4.2. Scientific Mapping: Maps of Bibliometric Results

The bibliometric maps and data shown in this section indicate the evolution over the study period of the variables analysed, that is, the most influential researchers, the

scientific papers with the greatest impact and the topics addressed in relation to collective bargaining.

For the elaboration of each of these bibliometric maps, in line with [Perianes-Rodriguez et al. \(2016\)](#), the fractional counting method was used, as it is the most appropriate for graphic representation of the networks.

The bibliometric maps have been drawn up using the VOSviewer software. Each map shows nodes that reflect the frequency and relative position on the map of each study variable. In line with the general objective of this research, we chose overlay visualisation, which makes it possible to trace the evolution of the variables being analysed over time, allowing us to detect future trends and changes in each of these variables.

4.2.1. Bibliographic Coupling Analysis by Authors

One of the main arguments in favour of carrying out the analysis of authors is that it indicates the links and collaborative networks that are created around a given object of study in order to avoid researcher isolation and increase scientific productivity ([Acedo et al. 2006](#); [Hosseini et al. 2018](#)).

The figures below show the bibliometric maps for WoS-CC (Figure 1) and Scopus (Figure 1) of the evolution of both the relationships between the most cited researchers and their impact on the field of collective bargaining.

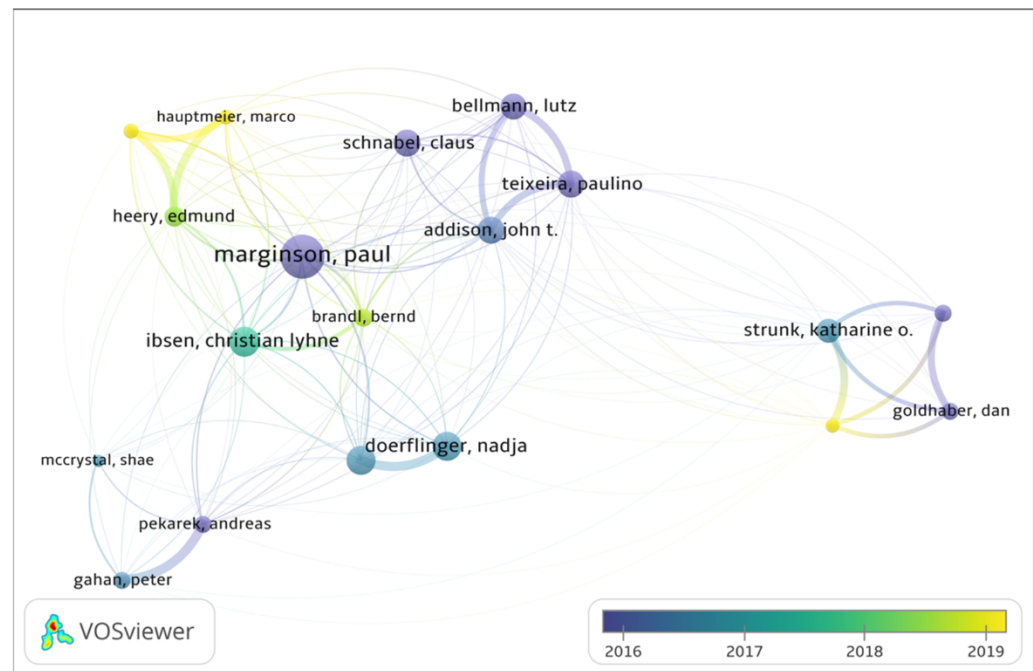


Figure 1. Collaboration network of authors by years in WoS-CC.

In the case of Figure 1, the map has been generated considering a minimum number of six published documents and, in line with the H-index calculated in WoS-CC for the area of study, thirty-three citations per author.

This figure shows that the researchers with the greatest initial impact were Paul Marginson (Professor of Industrial Relations at the University of Warwick, United Kingdom), Claus Schnabel (Professor of Economics at Friedrich-Alexander University, Germany), Paulino Teixeira (Professor of Economics at the University of Coimbra, Portugal) and John T. Addison (Professor of Economics at the University of South Carolina, United States).

