Department for Business & Trade

Assessing the legal and economic implications of the Employment Rights Act 2025

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Abbreviations

ERA	Employment Rights Act
CBR-LRI Index	Cambridge Centre for Business Research Labour Regulation

Executive Summary

- The Plan to Make Work Pay is the Government's ambitious package of reforms that will upgrade the UK's employment rights framework, ensuring it is fit for a modern economy, empower working people and contribute to economic growth. The Employment Rights Act plays a key role in delivering the measures of Make Work Pay, and includes policy reforms to unfair dismissal protection, increasing protection from sexual harassment, strengthening Statutory Sick Pay and ending exploitative zero hours contracts and tackling fire and rehire, among other areas. The Act became law on 18 December 2025.

- In order to measure how the Act will change the UK's employment rights framework, we conduct a benchmarking exercise of the measures contained in the Employment Rights Act. The methodology we use is recommended by the OECD and other international agencies.

- We use the Cambridge Centre for Business Research Labour Regulation Index (CBR-LRI) to arrive at an estimate of how worker-protective UK labour law will be after the implementation of the Act. The index is recognised as the most comprehensive of its kind.

- The same benchmarking method allows us to draw comparisons between UK law and the law in developed market economies in the OECD. It can also be used as the basis for economic analysis.

- Our analysis shows that, as a result of the Act, UK labour law protections, as whole, would move closer to the OECD average.

- Whilst the UK would remain less protective than the OECD average overall, it would be a leader in some areas. For example, UK labour law would be at or above the average level of protection in the OECD with respect to zero hours contracts, leave rights (via the ERA's measures to strengthen family-friendly rights and flexible working), and those aspects of trade union rights addressed in the Act.

- Econometric analysis of the relationship between labour law and the economy over the past 50 years in the UK indicates that the ERA is likely to have a small positive effect on employment, representing an increase of around 0.1% in the employment level.

- In those areas where the Act breaks new ground for UK law, including zero hours contract laws, analysis indicates that the adoption of similar laws in other OECD countries in the recent past has led to productivity and employment improvements.

1. Introduction

The aim of this paper is to estimate the likely impact of the Employment Rights Act ('ERA') on UK labour law, using the Cambridge Centre for Business Research Labour Regulation Index (CBR-LRI). This exercise is undertaken for certain specific measures and with regards to the Act's overall impact.

The CBR-LRI is an index of labour laws around the world, covering the period between 1970 and the present day. The countries included in the index cover 95% of global GDP. It can be used to benchmark the protective content of labour law rules across countries and over time. As such, it provides a way to evaluate the changes to UK labour law made by the ERA. Specifically, we can use the index to see (i) how much more protective, in relative terms, UK labour law will become, and (ii) how the UK will compare to other countries, as a result of the ERA.

The CBR-LRI is recognised to be the most comprehensive index of its type (Campos et al., 2025: 154). It has a wider topic coverage than the OECD's Employment Protection Indicators (OECD, 2021), and a more extensive year coverage than the World Bank's Employing Workers Index, which was discontinued in 2021 (World Bank, 2021), and its Business Ready Index, which so far codes for a limited number of countries, not including the UK, for one year only (World Bank, 2023). Policy makers in other countries and in international agencies have relied on the CBR index to evaluate a number of actual and potential labour law reforms over the past decade (Deakin et al., 2020).

The comprehensiveness of the CBR index also makes it a particularly useful resource for econometric analysis of the economic impacts of labour law reforms. Studies using the index in cross-national studies have explored relationships between labour law protections, on the one hand, and innovation (Acharya et al., 2013; Belloc, 2016; Presidente, 2023), productivity (Deakin and Pourkermani, 2024), employment (Adams et al., 2019), equality (Deakin et al., 2014; Adams et al., 2019) and labour formality (Blanton and Peksen, 2019), on the other.

Section 2 below provides an overview of the measures contained in the ERA. Section 3 introduces the CBR-LRI and describes its main features. Section 4 explains how the index was used in the context of the current study. Section 5 sets out our results, showing how far the ERA changes the UK's score by comparison to the pre-Act position and with respect to other countries. Section 6 describes the results of an econometric analysis that uses the index to assess the impact of the ERA on the macroeconomy. Section 7 concludes.

2. ERA: An Overview

The Make Work Pay agenda (Labour Party, 2024; UK Government, 2025) represents a significant part of the current Labour Government's agenda to drive economic

growth, enhance living standards nationwide, and broaden access to opportunity. As a key manifesto pledge, it aims to ensure that more people can remain in employment, increase productivity among workers, and raise overall living conditions. A central mechanism for advancing this agenda is the Employment Rights Act. Once enacted, its impact on UK labour law will be comparable in scope and ambition to the reforms in the 1990s, which included the introduction of the national minimum wage via the National Minimum Wage Act 1998.

Once implemented, the Employment Rights Act will enact a variety of labour law reforms. A major part of the Act is devoted to tackling the problem of one-sided flexibility in the labour market by granting workers a basic level of safeguards to protect them in their line of work. Specifically, the Act will prohibit exploitative zero hours contracts by introducing enforceable rights to be offered a guaranteed number of hours of work, to reasonable advance notice of shifts, and to compensation for shifts that are cancelled at short notice. These protections will also extend to agency workers who fall within scope of legalisation.

The Act will also help to put an end to the practice of 'fire and rehire', and its variant, 'fire and replace', by making dismissals that result from an employee's refusal to accept unilateral changes to their contract automatically unfair, except in cases where employers genuinely have no alternative. Another significant reform will include the removal of the current two-year qualifying period for claiming unfair dismissal. Instead, this right will become available after six months of employment. In addition, the Act will strengthen collective redundancy rights by extending consultation and notification obligations. These duties will apply when an employer proposes to make 20 or more redundancies at a single establishment, and alternatively where the redundancies meet a new threshold to be specified in secondary legislation. In addition, the Act will close a loophole in maritime redundancy notifications, ensuring that operators providing regular services to UK ports are subject to the same collective redundancy consultation requirements as land-based employers.

The Employment Rights Act will also deliver on the principle of 'fair pay for a fair day's work' by strengthening legal entitlements and enhancing pay structures across key sectors. One of its foundational changes is the reform of statutory sick pay (SSP), which will become more inclusive and supportive as the lower earnings limit and waiting period are removed. This will ensure that all workers, regardless of income level, have immediate access to financial support they require.

To improve pay equity and working conditions in education, the Act will reinstate the School Support Staff Negotiating Body for England and re-establish a formal mechanism for setting fair pay and conditions for support staff in schools. In the care sector, where low pay and fragmented bargaining have long been chronic issues, the Act will provide for the creation of a Fair Pay Agreements process. This will be established for the adult social care sector in England, as well as for the broader social care sectors in Scotland and Wales, allowing sector-wide standards on pay and conditions to be developed collaboratively.

Further reforms will strengthen the existing practices of tipping workers by introducing a requirement for employers to consult with workers when creating or revising their tipping policies. This will enhance transparency as well as encourage worker input in gratuity allocation. In the context of public service outsourcing, the Act will also reintroduce the two-tier code on workforce terms and conditions. This will ensure that private-sector employees working on public contracts are offered terms and conditions that are broadly comparable to those of the staff transferred from the public sector.

The maritime sector will also see targeted protections. The Act will enable the creation of a mandatory Seafarers' Charter to safeguard the working conditions of seafarers aboard ships operating regular services from UK ports. In parallel, it will provide powers to ensure ongoing compliance with international maritime conventions.

The Employment Rights Act also aims to strengthen family-friendly rights by offering increased flexibility and security for working parents. One of the core changes is to make entitlements to paternity leave and unpaid parental leave available from the first day of employment. This removes existing qualifying thresholds that bar individuals from accessing legal entitlements and ensures that new employees are not excluded from important caregiving rights. The Act will specifically allow parents to take their paternity leave and receive paternity pay after completing a period of shared parental leave, which is an important adjustment that recognises the need for adaptable family arrangements over time. The Act will also introduce a new statutory right to bereavement leave. This will allow employees time away from work to grieve the loss of a loved one. This new right will be unpaid.

In addition, the Act will introduce enhanced protections for pregnant women and new mothers by making it unlawful to dismiss them, except in specific circumstances. These protections will extend beyond the period of maternity leave to cover pregnancy and at least six months following a mother's return to work, to ensure job security during the critical phase of re-entry into the workplace. Finally, the Act will strengthen the existing 'day-one' right to request flexible working. Employers will be required to accept flexible working requests where reasonably feasible, and if rejecting, explain why that is reasonable. This marks a shift toward greater accountability in how flexible working decisions are made in adaptable and inclusive working environments.

The Employment Rights Act also seeks to improve wellbeing in the workplace through changes to equality law. A central reform is the strengthening of the employer's duty to prevent sexual harassment. Currently framed as a duty to take 'reasonable steps', the Act will raise this threshold to a requirement that employers take all reasonable steps to prevent such conduct. This duty will be further complemented by the introduction of an obligation on employers not to permit harassment of their employees by third parties, such as clients, customers, or contractors. The Act will also establish a regulatory power allowing for the specification of what kinds of preventive measures are to be considered 'reasonable'. To support the reporting and redress of workplace misconduct, the Act will further strengthen whistleblower protections by explicitly

recognising sexual harassment as a valid basis for a protected disclosure. The Act additionally introduces measures to support gender equality and the wellbeing of women in the workplace. It will require relevant employers to develop and publish action plans detailing how they are addressing gender pay disparities. These plans must also include steps being taken to support employees experiencing the effects of menopause.

Further, the Act sets out to modernise trade union legislation and expand the capacity of trade unions to organise, represent, and negotiate effectively on behalf of their members. At its core, this modernisation agenda involves the repeal of restrictive legislation introduced in recent years. The Strikes (Minimum Service Levels) Act 2023 will be repealed in full. In parallel, the ERA will repeal the majority of the Trade Union Act 2016, replacing it with a framework that includes a 12-month mandate for industrial action ballots and a 10-day notice period. Trade unions' rights of access to workplaces will also be significantly strengthened. The Act will establish greater physical access rights to workplaces as well as introduce new provisions for digital access. The process for statutory trade union recognition will be simplified to ensure more efficient access to collective bargaining, with new mechanisms to tackle employer obstruction and unfair practices. The Act will also confer new legal rights for trade union representatives, recognising their essential role in representing workers' interests. To promote transparency and worker awareness, employers will be placed under a new statutory duty to inform workers of their right to join a trade union. Further reforms will broaden the scope of protections against blacklisting, allowing for more comprehensive safeguards to be introduced via future regulations. Additionally, the Act will simplify the requirements for industrial action notices, as well as create a new protection against detriment short of dismissal for workers who take part in lawful industrial action.

Another key aspect of the Employment Rights Act is its plan to improve the enforcement of employment rights by establishing the Fair Work Agency, which constitutes a new body tasked with the regulatory oversight of labour standards. The Agency will unify the enforcement of labour protections into one central agency, and will police matters concerning the National Minimum Wage, the licensing of gangmasters, and bring actions against severe labour exploitation. Additionally, it will be empowered to enforce holiday pay entitlements. With its expanded remit, the Agency will be provided with a series of new powers to investigate and inspect businesses who are suspected of violating labour laws. This includes the ability to tackle a broader range of cases involving labour abuse, issue financial penalties, and bring cases to employment tribunals on behalf of affected workers.

The Act will also extend the time limit for employees to bring claims to an Employment Tribunal, increasing the period from three months to six months. In a further step towards modernising labour law enforcement, the Act will bring umbrella companies (payment intermediaries) within the scope of the Employment Agencies Act 1973. This will allow for their more effective regulation and for improved enforcement by the state,

closing a significant gap in the oversight of these intermediaries and ensure a consistent response to the violation or labour law protections in the UK.

This paper will examine the provisions contained within the Employment Rights Act, evaluating the anticipated impact of individual reforms and their cumulative implications.

3. The CBR-LRI Index: scope, methodology and usage

Scope

The CBR Labour Regulation Index (CBR-LRI) is an index and related dataset which together provide a way to benchmark labour laws according to the degree of protection they confer on workers. The index has been developed at the Centre for Business Research (CBR) in Cambridge since the mid-2000s. With funding from the Economic and Social Research Council and under the auspices of the Digital Futures at Work Research Centre, the index was extended in 2023 to cover labour laws in 117 countries representing over 95% of global GDP, for a period of over fifty years, 1970-2022.

Five areas of labour laws are coded:

1. The laws governing different employment relationships: the definition of employment status and the legal regulation of part-time work, fixed-term employment and temporary agency work.

2. Working time: legal regulation of the working day and week, annual paid leave, and public holidays.

3. Dismissal law: qualifying and probation periods, notice periods, redundancy compensation, procedural and substantive aspects of unfair dismissal, and dismissal remedies

4. Employee representation law: collective bargaining, freedom of association, union recognition, information and consultation.

5. Laws governing industrial action: legality of political and secondary strikes, strike ballots, protection of individuals participating in strikes and other forms of industrial action.

Methodology

The CBR-LRI is a ‘composite index’ which constructs an overall measure of labour law regulation from a series of individual indicators. The methodology used to construct the index is summarised in the Handbook on Constructing Composite Indicators that was first published by the OECD in 2005 (OECD, 2005) and updated in 2008 (OECD, 2008).

The OECD defines ‘composite indices’ as ‘those which compare and rank country performance in areas such as industrial competitiveness, sustainable development, globalization and innovation’ (OECD, 2008: 3). More specifically, an index ‘is a quantitative or a qualitative measure derived from a series of observed facts that can reveal relative positions (*e.g.* of a country) in a given area’ and ‘can point out the direction of change across different units and through time’ (OECD, 2008: 13). An index becomes ‘composite’ when ‘individual indicators are compiled into a single index on the basis of an underlying model’ (OECD, 2008: 13). Composite indices are useful for measuring ‘multi-dimensional concepts which cannot be captured by a single indicator’ (OECD, 2008: 13).

Composite indices are very widely used in policy formation and analysis. While there is a continuing debate over their epistemological status, there is also a measure of agreement on the methods which go into their construction. According to the OECD Handbook, indices are ‘much like mathematical or computational models’, the construction of which ‘owes more to the craftsmanship of the modeller than to universally accepted scientific rules for encoding’ (OECD, 2008: 14). Fitness for purpose and peer acceptance are among the criteria by which they should be judged (OECD, 2008: 13).

Making explicit the steps taken to build an indicator is recognised to be necessary in order to demonstrate its reliability or ‘construct validity’ (Deakin, 2018). The steps taken to construct the CBR-LRI are set out in the Annex’s Table A1.

Phenomenon of interest

The first step is to define the phenomenon or object of interest that is being coded. In the case of the CBR-LRI, this is ‘labour law’, that is, the legal rules relating to work relationships. The term ‘legal’ here includes certain regulatory norms which have a functionally equivalent effect to laws, meaning that they are generally binding and can be publicly enforced. In some legal systems, sector and/or national collective agreements have this status. Plant or company level collective agreements, which are more akin to contractual arrangements than exogenously binding rules, are not coded in the index (Deakin and Sarkar, 2008).