It also shows that researchers who became more relevant over time were Leon Goberman (Lecturer in Employment Relations at Cardiff University, United Kingdom), Marco Hauptmeier (Professor of International Human Resources at Cardiff University, United Kingdom), Bradley D. Marianno (Professor of Educational Policy and Leadership at the

University of Nevada, United States), Edmund Herry (Professor of Employment Relations at Cardiff University, United Kingdom) and Bernd Brandl (Professor of Management at the University of Durham, United Kingdom).

The map shown in Figure 2 considers a minimum number of six published papers, although in this case, as the data correspond to Scopus, the number of citations per author is a minimum of thirty-three, which corresponds to the H index calculated in Scopus.

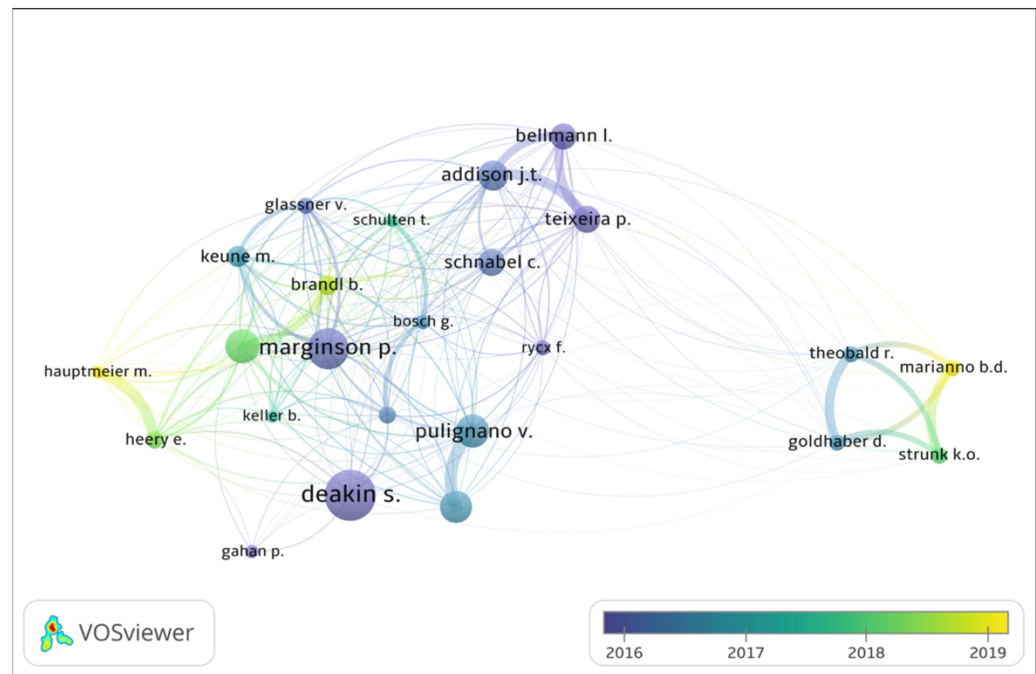


Figure 2. Collaboration network of authors by years in Scopus.

This map identifies, in addition to those already mentioned in Figure 1, the following researchers with a greater initial influence, such as Simon Deakin (Professor of Labour Law at the University of Cambridge, United Kingdom), Lutz Bellmann (Professor of Labour Economics at the University of Erlangen, Germany) and Valeria Pulignano (Professor of Labour Sociology and Industrial Relations at KU Leuven).

It also identifies researchers who have had a more recent impact such as Marco Hauptmeier (Professor of International Human Resources at Cardiff University, United Kingdom), Bradley D. Marianno (Professor of Educational Policy and Leadership at the University of Nevada, United States), Bernd Brandl (Professor in Management at Durham University, United Kingdom), Christian L. Ibsen (Professor of Sociology at the University of Copenhagen, Denmark) and Edmund Herry (Professor of Employment Relations at Cardiff University, United Kingdom).