Construct

The second step is to identify the construct which narrows down the research phenomenon into a more precisely defined object of interest. In the case of the CBR-LRI, the construct or concept which the index aims to capture is ‘labour regulation’ (Deakin, Lele and Siems, 2007). This is a synonym for the degree of control which the legal system exercises in and over work relations.

The term ‘regulation’ is chosen in preference to possible alternatives such as ‘cost’ or ‘strictness’ in order to avoid undue bias in the construction of the index. A priori, it is not known whether labour law rules impose ‘costs’ on businesses or ‘restrict’ their operation. A law on dismissal protection, for example, may make it more difficult for firms to terminate employment relationships, but it may also reduce transaction costs associated with negotiating contracts of employment, and may help to disseminate information on good practice (Deakin and Sarkar, 2008). The design of the CBR-LRI avoids taking a prior view on this question.

The focus on ‘regulation’ has implications for the way in which the coding is carried out. In the case of the CBR-LRI, ‘regulation’ is equivalent to the legal or jural content of a given rule, which can be derived from a reading of the text in which it is embedded. The index does not attempt to code for the operation of the law ‘in action’ or ‘in practice’. Evidence on the latter can be obtained through surveys of employment practice and via indices which measure compliance with legal rulings and respect to human rights across countries.

A case can be made for constructing an index which combines the ‘jural’ content of a law with its ‘de facto’ operation, which is the approach taken by the World Bank in constructing its Doing Business and Business Ready indices (World Bank, various years, and World Bank, 2025, respectively). The solution adopted in the case of the CBR-LRI makes it possible to retain an separate measure of ‘jural’ law, which may be useful to policy makers benchmarking different national labour law regimes against each other, while leaving open the possibility of using complementary measures of ‘de facto’ law as controls in econometric analysis (Deakin, 2018).

Indicators

The third step is to identity individual indicators or variables for distinct areas of law. Labour law systems are made up of interlocking rules and principles which combine to achieve an overall regulatory impact. The index seeks to capture the most important or ‘core’ labour law measures. These are coded, initially, as individual indicators or variables, which are then aggregated into sub-indices which correspond to a subset of labour regulations. For example, individual indicators including variables for the rules on qualifying periods, length of notice, procedural and substantive aspects of fairness in dismissal and dismissal remedies, are aggregated together to produce an overall sub-index score for dismissal law. The sub-indices (covering, respectively, the laws on different forms of employment, working time, dismissal, employee representation and industrial action) are then aggregated to form an overall score for labour regulation as a whole. The Annex’s Table A2 lists the 40 indicators and five sub-indices.

There is a close overlap between the indicators coded in the CBR-LRI and alternative measures, reflecting a consensus among researchers and agencies on which aspects of labour regulation count as ‘core’ for this purpose. The five sub-indices cover similar

ground to the index developed by Botero et al. (2004) which was later subsumed into the World Bank's Employing Workers Index. There is also significant overlap between the CBR sub-indices on different forms of employment and dismissal law, on the one hand, and the content of the OECD's Employment Protection Indicators, on the other.

At the same time, there are differences between the CBR index and these alternative measures. The OECD index, since it is restricted in its scope to employment protection law and does not address working time or collective labour law issues, covers around the half the topics contained within the CBR-LRI. The World Bank's Employing Workers Index was discontinued in 2021 and so no longer provides a continuous time series.

The CBR index also provides greater granularity of data than alternative indices. As explained in more detail below ('protocols'), laws are coded using graduated scores, which reflect the degrees of protection they confer. By contrast, the index prepared by Botero et al. (2004) and the subsequent Employing Workers Index mostly use binary codes, indicating the presence or absence of a law.

In addition, the CBR's flexible design means that it can be adapted to provide additional granularity should that be needed, by providing additional codes for a given variable, thereby allowing for a greater level of detail to be captured in the scores. It is also possible to design additional indicators for areas of law not covered by the main index, using the same approach to coding. Both of these techniques, 'deepening' and 'extending' the index, were used in adapting the CBR-LRI in the course of coding the Employment Rights Act for the present study (see Section 4 below).

Protocols

A coding protocol, sometimes called a 'template', is akin to a verbal algorithm. As such it describes the process through which relevant inputs (here, information on the content of legal rules) are combined to produce a given output (here, the value assigned to the indicator to which the rules correspond). The purpose of developing a coding protocol is to ensure that the coding process is carried out as consistently as possible across countries and over different time periods.

The coding protocols for the 40 CBR-LRI indicators are set out in the Annex's Table A3. As just explained ('indicators'), the variables they define are graduated, meaning that they contain information on different types of laws, not just the presence or absence of a law, as in the case of 'binary' or 'dichotomous' variables. The different categories of laws set out in the definitions are those identified in comparative labour law research undertaken by the authors of the index. A preliminary coding of five countries (France, Germany, India, the UK and USA) identified a finite range of possible approaches to legal regulation for each of the topics coded (Deakin, Lele and Siems, 2007). In later iterations of the index, as more countries were added and new

approaches to regulation identified, the protocols were revised to reflect this additional complexity (Adams et al., 2019, 2023).

The coding is carried out by a project team which includes authors of the original index. After a review of the laws of the country concerned, an initial coding is arrived at, and then reviewed by another team member. In the final stage, when all countries have been coded, the codings as a whole are cross-checked by the team members collectively, in order to ensure consistency.

The sourcebook published alongside the dataset containing the country-year scores contains an explanation of each score. The sourcebook and dataset are published on an open access repository with a CCBY licence, permitting their downloading and use in research (Adams et al., 2023).

Having precise coding protocols makes it possible to reduce the risk of subjectivity and error. Although a degree of judgment must be exercised in assigning scores to indicators, the coding is designed to be objectively verifiable. There is either a unique value for each indicator, or a narrow range of possible scores, which can be generated by applying the template. Because explanations for the codings are provided in the sourcebook, other researchers can check the scores and confirm the basis on which they were made. By these means, the scores are intended to be fully replicable.

Scales

Each protocol contains a scale which can be understood as 'dimensionalising' the variable of interest in numerical form. The dimension of the legal rule which the CBR-LRI aims to capture is the extent to which it regulates employers, on the one hand, and protects workers, on the other. The CBR index uses a 0-1 scale, with a higher score denoting a higher degree of regulation/protection.

Different indicators use scales of different degrees of complexity, according to the variety of laws which can be observed across different national systems for the indicator in question. Where there is a high degree of variation in the types of laws that can be observed, a more detailed scale will be used to capture the resulting cross-national diversity.

For most indicators, ordinal scales are used to capture qualitative differences in the degree of protection conferred on workers by laws of different types. For a minority of variables for which quantitative data exist, such as those relating to working time limits expressed in hours, weeks and months, cardinal values are used to arrive at initial scores, which are then normalised to produce a final relative scaling (see the Annex Table A3 for the coding templates).

Sources

The sources of the coding contained in the index are original legal texts, mostly statutes, and the more important judgments of courts. Original legal texts are sourced from the ILO's NATLEX database and a combination of online and print sources. In addition, legal textbooks and legal commentaries, which are primary sources of law in some countries and otherwise relevant descriptions of the state of the law, are consulted online or in law libraries.

As noted above ('construct'), the CBR-LRI codes for 'jural law', that is, rules contained in written texts. Survey evidence on the operation of laws in practice over extended time periods can be obtained from other sources, such as the World Values Survey and the Freedom House indicator of human rights compliance. The World Bank's governance indicators, which include a rule of law index, also provide time-series evidence on legal effectiveness in practice. These and other data on enforcement and effectiveness of laws in practice can be used in conjunction with the CBR index to obtain an overall measure of the combined jural and practical operation of labour law systems (Deakin, 2018; Adams et al., 2019).

Weights

The aggregation of the individual indicator scores into a composite measure at sub-index and overall index level raises the issue of weights. Using a simple aggregate or average of the individual indicators or sub-indices is to assume that each of the individual units has equal importance in the overall scoring. This may not be the case in practice; in a given country, some laws may be of greater importance than others in determining the overall operation of the labour law system.

The scores in the CBR index are reported on an unweighted basis, so that researchers using the index can introduce weights where this can be justified methodologically. 'Exogenous' weights can be applied where, on a priori grounds, a case can be made for ascribing particular importance to a given indicator. In the absence of a compelling justification for using a priori weights, a default of equal weighting may be applied, on the basis that few rules are so important as to operate in isolation from others. For example, dismissal protection in practice is an amalgam of rules on qualifying periods, fairness norms and remedies.

'Endogenous' weights can be identified through statistical techniques, such as factor analysis or principal component analysis, which are capable of identifying latent structures in the dataset, resulting the differential weighting or clustering of variables. Identifying principal components in this way can often lend greater clarity to econometric results. At the same time, the clustering of variables should also be theoretically coherent, in the sense of reflecting what is known about the operation of

labour law rules in practice. The grouping of indicators into sub-indices involves an a priori clustering which reflects such understandings.

Reporting and error correction

The CBR-LRI is published in two linked documents: in an excel spreadsheet, in which values are reported in country/year units; and in a sourcebook, which explains the coding methodology and provides the source for all the scores. The spreadsheet can be used to visualise the data and to translate it into software packages including Stata and R for use in econometric and other statistical analysis.

Reporting successive versions of the dataset on an open data repository with a CCBY licence has made it possible for users of the dataset to give feedback to the authors, thereby facilitating error correction over time. Very few errors have been reported by these means, but where an error of omission or misinterpretation is identified, the index is corrected in future versions.

Before the most recent iteration of the index was published, a preliminary version was circulated to members of the Labour Law Research Network (LLRN), a global network of labour law scholars. By these means, the final version of the index included input from the global labour law community.

Usage

According to a recent survey of the literature on structural reforms in product, financial and labour markets, the CBR-LRI 'provides coverage of a much larger country sample and period than other datasets', including those published by the OECD and World Bank (Campos et al., 2025: 154). The comprehensiveness of the CBR index has led to its growing use in the research and policy analysis. Total citations to the index and related articles by its authors currently number over 500 (Google Scholar, consulted 26 April 2025).

The lengthy time series provided by the index, coupled with its wide country coverage, make it particularly appropriate for use in econometric studies. It has been used in time-series analysis to study individual country effects of labour law reforms (Deakin and Sarkar, 2008; Deakin and Pourkermani, 2024) and in panel data studies to analyse cross-national trends (Acharya et al., 2014; Adams et al., 2019).

Among the relationships explored in econometric studies using the dataset are those between labour laws, on the one hand, and innovation, on the other. Acharya et al. (2013) report a positive relationship between the dismissal law variables in the CBR-LRI and patent citations in a panel of four industrialised countries (France, Germany, the United Kingdom and the United States). Belloc (2019) uses the CBR-LRI to study the combined impact of dismissal laws and laws providing for collective employee representation. In a panel data analysis of five countries (the USA, UK, France,

Germany and India), he finds that labour law protections and patenting activity are positively correlated where collective employment representation rights was combined with stricter dismissal protection. Presidente (2023), analysing a panel of developed and developing countries, finds that more protective labour laws, as measured by the CBR-LRI, are associated with uptake of new technologies in the automotive sector.

Other studies examine impacts on productivity and employment. Jäger et al. (2021) find that European codetermination laws, of the kind which provide for employee representation through works councils and board membership, have moderately positive impacts on productivity, wages and stability of employment. Deakin and Sarkar (2008) conduct country-level time series analyses which find positive impacts of labour law protections on productivity and employment in France and Germany. Their analysis of the US WARN law in 1988, which introduced notice and severance pay requirements for collective dismissals, finds a rise in productivity but falling employment following this law's introduction. Acharya et al. (2013), using separate data which breaks down US labour law to state level, find positive effects on patenting activity in California following the adoption of WARN, and an increase in employment in high-tech firms California and Massachusetts following a tightening of dismissal protections in these states. Their study suggests that the productivity-employment trade off identified by Deakin and Sarkar (2008) in their US analysis does not hold for more innovative sectors and regions.

The relationship between equality and employment has also been studied using the CBR-LRI. On the basis of a dynamic panel data analysis of six OECD countries (France, Germany, Japan, Sweden, the United Kingdom and the United States), Deakin et al. (2014a) report that higher scores on the different forms of employment, working time and employee representation sub-indices are correlated with a higher labour share of national income (that is, the share of national income distributed as wages and salaries rather than profits and rents), without offsetting falls in employment, or rises in unemployment. Adams et al. (2019), using the 2017 iteration of the dataset covering 119 countries between the 1990s and 2010s, find that more protective laws on different forms of employment and dismissal are correlated with a rising labour share, rising employment and falling unemployment. Deakin and Pourkermani (2024), using the 2023 update of the dataset, report that more protective labour laws in the UK over the period between 1970 and 2022 are associated, on average, with employment gains.

The index has been also used to study the impacts of labour laws in developing countries. Deakin et al. (2014b) find that higher scores on the employee representation sub-index of the CBR-LRI are correlated with a lower Gini coefficient and higher values on the UN's Human Development Index in a panel of five middle income countries (Brazil, China, India, Russia and South Africa). Deakin and Sarkar (2011), in a time-series study of India, find no evidence of worker-protective labour laws causing unemployment over the long run, and some evidence of short-term falls. Blanton and Peksen (2019) find that more protective labour laws as measured by the CBR-LRI lead to a reduction in the size of the informal sector in low and middle income countries,

with this effect being amplified by higher scores on indicators of respect for the rule of law, bureaucratic capacity, and control over corruption. Deakin and Pourkermani (2024) report a positive relationship between employment protection laws and productivity in China.

4. Mapping the Act on to the Index

Coding process

The same methodology that was used to construct the CBR-LRI index can be used to benchmark the changes made by the ERA. The coding process is the same in the case of the draft laws contained in the ERA, as it is when existing legal texts are coded.

Overlap

There is not a precise overlap between the Act and the index. The index is intended to be broadly comprehensive in its coverage of relevant labour law rules. The ERA, by contrast, is a targeted reform which only addresses parts of UK labour law. As such, it only impacts on certain indicators and sub-indices within the overall index.

Conversely, there are features of the ERA which are not coded in the index as it is currently constituted. As noted above, the index covers five areas: different employment relationships, working time, dismissal, employee representation, and industrial action. Thus, it does not contain codings for some of the matters contained in the Act, such as zero hours contracts, family friendly rights, and enforcement.

To arrive at a more complete picture of the impact of the Act, we carried out additional codings in selected areas. These were the laws governing (i) zero hours contracts and (ii) paternity, parental and bereavement leave rights. The issue of enforcement may be addressed in future work.

Granularity

In addition to the question of overlap, we address the issue of granularity in this research. The index operates at a relatively high level of abstraction, which is intended to reflect broad cross-national and inter-temporal trends. As such, it does not completely capture the more granular changes to labour law envisaged by the ERA. For example, the CBR-LRI coding template deals with the issue of strike notice as part of a more broadly defined indicator relating to waiting periods prior to industrial action, while the indicator relating to the protection of individuals taking part in industrial action relates to dismissal only and does not deal with protection against other forms of detriment. To address these and similar issues of granularity, we carried out additional codings in trade union rights.

Table 1 sets out the relationship between the indicators contained in the main index and each of the new subindices, and the provisions of ERA.