4.2.2. Bibliographic Coupling Analysis by Documents

By analysing documents, it is possible to determine, from the number of citations received from a scientific document, any relationships with other documents, as well as the influence or impact that this document has on the field of study it addresses (Üsdiken and Pasadeos 1995).

The bibliometric maps presented below, in the cases of both WoS-CC and Scopus, consider a minimum number of two citations per document. Also, to facilitate visualisation of the graph, the thirty most relevant documents are presented.

This makes it possible to observe the evolution over the study period of the most influential publications in the field of collective bargaining and, at the same time, to identify any emerging themes.

In the case of Figure 3, corresponding to WoS-CC, we can see how the works of Sachs (2013), Visser (2016), Ibsen and Tapia (2017) and Addison et al. (2017) were some

of the most influential during the period under study. On the other hand, the works of Brandl and Bechter (2019), López-Andreu (2019a, 2019b), Hope and Martelli (2019) and Bulfone and Afonso (2020) began to have a greater impact at the end of the period.

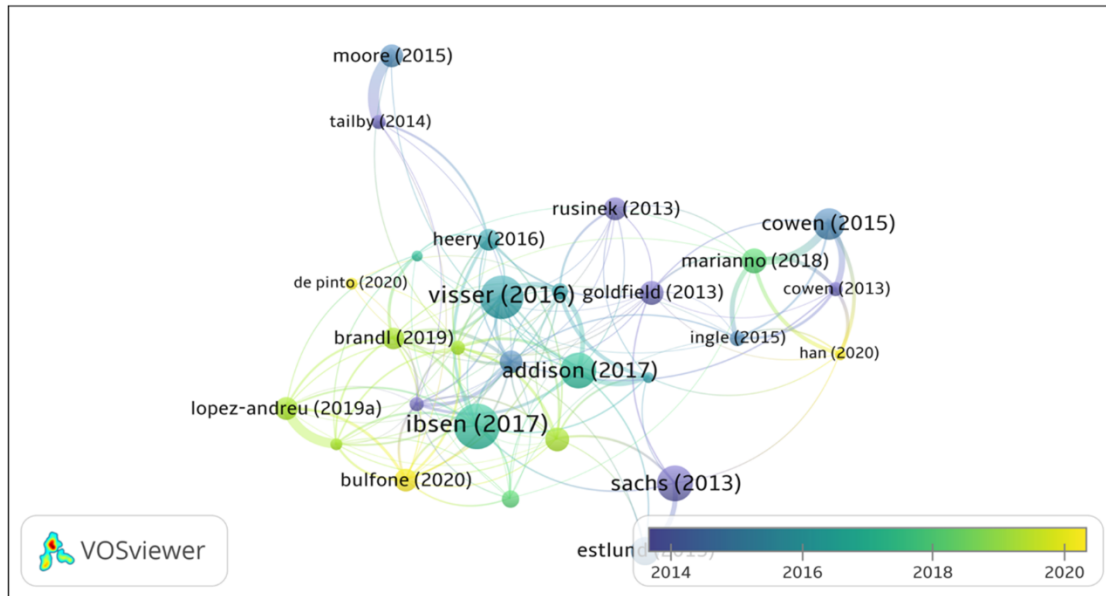


Figure 3. Bibliometric map of the most cited documents by year in WoS-CC.

In the case of Scopus, Figure 4 shows that in this database, too, the works of Sachs (2013), Visser (2016), Ibsen and Tapia (2017) and Addison et al. (2017) were the most influential during the study period, together with those by Doellgast (2012) and Donaghey et al. (2014). More recently, research works that can be considered emerging are those by López-Andreu (2019a, 2019b), Wright et al. (2019) and Bulfone and Afonso (2020).

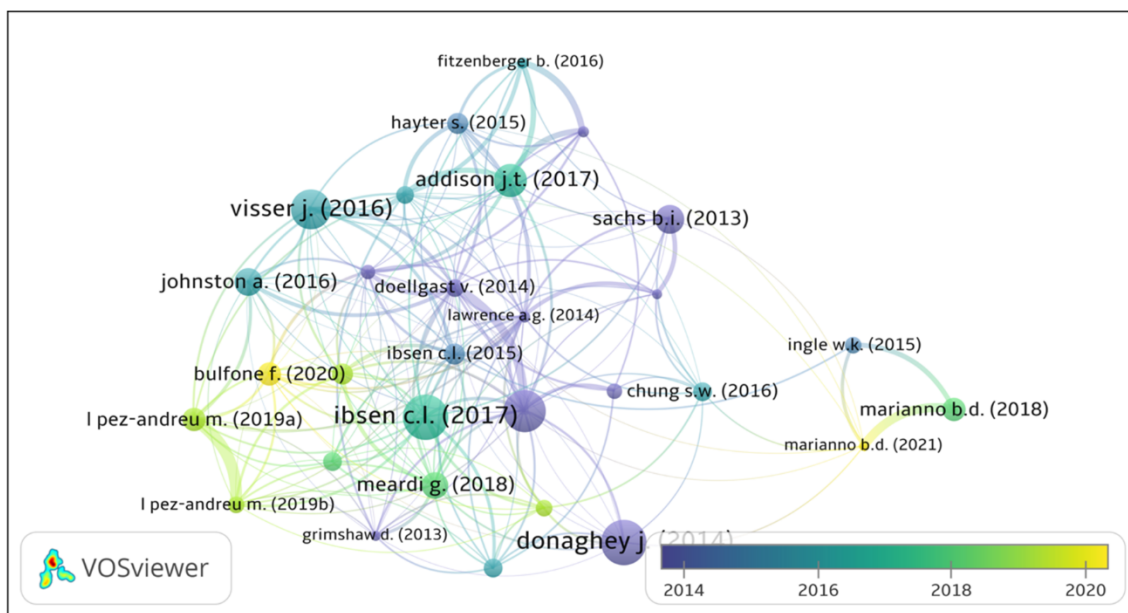


Figure 4. Bibliometric map of the most cited documents by years in Scopus.

On the other hand, the results reveal that many researchers are male, which is common in many other scientific fields, as research has shown (e.g., [Chan and Torgler 2020](#); [Kwiek and Roszka 2020](#); [Maddi and Gingras 2021](#)).

Also, as other studies have revealed, most of the researchers are of European or North American origin and are linked to North American and British universities ([Alvarez-Meaza et al. 2020](#); [Gui et al. 2019](#); [Kosch and Szarucki 2020](#)).

This profile means that the studies carried out by these researchers throughout the entire study period focus on topics that reflect the European or North American social and labour reality, something that some of the most cited studies show.

In today's borderless economy, global supply chains are increasingly relevant. This importance is reflected not only in business strategies, but also in the framework of industrial relations, social dialogue, and collective bargaining at the international level. Thus, workers' rights in Europe or North America cannot be achieved to the detriment of labour rights in other countries ([Burgmann 2016](#)). It would therefore make sense to broaden the focus of collective bargaining research to geographical areas other than North America or Europe ([Donaghey et al. 2014](#)), especially considering that research such as [Mitchell et al. \(2021\)](#) considers international immigration to be one of the research trends in relation to the future of work. Examples such as the work of [Koçer and Hayter \(2011\)](#) and [Panimbang \(2017\)](#) can be useful for understanding the framework of industrial relations issues in African and Asian countries, respectively.

5.2. On the Most Cited Publications

The publications that have had the greatest impact (thus setting the trend for many other research studies) have focused their studies mainly on questions such as the role that trade unions should play in the framework of collective bargaining, or on the political, economic, and social variables that influence collective bargaining processes.

With regard to the role of trade unions, [Sachs \(2013\)](#) offered a legislative framework in which the political and bargaining power of trade unions was diminished, increasing the legitimacy of workers to negotiate their working conditions with their firms from the outside. For their part, [Ibsen and Tapia \(2017\)](#) identified the strategies that trade unions began to adopt to compensate for the loss of bargaining power they experienced as a result of labour market reforms. Thus, transcending their role as negotiators, trade unions took on a role that led them, together with other social movements, to broaden their portfolio of political and social demands beyond what was strictly labour-related. Special mention should be made of the research by [Doellgast \(2012\)](#), who dealt in depth with the potential that classic trade union organisations may have for protecting the labour rights of people employed in call centre companies, which form part of what at the time was called the new technological economy.