Table 1: Correspondences between indicators and sections of the ERA

Indicators	Employment Rights Act
Main CBR-LRI index	
Different forms of employment	
1. The law, as opposed to the contracting parties, determines the legal status of the worker	NA
2. Part-time workers have the right to equal treatment with full-time workers	NA
3. Part-time workers have equal or proportionate dismissal rights to full-time workers	NA
4. Fixed-term contracts are allowed only for work of limited duration	NA
5. Fixed-term workers have the right to equal treatment with permanent workers	NA
6. Maximum duration of fixed-term contracts	NA
7. Agency work is prohibited or strictly controlled	NA
8. Agency workers have the right to equal treatment with permanent workers of the user undertaking	Section 4 ‘Agency workers: guaranteed hours and rights relating to shifts’
Regulation of working time	
9. Annual leave entitlements	NA
10. Public holiday entitlements	NA
11. Overtime premia	NA
12. Weekend working	NA
13. Limits to overtime working	NA
14. Duration of the normal working week	NA
15. Maximum daily working time.	NA
Regulation of dismissal	
16. Legally mandated notice period	NA
17. Legally mandated redundancy compensation	NA

18. Minimum qualifying period of service for normal case of unjust dismissal	Section 25 'Right not to be unfairly dismissed: qualifying period and compensatory award'
19. Law imposes procedural constraints on dismissal	NA
20. Law imposes substantive constraints on dismissal	Section 28 'Dismissal for failing to agree to variation of contract, etc'
21. Reinstatement normal remedy for unfair dismissal	NA
22. Notification of dismissal	Section 29 'Collective redundancy: extended application of requirements' Section 30 'Collective redundancy consultation: protected period'
23. Redundancy selection	NA
24. Priority in re-employment	NA
Employee representation	
25. Right to unionisation	NA
26. Right to collective bargaining	NA
27. Duty to bargain	Section 59 'Right of trade unions to access workplace' Section 60 'Trade union recognition'
28. Extension of collective agreements	Section 38 and Schedule 4 'Pay and conditions of school support staff in England' Section 39 'Power to establish Social Care Negotiating Body' Section 40 'Membership, procedure, etc of Negotiating Body' Section 41 'Matters within Negotiating Body's remit' Section 42 'Meaning of "social care worker"' Section 43 'Consideration of matters by Negotiating Body'

	Section 44 ‘Reconsideration by Negotiating Body’ Section 45 ‘Failure to reach an agreement’ Section 46 ‘Power to ratify agreements’ Section 47 ‘Effect of regulations ratifying agreement’ Section 48 ‘Power of appropriate authority to deal with matters’
29. Closed shops	NA
30. Codetermination: board membership	NA
31. Codetermination and information/consultation of workers	Section 29 ‘Collective redundancy: extended application of requirements’ Section 30 ‘Collective redundancy consultation: protected period’
Industrial action	
32. Unofficial industrial action	NA
33. Political industrial action	NA
34. Secondary industrial action	NA
35. Lockouts	NA
36. Right to industrial action	NA
37. Waiting period prior to industrial action	Section 74 ‘Notice to employers of industrial action’
38. Peace obligation	NA
39. Compulsory conciliation or arbitration	NA
40. Replacement of striking workers	Section 76 ‘Protection against detriment for taking industrial action’ Section 77 ‘Protection against dismissal for taking industrial action’
Sub-Indices	

Zero Hour Contracts (ZHCs)	
1. Personal Scope	Section 4 ‘Agency workers: guaranteed hours and rights relating to shifts’
2. Information	Section 1 ‘Right to guaranteed hours’ Section 3 ‘Right to payment for cancelled, moved and curtailed shifts’
3. Notice of shifts	Section 2 ‘Shifts: right to reasonable notice’
4. Payment for on-call time	Section 1 ‘Right to guaranteed hours’
5. Regular hours of work and/or pay	Section 1 ‘Right to guaranteed hours’
Paternity, Parental and Bereavement Leave Rights (PPBLs)	
Paternity Leave	
1. Qualifying period	Section 16 ‘Paternity leave: removal of qualifying period of employment’
2. Length of leave	NA
3. Payment	NA
Parental Leave	
1. Qualifying period	Section 15 ‘Parental leave: removal of qualifying period of employment’
2. Length of leave	NA
3. Payment	NA
Bereavement Leave	
1. Qualifying period	Section 18 ‘Bereavement leave’
2. Length of leave	Section 18 ‘Bereavement leave’
4. Payment	Section 18 ‘Bereavement leave’
Trade Union Rights (TURs)	
1. Right of access	Section 59 ‘Right of trade unions to access workplaces’
2. Duty to bargain	Section 60 ‘Trade union recognition’

3. Sector level collective bargaining	Section 38 and Schedule 4 ‘Pay and conditions of school support staff in England’ Section 39 ‘Power to establish Social Care Negotiating Body’ Section 40 ‘Membership, procedure, etc of Negotiating Body’ Section 41 ‘Matters within Negotiating Body’s remit’ Section 42 ‘Meaning of “social care worker” Section 43 ‘Consideration of matters by Negotiating Body’ Section 44 ‘Reconsideration by Negotiating Body’ Section 45 ‘Failure to reach an agreement’ Section 46 ‘Power to ratify agreements’ Section 47 ‘Effect of regulations ratifying agreement’ Section 48 ‘Power of appropriate authority to deal with matters’
4. Strike notice	Section 74 ‘Notice to employers of industrial action’
5. Protection against dismissal or detriment for taking part in industrial action	Section 76 ‘Protection against detriment for taking industrial action’ Section 77 ‘Protection against dismissal for taking industrial action’

5. Mapping Results

Benchmarking the current UK CBR-LRI score against the changes made by the ERA

Analysis of changes by indicator

The new codings are described below. The coding template (see the Annex Table A3) contains the definitions of variables and coding rules for each indicator.

Indicator 1: the law, as opposed to the contracting parties, determines the legal status of the worker

The most recent version of the index, published in 2023, gives the UK a score of 0.75 at the end of 2022 for indicator 1. For most of the period covered by the index the UK had a lower score, 0.5, but this was raised to 0.75 from 2021 to reflect the purposive approach to employment status decisions adopted by the UK Supreme Court in the *Uber* case (2021). When we carried out a new coding to bring UK law up to date, the score for indicator 1 fell back to 0.5 to reflect the Supreme Court's reversion to a more formalistic approach to classification decisions in the *Deliveroo* case (2023).

The ERA does not entail a change in the score for this indicator, since it leaves the issue of employment status unaddressed.

Indicator 8. Agency workers have the right to equal treatment with permanent workers of the user undertaking

The pre-ERA law for the UK was coded 0.75 for indicator 8 on the basis of the qualified right to equal treatment introduced by the Agency Work Regulations 2010, with effect from 2011. The 2025 draft of the ERA introduces new rights for agency workers engaged on a zero-hours contract basis. These include a new obligation for the end user to make a guaranteed hours offer to a qualifying agency worker, and for the agency and end user to provide reasonable notice of shifts. The ERA also creates new powers for employment tribunals to apportion legal liabilities between the agency and the hirer, and for collective agreements to vary the statutory scheme if certain conditions are met. We code these changes by making an incremental increase in the score for this indicator to 0.8.

Indicator 18. Minimum qualifying period of service for normal case of unjust dismissal

Prior to the ERA, the UK score for this indicator was 0.33, reflecting the two-year qualifying period for general unfair dismissal rights in force since 2012. The Act reduces the qualifying period for unfair dismissal to six months. This results in a coding of 0.83.

Indicator 20. Law imposes substantive constraints on dismissal

Under the pre-ERA law, the UK had a score of 0.5 on this indicator. While UK unfair dismissal law sets out a range of 'potentially fair' reasons for dismissal which include misconduct, lack of capability and redundancy, it also contains a residual category of permitted reasons ('some other substantial reason of a kind to justify the dismissal'), hence the reduction in the score from the 0.67 indicated for similar laws in the CBR-LRI coding template.

The ERA introduces a modification to dismissal law, according to which a stricter version of the test for economic dismissals applies in fire and rehire cases. Dismissal for refusing a detrimental variation to contract terms relating to pay, hours, leave and specified changes to shift patterns would, in principle, become automatically unfair. The new right is, however, subject to a number of exceptions, allowing dismissal to continue to be potentially fair in cases of financial difficulty not limited to the employer's impending or actual insolvency. Given these qualifications, an incremental increase in the score, from 0.5 to 0.67 is assigned. This reflects the alignment of UK dismissal law with the law in other countries in which economic dismissals are allowed, subject to constraints similar to those envisaged by the Act.

Indicator 21. Reinstatement normal remedy for unfair dismissal

UK law is currently coded 0.33 for this indicator. Although reinstatement is stated to be the 'principal' remedy for unfair dismissal in the relevant statutory scheme, the remedy is limited in practice, as the employer can avoid a reinstatement order by paying increased compensation to the employee. There is a power to order interim reinstatement of an employee pending the full hearing of a claim, but this only applies to a narrow range of situations, and is not automatic. The ERA removes the current cap on unfair dismissal compensation but does not change the status of the reinstatement remedy. Thus, the indicator's score remains at 0.33.

Indicator 22. Notification of dismissal

The pre-ERA score for this indicator is 0.67, reflecting the duty of information and consultation in the event of collective redundancies which has been part of UK law since the 1970s. Following the decision in *USDAW v Ethel Austin* in 2015, there was uncertainty over whether the right to information and consultation applied only where more than 20 employees were dismissed across the employing legal entity, or at a single establishment of that entity.

The ERA, as it was initially laid before Parliament, effectively reversed *Ethel Austin*, requiring consultation if more than 20 employees were affected at employer-unit level, and strengthened the remedies available in the event of non-consultation. On that basis, a score of 0.75 would have applied. However, post-Commons Stage, the Act restores the single establishment test, subject to the possible introduction of an 'alternative threshold' which will be set out in future regulations. Whilst the point at which the threshold is set will affect the scope of the legalisation, the index is only sufficiently granular to assess the impact of a threshold existing compared to its absence. In other words, it cannot incorporate impact of the threshold being set at different places. On that basis, the score for this variable reverts to 0.67 under the ERA as finally enacted.

Indicator 27. Duty to bargain

The ERA contains a number of changes intended to facilitate the process of seeking recognition via the statutory route, most notably by changing the membership thresholds which must be met before recognition claims can be brought. These changes do not substantially alter the position of UK law on this point compared to other countries. Thus no change in the score for this indicator is required. A more granular template is adopted for the new sub-index on trade union rights in order better to capture cross-national differences on membership thresholds (see below, section 5.5).

Indicator 28. Extension of collective agreements

The pre-ERA score for the UK is zero for this indicator. Extension laws were in force in the UK from the 1940s to the 1970s. The Act makes provision for a revival of legally binding sectoral wage setting, initially in two sectors, affecting workers in adult social care and teaching assistants in state schools. So far, however, these new arrangements do not affect other sectors of the economy. Although the model established by the Act reflects a return to the principle of extension, its limited sectoral coverage could justify a continued coding of zero. On the other hand, the first statutory reference to the extension since the 1970s might be thought to justify an incremental increase in the score. A score of 0.1 is therefore assigned.

Indicator 31. Codetermination and information/consultation of workers

The pre-ERA coding for this indicator is 0.33, reflecting the absence of a legal requirement for works councils or similar standing bodies in the UK. Information and consultation requirements were introduced for collective redundancies with effect from 1976, and with effect from 1981 for business transfers. The UK's subsequent implementation of EU directives on information and consultation committee stopped short of conferring powers or standing equivalent to those in countries adopting a works council model for employee representation, and after the Enterprise and Regulatory Reform Act 2013 the content of the obligation to inform and consult over collective redundancies was further reduced.

The ERA, as it was initially laid before Parliament, envisaged a strengthening of the consultation regime for both redundancies and transfers under TUPE; this would have implied a score of 0.67. However, post-Commons stage, the ERA takes a looser approach to the issue of consultation thresholds, implying a reversion of the score to 0.5.

Indicator 37. Waiting period prior to industrial action

Strike notice has been part of UK law since the coming into force of Trade Union Reform and Employment Rights Act 1993. As a result of amendments made by the

Trade Union Act 2016, the length of mandatory strike notice was increased from 7 days to 14.

Following amendments introduced at the Commons Stage, the ERA reduces the required period of strike notice to 10 days. A notice period of between 7 and 14 days remains at the stricter end of the scale by international standards, so the score for this indicator remains unchanged for the ERA. A more granular approach is adopted in the new sub-index on trade union rights discussed below (this section).

Indicator 40. Replacement of striking workers

The pre-ERA score for the UK for this indicator was 1, given the provision, in force since 2000, for dismissal during protected industrial action to be automatically unfair. The definition of 'protected industrial action' is approximately coterminous with the category of 'non-violent and non-political strike' referred to in the CBR-LRI coding template.

From 2022, employers could replace striking workers with agency-supplied labour. This change was coded as lowering the UK score from 1 to 0.5. As the 2022 change was declared invalid with effect from 2023, the UK score returned to 1 at that point.

The ERA removes the 12-week limit on protected industrial action and extends protection to cases of detriment falling short of dismissal, in line with the Supreme Court judgment in the *Mercer* case (2024). The UK score remains at 1. A more granular coding, reflecting differences in the level of protection accorded to the individual right to strike, is contained in the new trade union rights sub-index discussed below (this section).

The overall impact on the UK CBR-LRI score

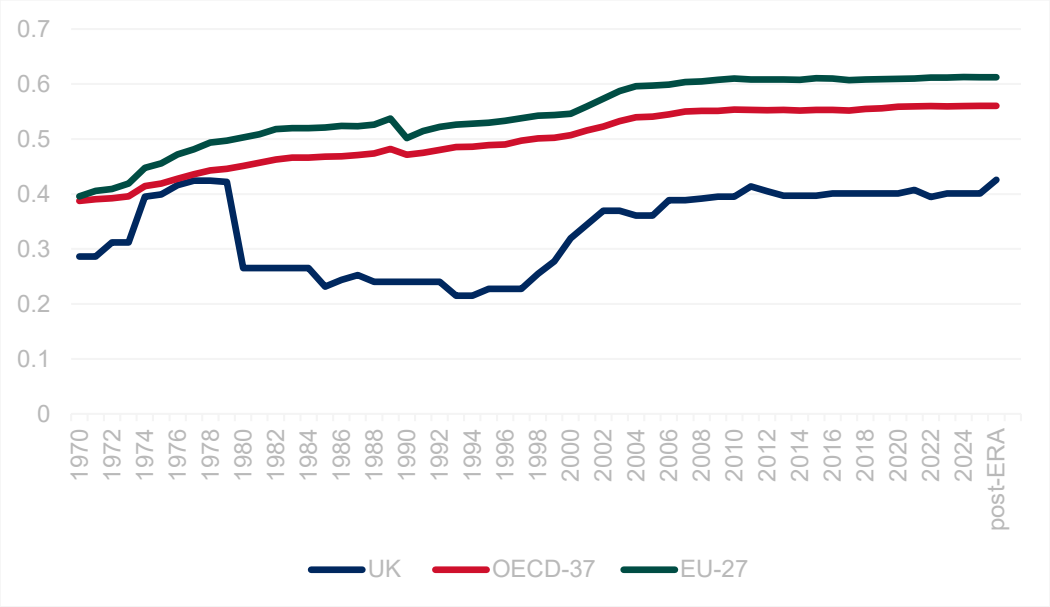
Aggregating the changes made by the ERA, the Act raises the overall index score (the average of all 40 indicators) by 0.0248 on a 0-1 scale. This represents an increase of around 5% on the previous score.

This enables us to compare the UK's scores for the ERA with those in other developed market economies. To do this we carried out additional codings for the years 2023, 2024 and 2025 for the 37 current OECD countries other than the UK ('OECD 37') and for the current 27 EU member states (EU-27). This enables a comparison to be made between the current state of UK law and the law in these other countries (the codings reported in the most recent iteration of the CBR-LRI only go up to the end of 2022).

In order to help visualise the changes made by the ERA, the ERA is coded as taking effect post-2025 (in the column indicated 'Post ERA implementation). As outlined in the Government's Implementation Roadmap, the majority of the ERA's provisions are due to be implemented throughout 2026 and 2027.

Figure 1 compares the historical time trend for UK labour law (here, the average of all 40 indicators) against that of the OECD-37 and EU-27. As can be seen, the UK has been below the average OECD and EU scores (so defined) throughout the period from 1970 to the present day.

Figure 1: UK labour law after ERA v. OECD-37 and EU-27



The UK was close to the OECD-37 and EU-27 average scores at the end of the 1970s. The gap at this point was 0.01 (after rounding) on a 0-1 scale. The changes made by the ERA would still leave the UK below the OECD average. In 2025, prior to ERA, the gap between the UK and the rest of the OECD was 0.16 on a 0-1 scale, while the gap between the UK and the EU was 0.21. The Act still leaves the UK 0.13 on a 0-1 scale below the OECD average, and 0.19 below the EU average.

Since the impact of the ERA on the overall CBR-LRI index is clearest in those indicators relating to the law on dismissal, it is relevant to consider the impact on ERA on the dismissal law sub-index. Figure 2 shows the results. Although the ERA would leave the UK below the OECD-37 and EU-27 averages, the ERA represents a noticeable increase in the UK's score.

Figure 2: UK dismissal law after ERA v. OECD-37 and EU-27

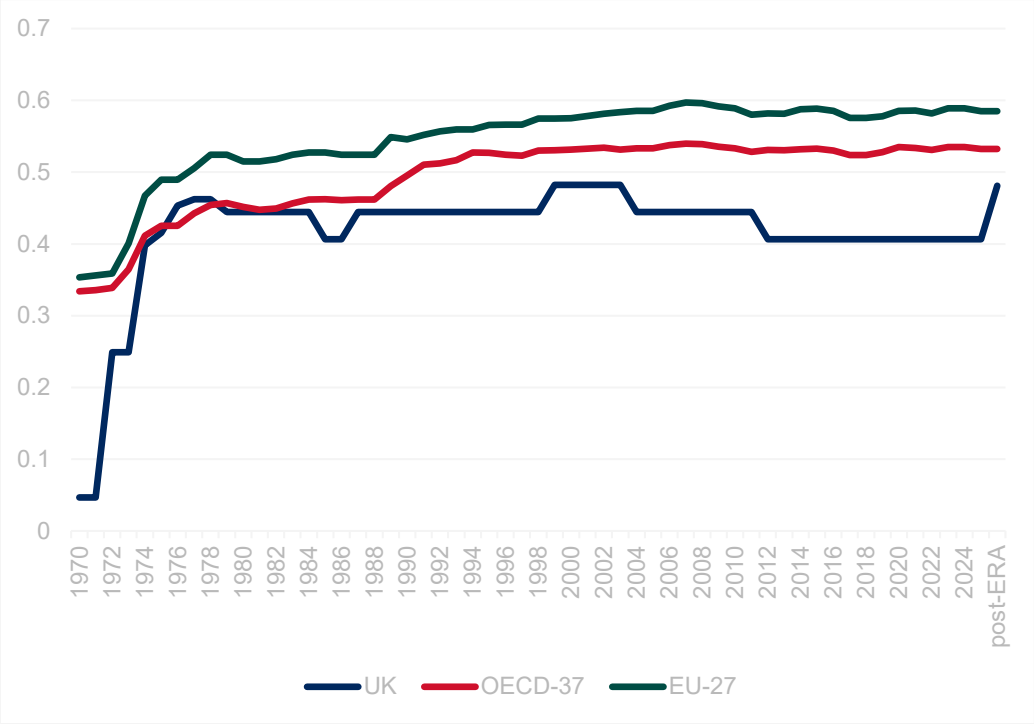
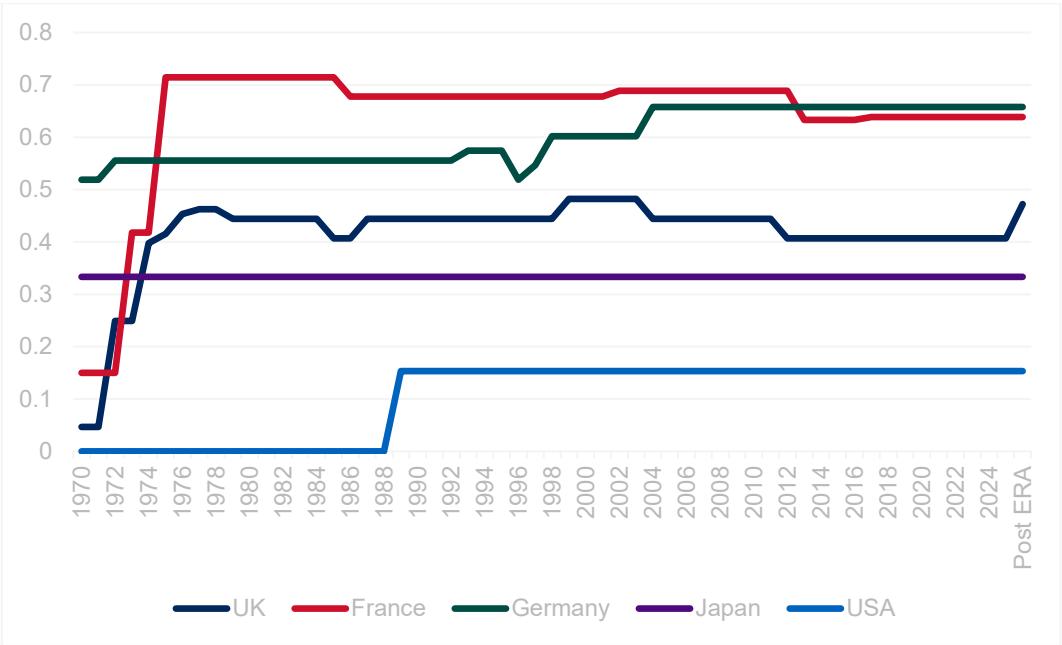


Figure 3 compares the UK time trend for dismissal law to that in selected other OECD countries. The UK law remains less protective than that in France or Germany, but more so than in Japan and the USA.

Figure 3: UK dismissal law after ERA v. selected OECD countries



As explained above, not all aspects of the ERA have been included when calculating the 'overall impact' of the Act. This is because of the incomplete overlap between the main index and the ERA. The comparative exercise that we have conducted is nonetheless of interest as the CBR-LRI provides a comprehensive measure of UK labour laws in the five areas it codes for.

With respect to those aspects of the Act not currently coded in the main index, results from the additional sub-indices on zero hours contracts, leave rights and trade union rights are reported next.

Benchmarking changes relating to zero hours contracts

Since the main CBR-LRI index does not contain indicators for the law governing zero hours contracts ('ZHCs') and related forms of on-call work, we constructed a new coding template to cover this area of law. Table 2 sets out the relevant indicators and definitions.

Five indicators are defined. Indicator 1 captures the personal scope of ZHC laws. The highest score of 1 is assigned where the law on ZHC contracts extends to all categories of waged or dependent labour including employees, self-employed workers with an element of economic dependency such as dependent contractors (Canada) and limb (b) workers (UK), and agency workers. A lower score is assigned if only some of these groups come under the scope of the relevant law. Indicator 2 is concerned with whether ZHC workers have the right to receive information on hours and shifts. Indicator 3 relates to the right of a ZHC worker to receive notice of and/or compensation for cancelled shifts. Indicator 4 captures how far a ZHC worker is entitled to receive payment at the normal wage rate and/or at a penalty rate for time spent on call. Finally, indicator 5 measures the length of the reference period required to establish the right to a regular contract. The longer the reference period, the lower the score.

Table 2: CBR Zero Hours Contracts Sub-index (CBR-ZHC) coding template

Indicator	Definition
1. Personal scope	Equals 1 if ZHC protections apply to all categories of work relation, including employees and employee-like workers such as dependent contractors, limb (b) contract workers and agency workers Equals 0.5 if one or more of the 'employee-like' categories is excluded from protection Equals 0 if ZHC protections only apply to employees
2. Information	Equals 1 if a ZHC worker has a right to information on terms and conditions of employment including regular hours of work and shift patterns. Code 1 for full implementation of the Transparency Directive. Code between 0 and 1 otherwise
3. Shifts	Equals 1 if a ZHC worker is entitled to receive notice of changes to shifts and to payment for cancelled shifts Equals 0.5 if a ZHC worker is entitled to notice of changes to shifts but not to compensation for cancelled shifts Equals 0 otherwise
4. On-call time	Equals 1 if a ZHC worker is entitled to receive payment at the normal rate and/or at a penalty rate for time spent on call Equals 0.5 if a ZHC worker is entitled to receive payment at a reduced rate for time spent on call Equals 0 otherwise
5. Regular work and/or pay	Equals 1 if a ZHC worker is entitled to receive an offer to regularise their work and pay after a reference period of 3 months or less. Equals 0.75 if the reference period is between 3 and 6 months. Equals 0.5 if the reference period is between 6 and 9 months. Equals 0.25 if the reference period is between 9 and 12 months Equals 0 if there is no right to regularisation

With respect to the UK, a score of 0.5 is assigned to indicator 1 pre-ERA, on the basis that prior to the ERA, most ZHC workers were likely to have limb (b) worker status. While this point is not completely clear, most relevant authorities suggest while a ZHC worker would not normally have a contract of employment either while working or between assignments, they would mostly likely have a contract of personal services for at least the period of the assignment, and would have insufficient capital or assets of their own to be regarded as independent contractors. On that basis, limb (b) status best describes the classification that would apply to ZHC work. The ERA is assigned an incremental increase, from 0.5 to 0.75, reflecting the extension of ZHC-related protections to agency workers which was made during the course of the Third Reading of the Act in the House of Commons.

Indicator 2 is scored 0 for the pre-ERA law. Although a ZHC worker, during assignments, is likely to be a limb (b) worker and as such entitled to receive a written statement of terms and conditions of employment under ERA s. 1, the UK's written statement law does not require the employer to set regular hours or shifts or to provide related information if these have not been contractually agreed. This changes to a score of 1 under the ERA, which provides for a qualifying ZHC worker to receive information from the employer concerning their legal right to guaranteed hours and to information relating to payments for shifts, hence the incremental increase in the score.

With respect to indicator 3, the pre-ERA law does not confer a right to receive prior notice of shifts if no regular hours of work or shift patterns are contractually specified. The ERA marks a change, with a ZHC worker now entitled to receive notice of shifts and of changes to shifts and to compensation in the event of cancellation of a shift at short notice. As a result, the score moves from 0 to 1.

Indicator 4, concerning the right to be paid for on-call time, is coded zero for the pre-ERA law. Under the pre-ERA law (2023), time spent waiting for an assignment may count as working time, and hence be compensated, for the purposes of the National Minimum Wage Act ('NMWA') and related National Minimum Wage Regulations ('NMWR'). For this to be the case, a limb (a) or (b) contract must be in force, and the relevant waiting time must count as either time work, salaried work, output work or unmeasured work under the NMWA and NMWR. However, even for periods when a relevant contract is in force, it is possible that a right to payment may not be implied if a ZHC worker remains available to work for another client or employer in those periods. The ERA makes a change here by guaranteeing the right to an offer of regular work and pay after a period of regular employment. Thus, the score rises from 0 to 1 with the enactment of the ERA.

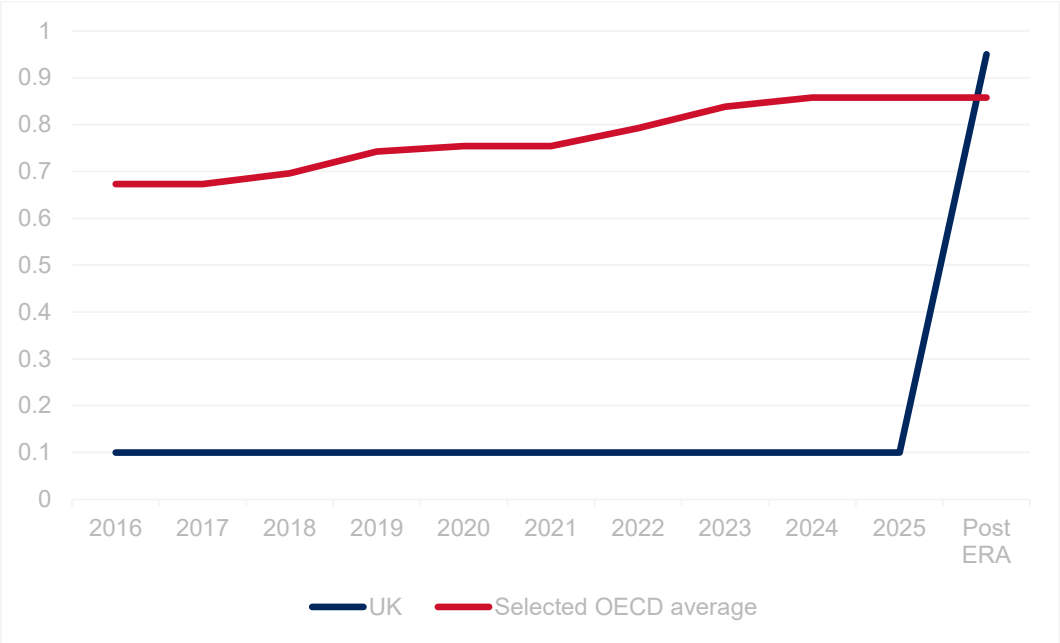
Indicator 5 is initially coded zero as a ZHC worker has no right to regular work and pay based on a previous pattern of working under the pre-ERA law. The ERA establishes a right to receive an offer of regular work and pay after a reference period of 12 weeks. On that basis, a score of 1 is assigned.