In the specific case of the variables that modulate collective bargaining, [Donaghey et al. \(2014\)](#), from a more global perspective, pointed out the link between labour relations and the power of consumers as an interest group, identifying the capacity of consumers to influence the negotiation of better working conditions for workers and suggesting, at the same time, a research agenda to study this relationship in greater depth. [Visser \(2016\)](#), from the perspective of the OECD countries, and [Addison et al. \(2017\)](#), for Germany, analysed the profound transformation that collective bargaining processes underwent as a result of the structural adjustment policies carried out by governments to deal with the economic crisis of 2008, emphasising the loss of bargaining power on the part of trade unions.

On the other hand, more recent work has been identified which, though its impact to date is only moderate, can be considered emerging. Such research can be analysed from two angles: (a) studies that begin to question the extent to which the labour reforms promoted after the 2008 crisis have had a positive impact on collective bargaining models and labour markets, considering that they have often caused wage gaps to widen despite the progress promised by scientific and technical advances; and (b) studies that highlight the influence on collective bargaining processes of the growth in "non-standard" forms

of paid work, a label which groups together all work that is not performed on a full-time basis, that has a fixed duration and that is performed without supervision or direction by the employer (Kalleberg 2000).

Regarding the former, research such as that by López-Andreu (2019a, 2019b) or Brandl and Bechter (2019) questions the impact and significance that the structural reforms promoted by supranational organisations such as the European Commission, the European Central Bank and the International Monetary Fund have had on labour markets since the 2008 crisis and, specifically, on collective bargaining models. Such reforms have not always been backed by businesses (Bulfone and Afonso 2020). Thus, elements such as imbalance in the distribution of bargaining power to the detriment of trade unions, or an increase in the liberalisation or decentralisation of collective bargaining, have resulted in new models of collective bargaining on which doubts are cast as to their effectiveness for achieving the necessary adjustment in labour markets (Brandl and Bechter 2019; López-Andreu 2019b) and promoting more equitable distribution of wealth (Hope and Martelli 2019). These doubts underpin the need to analyse and evaluate these collective bargaining models in order to give them the necessary strength to combat growing inequality (Brandl and Bechter 2019; López-Andreu 2019b).

Going beyond the political and economic dynamics that have led to this liberalisation, or decentralisation, of collective bargaining processes, the research by Wright et al. (2019) focuses on the effectiveness of this new set of rules for protecting the labour rights of people employed in emerging sectors, in what has come to be known as the platform or gig economy, characterised by “non-standard” forms of paid work.

In the context of the weakening of traditional forms of collective bargaining, Wright et al. (2019) point out the challenge for governments and economic and social agents to adapt this set of rules, together with other organisational processes such as dialogue with interest groups, to protect workers from new situations such as access to personal data on social networks, the management of algorithms or even access to genetic data. This challenge makes it necessary to promote research to analyse such organisational processes to provide a concrete response to the changing regulatory environment.

5.3. On Keywords

As noted above, the results of the keyword analyses highlighted a slow evolution of collective bargaining research topics during the study period. In this sense, keywords such as unions, employment, work, workers, labour relations and policies, performance, wages, or comparative studies of the regulatory frameworks of collective bargaining have been the concepts that shaped the study variables that, in the analysis of the most cited publications, have been pointed out as those that influenced collective bargaining processes. This highlights the correlation between keywords and the most cited publications.

In this case, the slowness of the conceptual evolution in research on collective bargaining does not so much indicate a slowdown in them, which, although decreased in WoS-CC, revealed an increase in Scopus (see Tables 3 and 8), but rather the influence that the global economic crisis of the early twentieth century had on research on labour relations and collective bargaining (e.g., Brandl and Bechter 2019; Bulfone and Afonso 2020; López-Andreu 2019b; Visser 2016), giving it a more economical orientation.

However, it is possible to appreciate a certain tendency to take into consideration during the last years of the study period aspects related to the working conditions of workers, the distribution of wealth, the institutional frameworks of collective bargaining, or research related to working women. The concern that many researchers are beginning to have about these emerging issues (e.g., Bourguignon and Coron 2021; Cunningham and James 2020; Dorigatti and Pedersini 2021; Keune 2021) is justified by the degradation of labour markets and the consequences that this has on workers, which indicates a more social orientation in research on collective bargaining.

Along with the latter, the joint effect of the COVID-19 pandemic and global social, economic, and technological changes is accelerating the transformation of the world of

work. This transformation brings with it the need to address new paradigms that address these changes in relevant aspects such as globalization, international migration and diversity (Mitchell et al. 2021). On the other hand, this is posing important challenges to collective bargaining processes (Amankwah-Amoah et al. 2021; Fay and Ghadimi 2020) that demand a deeper conceptual evolution of scientific research in this field (Baylos Grau 2020; Eaton and Heckscher 2021), something that in light of the results obtained in the analysis of keywords does not seem to have happened, especially in the case of research that has been able to address the impact of the health crisis on collective bargaining processes.

Some of these challenges were already raised in the introduction of this research. The need to advance in the renewal of collective bargaining mechanisms, making them more cooperative and innovative, was pointed out. What is involved, therefore, is to contrast, through empirical, analytical and legal methodologies, the renewal of these mechanisms with the purpose of obtaining research results in which the needs and expectations of firms do not ignore those of workers, but rather in which a balance is struck between greater business performance and better labour rights and conditions for workers (Todoli-Signes 2021). Thus, collective bargaining will fulfil its function of governance of labour relations, promoting and encouraging their change in an emancipatory direction, aligning with the paradigms of labour well-being of workers (Baylos Grau 2020; Guest 2017; Inanc and Kalleberg 2022).

6. Conclusions

This research had the purpose of answering questions such as the following: Which researchers have led studies on collective bargaining? In which countries has research on collective bargaining been most developed? Have studies on collective bargaining evolved quantitatively? What have been the main areas or keywords addressed by researchers? To answer these questions, a bibliometric analysis of the scientific literature on collective bargaining in the period 2012–2021 published in WoS-CC and Scopus was carried out.

Carrying out this analysis separately made it possible to identify possible differences between the two databases. In this case, only substantial differences have been identified in terms of the main areas of research on which the research has focused. Thus, while in WoS-CC the main area is business economics, in the case of Scopus, the area of social sciences (where the law area is included) shares the limelight with business, management and accounting.

On the other hand, a geographical imbalance has been found in terms of the scientific literature on collective bargaining. The most influential researchers are Europeans (mainly from the United Kingdom) or North Americans, which gives greater prominence to dealing with the realities of these regions. This may lead to a homogenization of knowledge about collective bargaining based on the North American and British reality, ignoring the socio-labour realities of other countries.

At the same time, research on collective bargaining has evolved, albeit slowly, towards more socially oriented topics. However, in view of the demands made by various political and economic bodies regarding the need to renew the mechanisms of collective bargaining, it has been concluded that there is an opportunity to develop new lines of research around collective bargaining to improve its dynamics and processes, considering the changing nature of the industrial relations and the growing importance of the involvement of the different social partners. Specifically, it may be worth considering workplace partnership as an innovative mechanism to improve industrial relations, in order to address what are seen as key issues in achieving work–life balance, such as work, caring, adaptability, and gender and class inequalities.

In this sense, collective bargaining, as the governing institution of labour relations, must be the starting point for reaching a new pact or social contract in which a socio-economic consensus is reached that results in greater business performance and the extension of the rights and labour conditions of the workers. As argued, the cooperative relationship between managers and unions can bring to fruition high-performance working practices that result in win–win for all stakeholders. Even more so when, due to the

COVID-19 health crisis and the digitization of economic relations, the world of work and labour relations is facing an accelerated transformation.