In addition to coding for the effects of the ERA on zero-hours contracts, we code for similar laws in a sample of OECD countries for the period 2016 to 2025. Literature comparing labour laws across countries identifies 'legal origin' (whether a country has a common law or civil law base to their legal system) and 'varieties of capitalism' (whether a country takes a flexible, 'liberal market' approach to regulation or a more top-down 'coordinated market' approach) as relevant points of divergence (Deakin, Lele and Siems, 2007). The sample we identified for coding includes countries of both types: those sharing the UK's common law tradition and liberal market approach (Australia, Canada, Ireland, New Zealand and the USA), and countries with a civil-law, coordinated market approach (Denmark, France, Germany, Italy, the Netherlands, Norway, Sweden and Switzerland). Thus, it is a broadly representative cross-section of the wider group of developed market economies constituting the OECD.

The codings for other OECD countries show that there has been a movement towards regulating ZHCs across developed market economies in the course of the past decade, which has been reinforced in the EU by the adoption of the Transparent and Predictable Working Conditions Directive in 2019. Beyond the EU, certain countries, including Canada and New Zealand, have had laws in place to regulate on-call work for over a decade. In the USA, although there is no federal law mandating employers to provide details about shifts or working hours for zero-hour or on-call workers, some states and cities have adopted predictive scheduling laws requiring advance notice of working hours and evidence of this in the form of a good faith estimate of expected hours to be provided to the worker. San Francisco and Seattle, for example, have regulations requiring employers to provide advance notice of work schedules and compensation for cancelled shifts or schedule changes made without adequate notice. In addition, 'fair workweek' laws require employers in some states to provide workers in sectors affected by on-call work, such as food delivery and retail, with an advance schedule of working hours. Under some of these laws, if shifts are cancelled with less than 72 hours' notice, employers are obligated to pay the affected employees a 'predictability pay' premium, as additional compensation beyond regular wages. In California, app-based drivers are protected by a 'net earnings floor' calculated by reference to the minimum wage.

Figure 4 shows the time trend in the UK law over the last decade, compared to the average score for the selected group of OECD countries. With the enactment of the ERA as it currently stands the UK's law on ZHCs would be on a par with the most protective laws of this group of countries, and as such above the average level of protection

Figure 4: ZHC laws in the UK post-ERA v. average of selected OECD countries



Benchmarking changes to leave rights

Work-life balance laws are not coded in the original CBR-LRI. Thus, in order to code for the changes made to leave rights by the ERA, it was necessary to construct a new sub-index. The coding template we devised for this index is set out in Tables 3-5.

Table 3. CBR Paternity Leave Sub-index (CBR-PBBL) coding template

Indicator	**Definition**
1. Qualifying period	Equals 1 if there is no qualifying period (i.e. the leave right is a day one right) Equals 0.5 if there is a qualifying period of one year or less Equals 0 if there is a qualifying period of more than one year
2. Length of leave	Equals 1 if if there is a statutory entitlement to leave of 6 months or more Equals 0.5 if there is a statutory entitlement of less than 6 months Equals 0 if leave is discretionary or set by the employer based on business needs
3. Payment	Equals 1 if during the period of leave the employee receives their normal salary Equals 0.5 if the employee receives less than their normal salary and/or only receives paternity pay after a further period of qualifying service Equals 0 otherwise

Table 4. CBR Parental Leave Sub-index (CBR-PBBL) coding template

Indicator	Definition
1. Qualifying period	Equals 1 if there is no qualifying period (i.e. the leave right is a day one right) Equals 0.5 if there is a qualifying period of one year or less Equals 0 if there is a qualifying period of more than one year
2. Length of leave	Equals 1 if if there is a statutory entitlement to leave of 6 months or more Equals 0.5 if there is a statutory entitlement of less than 6 months Equals 0 if leave is discretionary or set by the employer based on business needs
3. Payment	Equals 1 if during the period of leave the employee receives their normal salary Equals 0.5 if the employee receives less than their normal salary Equals 0 otherwise

Table 5. CBR Bereavement Leave Sub-index (CBR-PBBL) coding template

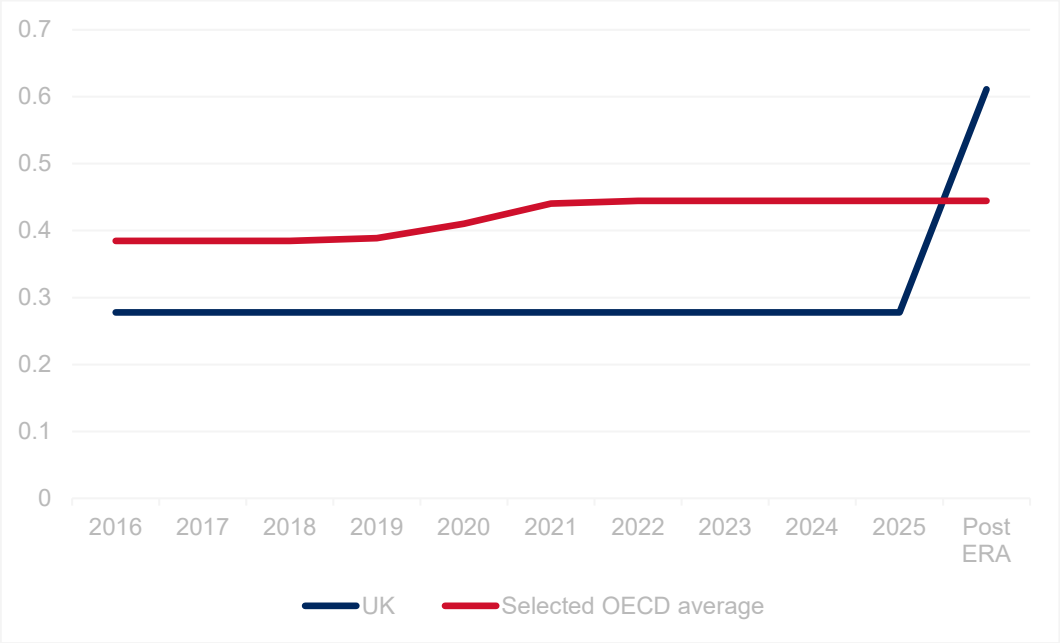
Indicator	Definition
1. Qualifying period	Equals 1 if there is no qualifying period (i.e. the leave right is a day one right) Equals 0.5 if there is a qualifying period of one year or less Equals 0 if there is a qualifying period of more than one year
2. Length of leave	Equals 1 if if there is a statutory entitlement to leave of 6 months or more Equals 0.5 if there is a statutory entitlement of less than 6 months Equals 0 if leave is discretionary or set by the employer based on business needs
3. Payment	Equals 1 if during the period of leave the employee receives their normal salary Equals 0.5 if the employee receives less than their normal salary Equals 0 otherwise

The three leave rights addressed by ERA, which are paternity leave, parental leave and bereavement leave, are coded separately. Three dimensions to leave rights are identified. The first is whether a qualifying period of employment must be completed prior to accessing the right. Indicator 1 assigns a score of 1 if the leave in question is a ‘day one right’ for which no qualifying period is required. Indicator 2 is concerned

with the length of the leave. A score of 1 is assigned if the leave extends for at least 6 months in the case of paternity leave and parental leave, and at least one week in the case of bereavement leave. The third indicator is concerned with whether the leave is paid. A score of 1 is assigned if the employee receives their regular wage or salary during the leave period, and 0.5 if they are paid at a reduced rate during this time and/or if the right to payment only arises after a further qualifying period of employment.

With the enactment of the ERA, the UK moves from being below average for the group of selected OECD countries, to being above average.

Figure 5: Paternity, Parental and Bereavement Leave laws in the UK post-ERA v. average of selected OECD countries



Benchmarking changes to trade union rights

As previously explained (see section 4 above), the changes made by the ERA to trade union rights are not well captured by the main CBR-LRI index because of its lack of granularity with respect to these specific issues. We constructed a new index of trade union rights to provide for the necessary granularity of coding. This new sub-index is set out in Table 6. As we shall see, even with this new sub-index, not all the scores for the UK are changed from those in the main index. However, the additional granularity makes it possible to undertake a more systematic comparison with other countries.

Table 6: CBR Trade Union Rights Sub-index (CBR-TUR) coding template

Indicator	Definition
1. Right of access	Equals 1 if an independent trade union has the right to access the workplace for all purposes related to collective bargaining with an employer, including preparing a claim for recognition Equals between 0 and 1 if the right is restricted for example by reference to thresholds of membership in the workplace or other criteria Equals 0 otherwise
2. Duty to bargain	Equals 1 if the employer has a duty to bargain with an independent trade union which represents 10% or less of the relevant workforce or without specific reference to any threshold Equals 0.5 if the relevant threshold, for voting or membership, is between 10% and 50% of the relevant workforce Equals 0 if the threshold is greater than 50% of the relevant workforce or there is no duty to bargain
3. Sector level collective bargaining	Equals 1 if a sector collective agreement can be extended by law to cover non-federated employers or other employers not voluntarily observing the agreement Equals between 0 and 1 if the extension mechanism is subject to conditions such as a prior level of coverage in the sector or only selected sectors are regulated by the law Equals 0 if there is no provision for extension
4. Strike notice	Equals 1 if there is no requirement to give notice of an official strike Equals 0.5 if the notice period is 10 days or less Equals 0 if the notice period is longer than 10 days
5. Protection against dismissal or detriment for taking part in industrial action	Equals 1 if a worker or employee is protected against unfair dismissal or other detriment for taking part in an official or otherwise lawful strike Equals 0.75 if there is protection in respect of dismissal, but not with respect to any other detriment Equals 0.5 if, notwithstanding protection against dismissal and/or detriment, the employer is permitted to hire temporary replacements, including agency workers, during the course of an official or otherwise lawful strike Equals 0.25 if notwithstanding the possibility of compensation in the event of dismissal and/or detriment, the employer is permitted to hire permanent replacements during the course of an official or otherwise lawful strike Equals 0 if there is no protection for the individual worker taking part in an official or otherwise lawful strike

Indicator 1 codes for the right of trade union access to the workplace. The template assigns a score of 1 if an independent trade union has the right to access the workplace for all purposes related to collective bargaining with an employer, including preparing a claim for recognition, and lower scores depending on how far this right is qualified.

Indicator 2 codes for the duty to bargain. It assigns a score of 1 if the employer has a duty to bargain with an independent trade union which represents 10% or less of the relevant workforce or without specific reference to any threshold; 0.5 if the relevant threshold, for voting or membership, is between 10% and 50% of the relevant workforce; and 0 if the threshold is greater than 50% of the relevant workforce or there is no duty to bargain.

Indicator 3 is concerned with the law governing sector level bargaining. A score of 1 is assigned if a sector collective agreement can be extended by law to cover non-federated employers or other employers not voluntarily observing the agreement. Lower scores are assigned if this right is conditional upon certain conditions, for example, a high degree of pre-existing coverage in the sector concerned.

Indicator 4 codes for the law on strike notice. A score of 1 is assigned if there is no requirement to give notice of an official strike; a score of 0.5 if the notice period is 10 days or less; and 0 if the notice period is longer than 10 days.

Finally, indicator 5 codes for protection of the individual right to strike. There is a score 1 if a worker or employee is protected against unfair dismissal or other detriment for taking part in an official or otherwise lawful strike; 0.75 if there is protection in respect of dismissal, but not with respect to any other detriment; 0.5 if, notwithstanding protection against dismissal and/or detriment, the employer is permitted to hire temporary replacements, including agency workers, during the course of an official or otherwise lawful strike; 0.25 if notwithstanding the possibility of compensation in the event of dismissal and/or detriment, the employer is permitted to hire permanent replacements during the course of an official or otherwise lawful strike; and 0 if there is no protection for the individual worker taking part in an official or otherwise lawful strike.

With respect to indicator 1, the enactment of the ERA would raise the UK score from 0.25, reflecting the current restriction of access rights to unions with statutory recognition, to 0.75, reflecting the more extensive right of access set out in the ERA.

Indicator 2 is coded 0.5 as in the main index. The Act makes changes to the conditions for a recognition claim under Schedule 1 TULRCA. These include changing the ‘required percentage test’ for applications to the CAC. The Act gives the secretary of state the power to make delegated legislation to decrease the threshold from the current 10% to between 2% and 10%. In addition, the Act makes changes to the balloting requirements by stipulating that if the result of the ballot is that the union is supported by the majority of the workers voting, the CAC must issue a declaration that

the union is recognised as entitled to conduct collective bargaining on behalf of the bargaining unit. The current provision requiring at least 40 per cent of workers in the bargaining unit to vote in favour of recognition is removed. The score remains unchanged at 0.5 because notwithstanding the changes made in the Act, the criterion of recognition remains a majoritarian one. As such, it is less protective than equivalent laws in several other OECD countries, which have a more expansive definition of when a trade union is deemed to be 'representative' for the purposes of the duty to bargain.

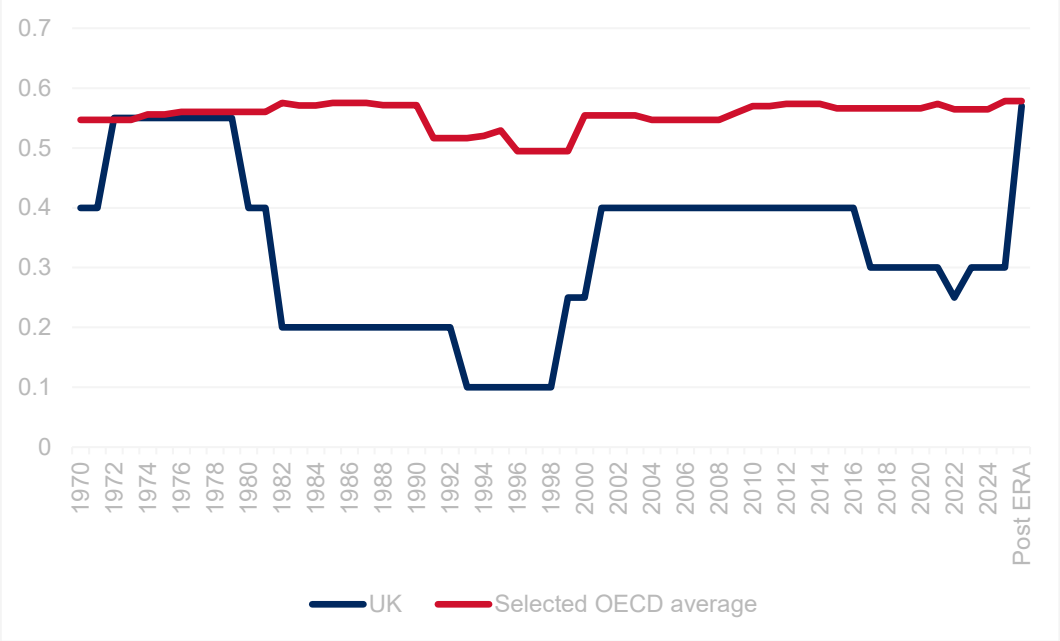
Indicator 3 is coded at 0.1, also as in the main index. The ERA makes provision for a revival of sectoral wage setting, initially in two sectors, affecting workers in adult social care and teaching assistants in state schools. So far, however, these new arrangements do not affect other sectors of the economy. As we discussed in our explanation of the 0.1 score for the main index (section 5, above), the partial coverage of the new statutory arrangements justifies, at best, an incremental rise in the case of this indicator.