Accordingly, it is possible to conclude that the COVID-19 pandemic has highlighted that the care society and the care economy are essential in the social and economic structure of contemporary societies. From this perspective, firms cannot be exempt from their responsibility regarding the care, if any, of their workers. Economic agents cannot demand higher levels of work commitment and performance without offering better working conditions and higher levels of work well-being. It is from this point of view that the work well-being paradigm can be reinterpreted, basing it largely on the social exchange and mutual gains theories that underlie the employment relationship.

Additionally, the voice of employees is key in improving the working conditions and well-being of workers when negotiating collective agreements. However, this practice has been generally neglected by traditional human resources management models, although it is increasingly seen as an essential aspect of building a positive employment relationship and includes policies such as open two-way communication, giving workers opportunities to express their expectations and needs and attitudes and, especially, the possibility of having collective representation that allows strengthening and even avoiding the psychological contract breach.

In particular, the relationship between the creation of work environments focused on the needs and expectations of working people and their well-being at work, and the impact that it has on increasing work commitment and performance, has received in recent years the attention of some companies and, also of many academic investigations.

Collective bargaining can thus be seen as a crucial instrument for involving workers in firms becoming part of what has come to be known as employee-centred models of human resources management. For this reason, it must, and can, play a leading role in increasing people's commitment to the company by improving well-being at work.

Therefore, the results obtained and analysed have made it possible to identify five potential lines of research in the field of collective bargaining. This may be useful for future researchers to define future proposals that seek to improve collective bargaining processes to meet the needs and expectations of both employers and workers.

First, future research can test that collective bargaining has a positive effect on employees' commitment and work performance, facilitating the fulfilment of the psychological contract, a hypothesis that, second, should lead to delving into the study of those aspects related to the promotion of social dialogue between the human resources managers and the legal representative of the workers on those labour conditions that positively affect work well-being and the employment relationship, especially in those business models belonging to what has been called the gig economy and that are setting new horizons in terms of the breadth and depth of work organization and the definition of labour rights.

Third, as a derivative of the previous one, research that relates to the way in which sexist behaviours can affect the work well-being of working women and their performance it is relevant in the field of gender studies.

Fourth, in the same way, it can be pointed out that in Europe, examples such as the last labour reform carried out by the Spanish government, with the backing of the European Union, show that the modifications of national collective bargaining frameworks are ongoing processes. On the other hand, the persistence of the economic crisis because of the COVID-19 pandemic and, more recently, of the strong inflationary dynamics resulting from the ongoing war in the Russian Federation, leads to the need to better understand the effect that reforms of collective bargaining systems can have on labour markets, on the competitiveness of enterprises and on people's working conditions.

Fifth, examples such as the recent conflict in the Spanish transport sector, in which the Spanish government did not recognise the legitimacy of certain transport associations to bargain because of their minority status, suggest that precisely the legitimacy and power of the parties to negotiate and reach collective agreements may constitute other lines of research. This line may be of interest when what is sought is to facilitate the

self-organization of employees to negotiate and agree on their labour conditions beyond the unions.

The limitations of this research relate to the methodology employed. In this sense, although the data collected were filtered, the search condition used in the “collective bargaining” databases is broad, so there was a risk of including scientific articles that were only weakly related to the topic. Also, the fact that some papers may be classified in different research areas may lead to some distortions in some of the analyses.

Another limitation that can be pointed out is a result of the temporal analysis of the study itself. Indeed, the study carried out reflects a trend and evolution over this period. However, the dynamic behaviour, where appropriate, of such relevant elements for this type of study as the number of citations received by a document may cause some of the analyses and conclusions obtained to vary over time.

On the other hand, to carry out bibliometric analysis, it is necessary to have a set of metrics which, on many occasions, are not available in some databases, such as Google Scholar, or repositories from which the so-called grey literature can be obtained. Thus, if the research had included other databases and considered the grey literature on collective bargaining published by other institutions such as the International Labour Organisation, the European Commission or the World Bank, the results obtained could undoubtedly have been improved.

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