Indicator 4 rises from a pre-ERA score of zero to 0.5. When a requirement of notice was introduced in 1993, it was set 7 days. From 2017, by virtue of the Trade Union Act 2016, it was 14 days, unless both parties agreed to a shorter period of at least 7. While the version of the Bill tabled in 2024 restored the 7-day notice period, the version finally agreed after the House of Commons Stage set a statutory period of notice of 10 days. This is reflected in the new scoring.

In the case of indicator 5, the score raises from 0.75 to 1. This reflects the inclusion in the ERA of protection against detriment other than dismissal for taking part in a lawful strike.

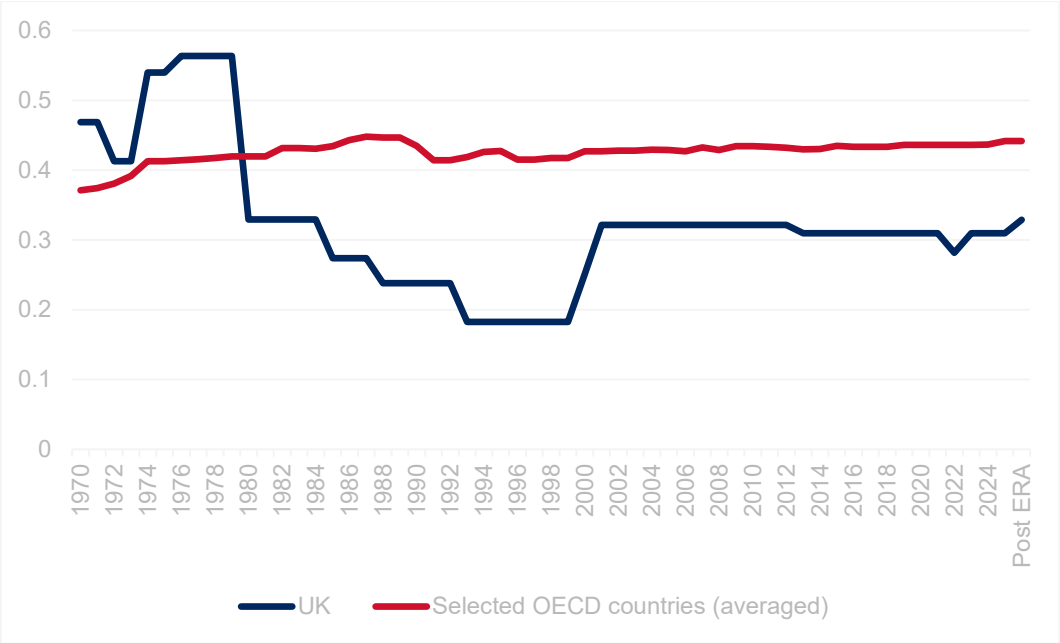
Figure 6 shows the time trend for this set of rights for UK law and the selection of other OECD countries. It suggests that, for these specific rights, the ERA would restore the UK to the OECD average, which was more or less where it stood at the end of the 1970s.

Figure 6: Collective labour laws in the UK post-ERA compared to average of selected OECD countries



It should be borne in mind that the changes made by the ERA affect a relatively small number of issues in collective labour law as a whole. Figure 7 shows the time trend for employee representation and industrial action laws as a whole for the UK, using the main CBR-LRI index, and the same OECD countries coded in the new sub-index. It will be seen that, with respect to the collective labour law parts of the main CBR-LRI index, the UK remains below the OECD average, even after implementation of ERA.

Figure 7: Collective labour laws in the UK post-ERA compared to average of selected OECD countries



6. Economic Analysis

Introduction

According to a recent survey of the literature on structural reforms in product, financial and labour markets, the CBR-LRI 'provides coverage of a much larger country sample and period than other datasets', including those published by the OECD and World Bank (Campos et al., 2025: 154). The comprehensiveness of the CBR index has led to its growing use in research and policy analysis. Total citations to the index and related articles by its authors currently number over 500 (Google Scholar, consulted November 2025).

The lengthy time series provided by the index, coupled with its wide country coverage, make it appropriate for use in econometric studies. It has been used in time-series analysis to study individual country effects of labour law reforms (Deakin and Sarkar, 2008; Deakin and Pourkermani, 2024) and in panel data studies to analyse cross-national trends (Acharya et al., 2014; Adams et al., 2019).

Several papers analysing the CBR index are among those included in a comprehensive meta-analysis of the economic effects of employment protection laws conducted by Brancaccio et al. (2020). This study looks at 53 papers published

between 1990 and 2019, and in addition conducts a systematic meta-analysis which allows for comparability of econometric results, controlling for publication bias, that is, the tendency of journals to report findings which are consistent with existing theories. Their analysis finds that the 'consensus' view, to the effect that employment protection laws lead to unemployment, was supported by a minority of peer-reviewed papers, 28%. 51% of such papers reported results contrary to the consensus, that is, findings to the effect that employment protection laws either had no adverse effect on employment, or led to employment rises and/or unemployment falls. The remaining papers arrived at no clear conclusion. The trend towards finding either a neutral effect or positive impact of employment protection laws was increasing over time.

The basis for a positive employment effect of labour laws may lie in their impacts on productivity. Making dismissal more costly may induce firms to recruit with greater care and to invest more resources in training. Workers, conversely, may be more willing to share knowledge with firms and to adapt to new working methods if they are guaranteed some security through employment protection law. These perspectives may explain the results of studies which show that higher scores on the CBR index are correlated with increased levels of innovation, as measured by patenting rates (Acharya et al., 2013), higher rates of take up of new robotic technologies (Presidente, 2023), and increased capital investment (Jäger et al., 2021). Studies using other data on employment protection have reported declining innovation and productivity following the adoption of measures loosening the protections accorded by law to workers engaged in fixed-term employment and temporary agency work (Kleinknecht, 2017; Hoxha and Kleinknecht, 2020; Damiani and Pompei, 2022).

The relationship between productivity changes and employment levels may not always be positive. If the volume of labour inputs is not changed in overall terms, rising productivity will lead to lower employment. Deakin and Sarkar (2008) observe this effect for the strengthening of US federal dismissal law, from a very low base, in the 1980s, although Acharya et al. (2013) report rising employment alongside increased number of startups of high-tech firms following the introduction of legal regulation of dismissals in California.

Where productivity improvements allow firms to grow and take on labour, employment levels should rise over the medium to long term. Adams et al. (2019) find evidence of this effect. They use the extensive country coverage and long time series of the CBR-LRI dataset to construct a large panel of over 100 countries and over 20 years of legal developments. Using a bespoke employment protection law ('EPL') index containing a mix of indicators from the 'different forms of employment' and 'dismissal' law subindices of the CBR-LRI, they find that the long term effects of EPL laws include a rise in employment of 0.35 per cent for every percentage point increase in the EPL score, and a fall in unemployment of 0.23. They also report a short term fall in employment and a rise in unemployment, but the magnitudes of these effects are small (0.08 and 0.04 respectively) and, unlike the long-term impacts, are not statistically significant (meaning that the null hypothesis of 'no impact' cannot be ruled out).

The Adams et al. (2019) study, as a panel data analysis, reports the average effect for all countries in the panel. As such it cannot be straightforwardly applied to any single country case. If, however, the UK were to experience a similar effect post-ERA to that identified by Adams et al. (2019), a non-trivial rise in employment and fall in unemployment would be anticipated.

Deakin and Pourkermani (2024) conduct a time series analysis of changes in the index for the UK only, over the period 1970-2022. They use a vector autoregression ('VAR') approach which models the interaction between labour laws and employment, unemployment, productivity and the labour share of national income. The 'unrestricted VAR' they employ makes it possible to explore how far changes in a given variable are related to past or lagged values of that variable and those of the other variables in the model. They report the results using impulse response function graphs which show the effects of a given change in the legal variable on the other variables over a period of time. Their analysis finds a positive effect of an increase in the overall CBR-LRI score on employment, and a corresponding negative impact on unemployment, both of which are statistically significant.

The econometric results just outlined should be treated with caution given the limited information they provide on causal questions. Correlations can be treated as evidence of causation, but in themselves they do necessarily not indicate the direction of the causal flow. Studies identifying correlations between legal variables and economic ones may be interpreted in one of two ways: as the law inducing economic change, or as the law responding to such a change. It may be that worker-protective legal changes are more likely to occur at times of rising employment, than during recessions (Deakin and Sarkar, 2008). Were this the case, the direction of causation would flow from the economy to law, not the other way round.

The question of law's potential 'endogeneity' to changes in the economy can be addressed as a matter of research design as well as by taking advantage of the particular features of the CBR-LRI index. Acharya et al. (2013) address the issue of endogeneity by introducing controls at various stages of their analysis. By ruling out other possible causes ('confounders') of the effects they identify, including political and macroeconomic changes, they claim to be able to show that 'the direction of causality runs from dismissal law to innovation rather than vice versa' (Acharya et al., 2013: 1001).

Acharya et al. also take advantage of the extensive topic coverage of the CBR-LRI to identify the precise effect of the law. After analysing the different CBR-LRI sub-indices, they rule out an effect for each of the sub-indices other than the dismissal law one. They find that 'dismissal laws are the only aspect of labour law that has a consistently positive and significant effect on innovation' (Acharya et al., 2013: 1001).

Adams et al. (2019) and Deakin and Pourkermani (2024) use the time dimension of the CBR-LRI to help address the issue of causality. The dynamic panel data regression model used in the Adams et al. (2019) study, the pooled mean group

estimator ('PMG'), can be used to distinguish between short-term and long-term effects of a policy intervention or similar change in the economic environment. While a finding of a long-term effect of law on the economy does not in itself rule out the converse effect, it is some evidence of a causal impact given the design of the PMG model, in which the impact of the law is lagged or delayed to take account of firms' responses:

> The PMG estimator is in principle the most appropriate for our analysis, given that legislation on worker protection could plausibly have different effects in the long run compared to the short run. In particular, the potentially beneficial effects of this kind of legal change might only be evident after a lag, as firms adjust to the new regulatory environment (Adams et al., 2019: 15).

On this basis, they conclude that 'the associations we have identified are best interpreted as showing potential causation running from law to the economy' (Adams et al., 2019: 19).

The time-series analysis undertaken by Deakin and Pourkermani (2024) is intended to capture 'Granger causality' (Granger, 1969), which can be defined for present purposes as evidence that a change in a given variable precedes that in another. The impulse response functions they report represent evidence that changes in the law preceded changes in the economic variables. Again, this is not to rule out a converse change, but it is evidence of potential causation.

In common with Acharya et al. (2013), Deakin and Pourkermani (2024) decompose their analysis by reference to the different sub-indices of the CBR-LRI. They find a significant and positive impact of changes in working time laws on employment, and a statistically significant and negative impact of these laws on unemployment. The results for the other sub-indices are either indeterminate or statistically insignificant.

Reductions in working time may contribute to positive employment outcomes in a number of ways, for example through the sharing out of existing work among additional workers, or via productivity effects, as a restriction on hours induces additional worker effect per unit of input (Collewet and Sauermann, 2017). Were the latter effect to predominate, the Deakin-Pourkermani (2024) study would support a productivity-based explanation for the economic effects of labour laws. This interpretation also suggests a need for caution in extrapolating the results of that study to the context of the ERA, given that neither the Act would not make substantive changes to working time law.

Time-series analysis: Econometric model

We now present the first of our econometric analyses, which is a time-series analysis of the relationship between labour law and a number of economic variables, namely employment, labour productivity (per hour), the labour share of national income and

investment (gross fixed capital formation) in the UK between 1970 and the present. For this we use a Vector Autoregression (VAR) approach. The VAR framework allows for a flexible representation of interdependencies and feedback effects among variables, without imposing strong a priori restrictions. Originally developed for use in time-series econometrics (Granger, 1969), VARs are widely employed across the physical, biological and social sciences, with neuroscience and climate science among the disciplines recently making use of them (Aalen et al., 2012).

We employ the VAR approach to model interactions between legal and economic variables as part of a dynamic system in which causal relations could in principle run in either direction, that is, from the law to the economy, or the reverse. We use three related features of VAR analysis, namely Granger causality, impulse response functions (IRFs) and factor error variance decomposition (FEVD), to clarify the direction, magnitude, duration and extent of legal impacts on the economy.

Our basic regression model is an unrestricted VAR which is presented as:

$$y_t = c + \sum_{i=1}^{p} A_i y_{t-i} + \varepsilon_t$$

where c is the intercept of the VAR, A_i is the matrix of autoregressive coefficients (K x K), ε_t is the error term, and y_t is the vector of K observed variables. All variables are transformed into stationary series through first differencing where necessary. Optimal lag lengths are determined using standard information criteria (Akaike (AIC), Hannan-Quinn (HQIC), and Schwarz (SBIC)).

Employing a VAR makes it possible, in principle, to determine the direction of causal effects in a correlation between variables: so-called Granger causality. Where variable X1 'Granger causes' variable X2, previous values of X1 predict X2 in addition to the information included in past values of X2 alone (Granger 1969).

A bivariate linear autoregressive model of two variables X1and X2 takes the following form:

$$X_1(t) = \sum_{j=1}^{p} A_{11,j} X_1\,(t-j) + \sum_{j=1}^{p} A_{12,j} X_2\,(t-j) + E1\,(t)$$
$$X_2(t) = \sum_{j=1}^{p} A_{21,j} X_1\,(t-j) + \sum_{j=1}^{p} A_{22,j} X_2\,(t-j) + E2\,(t)$$

where p is the maximum number of lagged observations, the matrix A contains the coefficients of the model, and E1 and E2 are residuals.

If the variance of *E*1 (or *E*2) is reduced by the inclusion of *X*2 (or *X*1) in the first (or second) equation, we can conclude that *X*2 (or *X*1) 'Granger causes' *X*1 (or *X*2) (Pesaran and Shin, 1998). In other words, *X*2 causes *X*1 if the coefficients in A_{12} are jointly significantly different from zero, which can be tested by an F-test of the null hypothesis that A_{12} = 0. In a multivariate approach, Granger causality can be employed to identify not just the predominant direction of causation between two

interacting variables, but the combined impact of several variables on one or more outcome variables.

Impulse response functions (IRFs) and forecast error variance decomposition analysis (FEVD) can be used to identify the direction of an impact (whether it is positive or negative), its magnitude, and its duration. They are especially helpful in a multivariate setting in identifying the relative influence of different endogenous variables, either singly or in combination, on system-wide outcomes. They are also useful for distinguishing between the 'direct' effect of one variable on another, and the 'indirect' effect which arises when an impact is 'mediated' by the operation of a third one.

IRFs specify how a variable reacts over time in response to a single change or 'shock' in another. The use of a generalised IRF makes it possible to avoid the problem of ordering of the variables. Considering the previous equations $A(L)y_t = \varepsilon_t$, where L is the lag and defined as $Ly_t = y_{t-1}$ and $A(L) = I_k - A_1L - \cdots - A_PL^P$ is a matrix polynomial, in this framework the impulse response function defines the response of y_t to this impulse by setting one factor of ε_t to 1 and all other factors to zero.

An IRF can be illustrated graphically by a central line, with bands either side showing confidence intervals. The null hypothesis is that there is no influence of the hypothesised causal variable (here, the CBR-LRI) on the economic variables. In other words, its impact is not significantly different from zero. By convention, the null hypothesis should not be rejected when the horizontal line falls into the 95% confidence interval.

FEVDs are used to quantify the relative importance of each structural shock in explaining the variation in the outcome variable over time. The decomposition of effects makes it possible to understand the dynamic contribution of each variable to the fluctuations of another. As such, FEVDs provide insights into the dominant drivers of system wide behaviour. While IRFs can be used to trace the impact of a one-time shock on a variable across future periods, FEVD analysis is relevant for understanding which shocks matter most in explaining the forecast error or uncertainty in a variable, and how the influence of each variable evolves over time.

In interpreting VARs, the results from Granger causality analysis, IRFs and FEVDs should be understood as indicating complementary features of system-wide dynamics. The Granger causality analysis shows whether two time series are linked, in the sense that movements in one series influence movements in another over time.

For our study we have over 50 years of legal data for the UK, so in correlating labour law with an economic indicator such as employment, Granger causality tells us whether the two time series, for law and employment respectively, are linked. We model the impact of law on the economy with a lag which is normally one or two years, the length of the lag being derived from the structure of the data using the relevant information tests (see above). If we observe a statistically robust correlation between the two time series, this can be taken to indicate an influence of the law on the

economic variable concerned. In other words, if the past value of the legal variable predicts, in a statistical sense, the current value of the economic indicator, we can infer an influence of the former on the latter. We also perform the reverse operation to see if law is endogenous (caused by) changes in the economic variables.

The chi-squared value in a Granger causality table is a test statistic which reports how far the data deviate from the null hypothesis of no effect. If the reported p-value for the test statistic is below 0.05, it passes the conventional statistical significance test. This means that the two time series are linked statistically; we can use the value of one to predict that of the other. However, it should be noted that the Granger causality test does not indicate the direction of any given impact. In other words, it does not tell us whether the impact of the law on the economic variable in question is positive or negative. To do that we use IRF analysis.

The IRF focuses not on the overall relationship between the time trends but on the impacts of individual changes. A change in the law is now modelled as a single 'shock' which prompts a response in the economic variable. The IRF shows whether the shock is positive or negative and for how long it persists. The confidence intervals in an IRF graph are the equivalent of the p-values in a Granger causality table, in the sense of indicating whether the result passes a conventional significance test, here a 95% confidence interval. If we observe a statistically significant effect of the impulse (legal) variable on the response (economic) one, we can infer that, on average, a single change in the law over the period covered by the index had an effect, either positive or negative as the case may be, on the economic indicator in question.

The FEVD analysis enables us to say which shocks matter most in explaining the forecast error or uncertainty in the outcome variable, and how the influence of each variable evolves over time. Thus, even if a change in the law is associated with a change in employment, its relevance may be small or large compared to other possible causes.

The justification for making causal claims in the context of a VAR lies in the ability of the model to capture temporal aspects of system dynamics (Aalen et al., 2012). Causality is a property inferred from the observed influence of past or lagged values on present ones (Granger, 1969). Endogenous relationships are a not a problem for the model as such, which recognises interdependencies between variables as a central property of the system being studied. The VAR approach aims to clarify the predominant direction of causal flows within the system, and their persistence over time.

In clarifying the empirical content of theoretical priors, a VAR can help explain why certain trends are observed in particular settings. In the context we are considering, the method should contribute to understanding not just whether labour laws have certain economic effects, but why they do so, in the light of their interaction with other elements of the wider system.

Conducting a bivariate VAR may be a useful first step in identifying potential causal relationships, but carries the risk of omitted variable bias. A multivariate VAR allows for the inclusion of multiple endogenous variables, enabling a more comprehensive and realistic representation of the economic system being studied. Multivariate VAR models can account for joint dynamics and feedback effects between all included variables, of the kind which occur when variables influence each other simultaneously and cumulatively over time.

Including more variables in a model does not just reduce the risk of omitted variable bias; it also makes it possible to examine both the direct and indirect influence of one variable on another. A multivariate VAR captures both direct and indirect transmission channels, while a bivariate VAR captures only the direct impact. The accuracy of analysis should also be improved in a multivariate VAR.

A multivariate VAR can also be used to address the issue of missing variables with a potential causal effect ('confounders'). In the context we are considering, it is possible that an impact of labour laws on employment, when observed in a bivariate model, is in reality a reflection of the impact of a third variable which is operating as a 'confounder', or possible cause of both of the other two. GDP is a potential confounder of this kind, given that a fast-growing economy is likely to generate rising employment, on the one hand, while creating favourable conditions for the adoption of pro-worker labour laws, on the other. By including GDP in a multivariate VAR, the potential confounding effect of economic growth on legal impacts on the economy can be taken into account.

In addition, a multivariate model makes it possible to examine the potential role of 'mediators', that is to say, variables through which the causal variable impacts on the outcome one. In the context we are considering, productivity, labour share of national income and capital investment are possible mediators for the potential impact of labour laws on employment. A multivariate VAR should be capable of identifying these effects.

A further advantage of a multivariate approach is that it makes it possible to explore possible two-way causal effects. Although the impact of labour law on economic outcomes is the main focus of our analysis, it is possible that labour law is impacted by economic changes. A multivariate VAR should make it possible to see how far labour law is endogenous to changes in the overall growth in the economy, as captured by changes in GDP, as well as to changes in the meso-level indicators of productivity, labour share and investment. Ideally this is achieved through a 'full-system VAR' in which all potentially interacting variables are included in the model.

While there are therefore several benefits from using a multivariate VAR over a bivariate one, adding more variables to a VAR increases the number of parameters, which may reduce estimation efficiency and bias the results downwards. If a multivariate VAR includes too many correlated variables, some effects may appear as muted in terms of magnitude and/or as statistically insignificant, because of shared variance. This could hide meaningful effects seen in simpler models. Conversely, a multivariate VAR which reports multiple interactions between all variables may not be

effective in highlighting the more important effects. On the other hand, if the analysis is able to distinguish between variables which are affected by system-wide effects and those which are not, it can provide insights on the boundaries to systems.

Time-series analysis: Variables and data

The variables in our model are, firstly, three labour market indicators: employment, labour productivity (productivity per hour), and the labour share of national income. We add gross fixed capital formation (capital investment) as a financial variable which may potentially be influenced by changes in labour regulation, and GDP growth in order to control for trends in the business cycle over time. Our legal variables are the overall CBR-LRI index score ('LRI') and the scores for each the five CBR-LRI subindices ('varA', different forms of employment; varB', working time; 'varC', dismissal; 'varD', employee representation; and 'varE', industrial action). Our economic data are derived in each case from the UK Office of National Statistics (ONS) and our legal data from the publicly available source of the CBR-LRI, the Cambridge Leximetric Database (Deakin et al., 2023).

We do not include data on institutional quality, of the kind supplied, for example, by the World Bank's Governance Indicators. This is because it is plausible to assume, in the context of a single country study of the UK, that this variable would have remained more or less constant throughout the period of the study, during which the UK's legal and political institutions did not materially change.

Time-series analysis: Results

We now present our econometric results. We run a 'full-system' VAR in which all variables (labour laws, employment, productivity, labour share, investment and GDP) are included in the model. Granger causality Wald test results are presented in tabular form. In each case, the 'excluded variable' is the one whose impact is being estimated. The tables report the size of the correlation coefficients and significances, with a p-value of less than 0.05 taken to indicate a statistically significant result (on the interpretation of p-values, see Wasserstein and Lazar, 2016). Results with a p-value of less than 0.1 but greater than 0.05, indicating weak significance, are also noted. The IRF results are shown as graphs. The horizontal axis shows the period of time over which the estimated impact takes effect, with the steps indicating years. The vertical axis shows the direction (negative or positive) of the impact. It is inherent in the model that the regression line converges back to zero after a period of time; this indicates the dissipation of the effect. The lower and upper bounds indicate 95% confidence intervals. If the zero line falls within the upper and lower bounds, it is conventional to regard the result as statistically insignificant, on the basis that the null hypothesis (as shown by the zero line) cannot be rejected. A selection of FEVD results are reported in the text.

Table 7 summarises our results. The overall labour law score impacts positively on employment. With respect to the sub-indices, working time laws impact positively on employment and the labour share; dismissal laws impact negatively on the labour

share; employee representation laws impact positively on employment; and industrial action laws impact negatively on productivity but positively on the labour share.

Table 7. Overview of results from full-system VAR analysis

	Employment	Productivity	Labour share	Investment
Labour laws (all)	+**	-	+	+
DFE laws	+	+	-	+
Working time laws	+**	-	+**	-
Dismissal laws	-	+	-**	+
Employee representation laws	+*	-	+	+
Industrial action laws	-	-*	+*	-

+ = positive impact, - = negative impact
*** = p<0.01, ** = p<0.05, * = p<0.1

Sources: data on labour laws are sourced from the Cambridge Leximetric Database (Deakin et al., 2023, Adams et al., 2023) and the authors' own codings of the ERA. Data on economic variables are sourced from the UK Office of National Statistics.

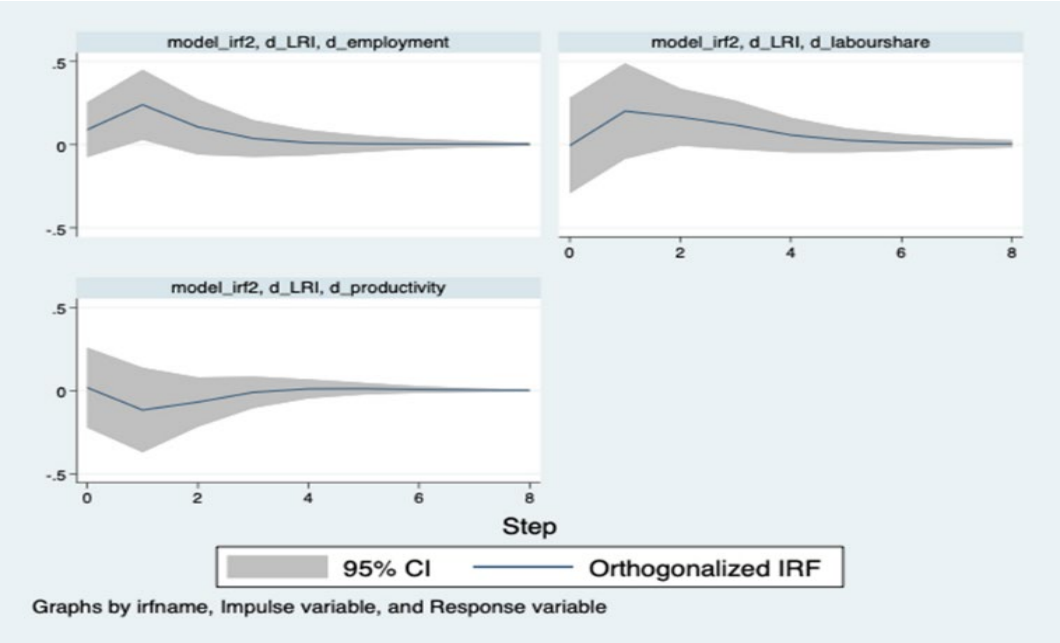
In more detail, Table 8 sets out Granger causality results for labour laws as whole. The labour law score directly Granger causes employment (5% significance), as well as influencing it indirectly in conjunction with all the other variables (1% significance). In addition, all the variables together influence productivity (5% significance) and labour share (1% significance).

Table 8. Granger causality results for full-system VAR, labour laws (all)

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Labour laws (all)	Employment	2.6887	1	0.101
Labour laws (all)	Productivity	3.0096*	1	0.083
Labour laws (all)	Labour share	1.2184	1	0.270
Labour laws (all)	Investment	4.5321**	1	0.033
Labour laws (all)	GDP	0.9847	1	0.321
Labour laws (all)	All	9.1146	1	0.105
Employment	Labour laws (all)	4.9557**	1	0.026
Employment	Productivity	1.5639	1	0.476
Employment	Labour share	2.955*	1	0.086
Employment	Investment	0.5076	1	0.476
Employment	GDP	0.6082	1	0.805
Employment	All	14.963***	1	0.011
Productivity	Labour laws (all)	0.6452	1	0.422
Productivity	Employment	0.5516	1	0.458
Productivity	Labour share	3.0061*	1	0.083
Productivity	Investment	0.2719	1	0.602
Productivity	GDP	0.1248	1	0.724
Productivity	All	11.269**	1	0.046
Labour share	Labour laws (all)	1.3006	1	0.254
Labour share	Employment	10.836***	1	0.001
Labour share	Productivity	0.9858	1	0.321
Labour share	Investment	1.7236	1	0.188
Labour share	GDP	0.0080	1	0.929
Labour share	All	14.968***	1	0.011
Investment	Labour laws (all)	0.7256	1	0.394
Investment	Employment	0.0535	1	0.817
Investment	Productivity	1.5941	1	0.207
Investment	Labour share	0.2510	1	0.616
Investment	GDP	1.2960	1	0.255
Investment	All	3.4459	1	0.632
GDP	Labour laws (all)	0.5145	1	0.473
GDP	Employment	0.5320	1	0.466
GDP	Productivity	5.2498**	1	0.22
GDP	Labour share	1.1222	1	0.289
GDP	Investment	0.0009	1	0.473
GDP	All	7.8313	1	0.166

Figure 8 shows the IRF chart for the impact of labour laws (all) on employment, productivity and labour share. The employment impulse is positive and statistically significant. A single change in labour law impacts positively and significantly on employment by the end of year 1. The effect is small, equivalent to around a 0.24% increase in employment for every one-standard deviation increase in the labour law score. The FEVD analysis for this relationship suggests that labour laws explain 2% of the variance in employment in year 1, rising to 10% by year 8. Productivity is negatively affected and labour share positively affected, but in both cases these results are not statistically significant.

Figure 8. IRFs for labour laws (all) on employment, productivity and labour share



In Table 9, the one-year lags were derived from the standard information tests. Table 10 reports Granger causality results for the overall LRI score with the lag extended to four years. A longer lag enables us to see how the model works on the assumption that slower-moving processes are present in the system. On this basis, the overall labour law measure directly Granger causes productivity and employment, although in the latter case only at the 10% level of significance. In addition, labour law is now endogenous to the combined operation of the other variables.

Table 9. Granger causality results for full-system VAR, labour laws (all), with extended lag

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Labour laws (all)	Employment	19.438***	4	0.001
Labour laws (all)	Productivity	5.7731	4	0.220
Labour laws (all)	Labour share	62.451***	4	0.000
Labour laws (all)	Investment	7.7525	4	0.101
Labour laws (all)	GDP	3.7703	4	0.448
Labour laws (all)	All	96.895***	4	0.000
Employment	Labour laws (all)	8.0301*	4	0.090
Employment	Productivity	5.3830	4	0.250
Employment	Labour share	6.3878	4	0.172
Employment	Investment	8.8552*	4	0.065
Employment	GDP	3.7496	4	0.441
Employment	All	37.478***	4	0.010
Productivity	Labour laws (all)	16.2220***	4	0.003
Productivity	Employment	7.9607*	4	0.093
Productivity	Labour share	10.1120**	4	0.039
Productivity	Investment	3.0337	4	0.552
Productivity	GDP	2.1678	4	0.705
Productivity	All	82.647***	4	0.000
Labour share	Labour laws (all)	3.4725	4	0.482
Labour share	Employment	20.2770***	4	0.000
Labour share	Productivity	10.206**	4	0.037
Labour share	Investment	2.7599	4	0.599
Labour share	GDP	12.5070**	4	0.014
Labour share	All	49.726***	4	0.000
Investment	Labour laws (all)	2.6679	4	0.615
Investment	Employment	4.4857	4	0.344
Investment	Productivity	4.9027	4	0.297
Investment	Labour share	9.6475**	4	0.047
Investment	GDP	2.8566	4	0.582
Investment	All	24.7800***	4	0.000
GDP	Labour laws (all)	2.2773	4	0.685
GDP	Employment	7.1529	4	0.128
GDP	Productivity	13.301***	4	0.010
GDP	Labour share	5.7388	4	0.220
GDP	Investment	5.4667	4	0.243
GDP	All	33.633**	4	0.029

With respect to the subindices, no statistically significant results are reported for the direct effects of the different forms of employment laws indicator, but there are indirect effects of these laws on employment, productivity and labour share indirectly (Table 10). The IRFs show that a single change in the law on different forms of employment impacts positively on employment and productivity and negatively on the labour share but the effects are in each case small in magnitude and not statistically significant (Figure 9). According to the FEVD analysis, the law on different forms of employment explains 0.2% of the variance in employment in year 1, raising to 4% by year 8.

Figure 9. IRFs for laws on different forms of employment on employment, productivity and labour share

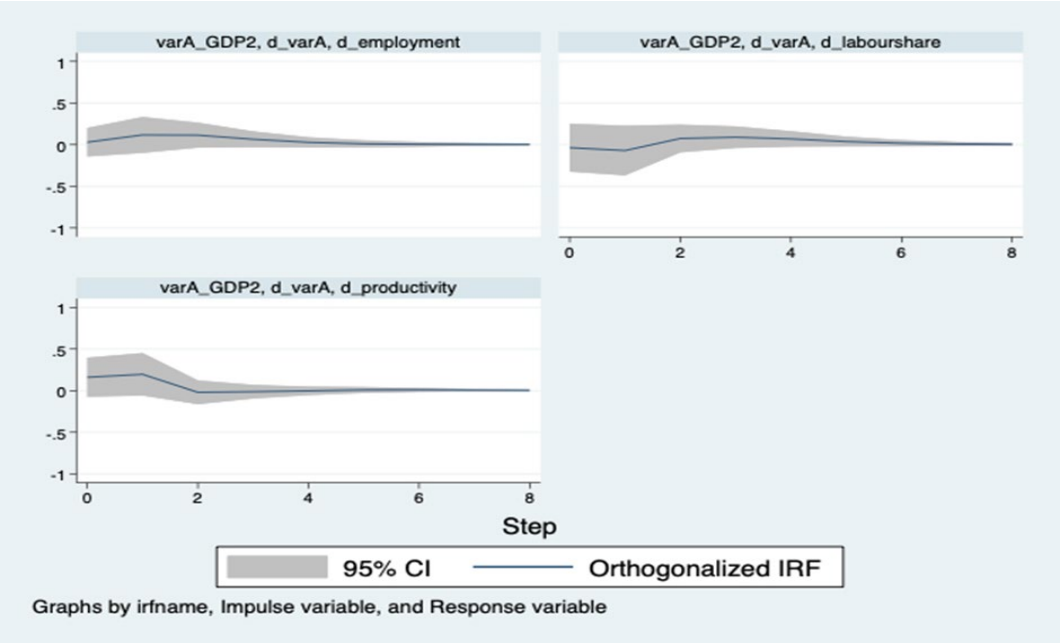


Table 10. Granger causality results for full-system VAR, laws on different forms of employment

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
DFE laws	Employment	0.2815	1	0.596
DFE laws	Productivity	3.5397*	1	0.060
DFE laws	Labour share	1.1067	1	0.313
DFE laws	Investment	0.0601	1	0.806
DFE laws	GDP	0.3843	1	0.535
DFE laws	All	4.5667	1	0.471
Employment	DFE laws	0.6399	1	0.424
Employment	Productivity	1.7772	1	0.182
Employment	Labour share	1.9791	1	0.159
Employment	Investment	0.3909	1	0.532
Employment	GDP	0.0364	1	0.849
Employment	All	9.8886*	1	0.078
Productivity	DFE laws	1.9028	1	0.168
Productivity	Employment	0.9578	1	0.328
Productivity	Labour share	2.4152	1	0.645
Productivity	Investment	0.1417	1	0.707
Productivity	GDP	0.2129	1	0.645
Productivity	All	12.781**	1	0.026
Labour share	DFE laws	0.6233	1	0.424
Labour share	Employment	12.234***	1	0.000
Labour share	Productivity	1.6869	1	0.194
Labour share	Investment	2.044	1	0.153
Labour share	GDP	2.8006	1	0.999
Labour share	All	14.117**	1	0.015
Investment	DFE laws	1.5219	1	0.217
Investment	Employment	0.2815	1	0.596
Investment	Productivity	3.5397*	1	0.060
Investment	Labour share	1.0167	1	0.313
Investment	GDP	0.3844	1	0.535
Investment	All	4.5667	1	0.471
GDP	DFE laws	1.1527	1	0.283
GDP	Employment	0.5399	1	0.462
GDP	Productivity	4.691**	1	0.030
GDP	Labour share	1.0873	1	0.297
GDP	Investment	0.0052	1	0.943
GDP	All	8.5584	1	0.128

Sources: see Table 8.

The working time indicator directly influences employment according to the Granger causality analysis (Table 11) and impacts positively on both employment and labour share according to the IRF analysis. There is a negative impact on productivity, but this is not statistically significant (Figure 10). The FEVD results show the law on working time explaining 6% of the variance in employment in year 1, rising to 20% by year 8, and 2% of the variance in labour share in year 1, rising to 11% by year 8.

Figure 10. IRFs for working time laws on employment, productivity and labour share

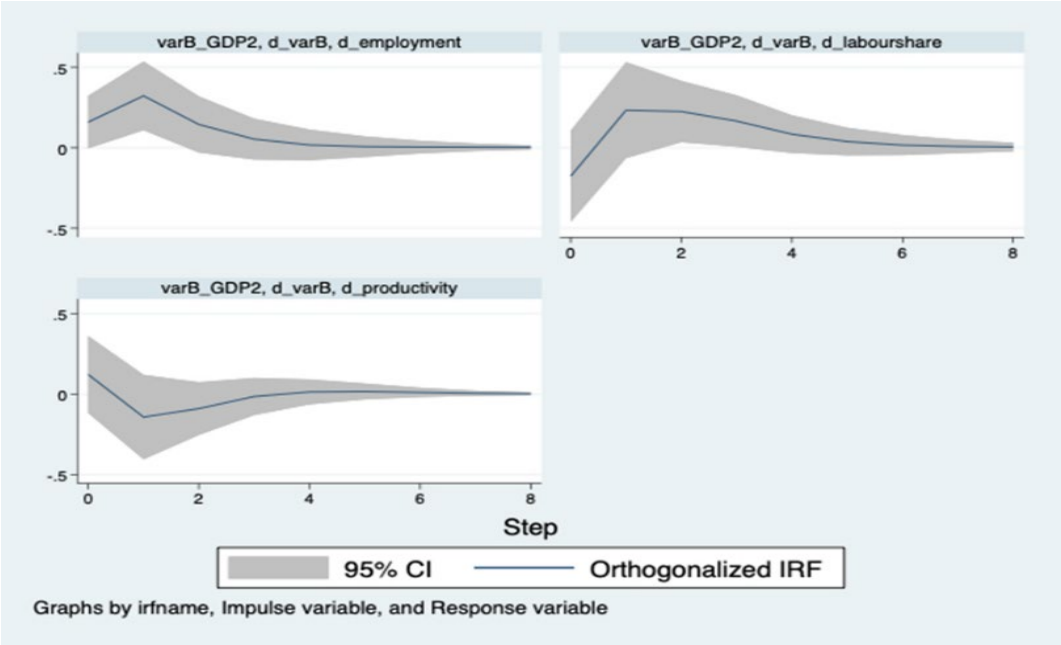


Table 11. Granger causality results for full-system VAR, working time laws

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Working time laws	Employment	1.0500	1	0.306
Working time laws	Productivity	0.4339	1	0.510
Working time laws	Labour share	0.1906	1	0.662
Working time laws	Investment	2.3801	1	0.123
Working time laws	GDP	0.4978	1	0.480
Working time laws	All	3.3193	1	0.651
Employment	Working time laws	4.6994**	1	0.030
Employment	Productivity	1.4445	1	0.229
Employment	Labour share	1.8296	1	0.176
Employment	Investment	0.4907	1	0.484
Employment	GDP	0.0555	1	0.814
Employment	All	14.661**	1	0.012
Productivity	Working time laws	0.6212	1	0.431
Productivity	Employment	0.5026	1	0.478
Productivity	Labour share	2.6048	1	0.107
Productivity	Investment	0.2682	1	0.605
Productivity	GDP	1.1273	1	0.721
Productivity	All	11.24**	1	0.047
Labour share	Working time laws	1.8006	1	0.180
Labour share	Employment	10.306***	1	0.001
Labour share	Productivity	0.8748	1	0.350
Labour share	Investment	1.7328	1	0.188
Labour share	GDP	0.0085	1	0.926
Labour share	All	15.596***	1	0.008
Investment	Working time laws	0.5110	1	0.475
Investment	Employment	0.0477	1	0.827
Investment	Productivity	1.5847	1	0.208
Investment	Labour share	0.1313	1	0.717
Investment	GDP	1.2724	1	0.259
Investment	All	3.2202	1	0.666
GDP	Working time laws	0.4335	1	0.510
GDP	Employment	0.4983	1	0.480
GDP	Productivity	5.175**	1	0.023
GDP	Labour share	0.8984	1	0.343
GDP	Investment	0.0006	1	0.980
GDP	All	7.739	1	0.171

No statistically significant direct effects are reported for the dismissal law indicator in the Granger causality tables, although employment, productivity and labour share are indirectly affected (Table 12). The IRF analysis suggests a statistically significant negative impact on the labour share (Figure 11). The FEVD analysis shows that dismissal laws explain 3% of the variance in employment in year 1, rising to 6% by year 8.

Figure 11. IRFs for dismissal laws on employment, productivity and labour share

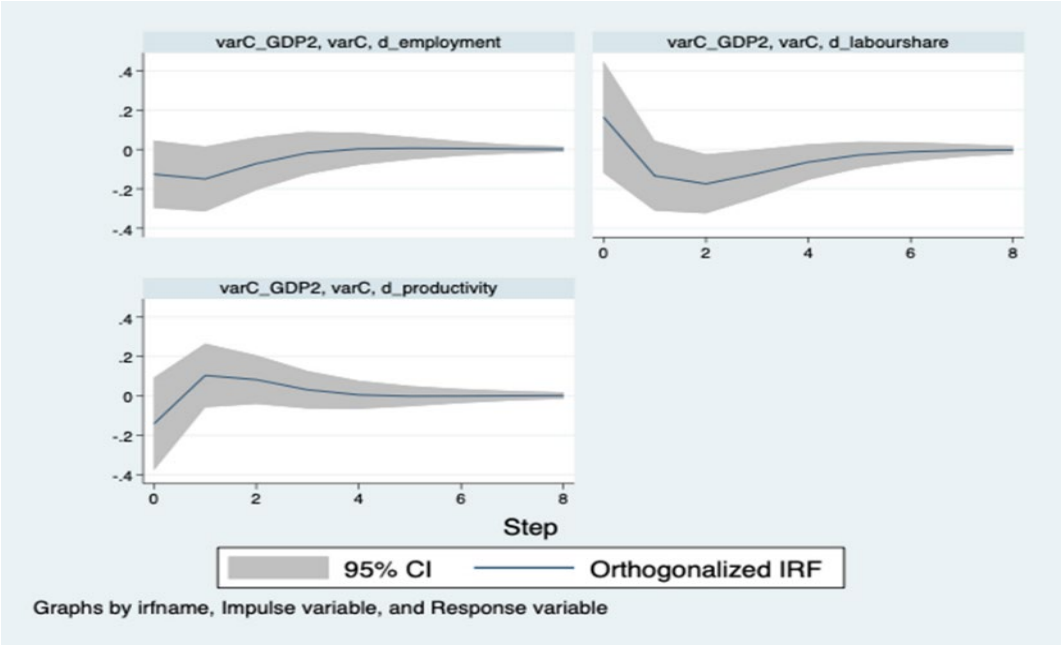


Table 12. Granger causality results for full-system VAR, dismissal laws

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Dismissal laws	Employment	0.9533	1	0.0329
Dismissal laws	Productivity	3.8647**	1	0.049
Dismissal laws	Labour share	1.8067	1	0.179
Dismissal laws	Investment	5.0805**	1	0.024
Dismissal laws	GDP	2.4626	1	0.117
Dismissal laws	All	12.229**	1	0.032
Employment	Dismissal laws	0.5751	1	0.448
Employment	Productivity	2.6332	1	0.105
Employment	Labour share	1.8148	1	0.178
Employment	Investment	0.5751	1	0.448
Employment	GDP	0.0964	1	0.0756
Employment	All	9.8124*	1	0.081
Productivity	Dismissal laws	2.3307	1	0.127
Productivity	Employment	0.4822	1	0.487
Productivity	Labour share	2.711*	1	0.100
Productivity	Investment	0.6103	1	0.435
Productivity	GDP	0.0027	1	0.958
Productivity	All	13.295**	1	0.021
Labour share	Dismissal laws	2.0511	1	0.152
Labour share	Employment	10.975***	1	0.001
Labour share	Productivity	1.9002	1	0.168
Labour share	Investment	1.1588	1	0.282
Labour share	GDP	0.1204	1	0.725
Labour share	All	15.9110***	1	0.007
Investment	Dismissal laws	0.1117	1	0.738
Investment	Employment	0.1400	1	0.708
Investment	Productivity	1.7608	1	0.185
Investment	Labour share	0.1455	1	0.703
Investment	GDP	0.9993	1	0.317
Investment	All	2.8003	1	0.731
GDP	Dismissal laws	1.7006	1	0.999
GDP	Employment	0.6688	1	0.413
GDP	Productivity	5.6729**	1	0.017
GDP	Labour share	0.9214	1	0.337
GDP	Investment	8.5005	1	0.993
GDP	All	7.2451	1	0.203

The employee representation law index influences employment at the 10% level; the IRF chart shows that this relationship is positive, a result which is statistically significant at the 10% level (Table 13 and Figure 12). According to the FEVD analysis, employee representation laws explain 2% of the variance in employment in year 1, rising to 7% in year 8.

Figure 12. IRFs for employee representation laws on employment, productivity and labour share

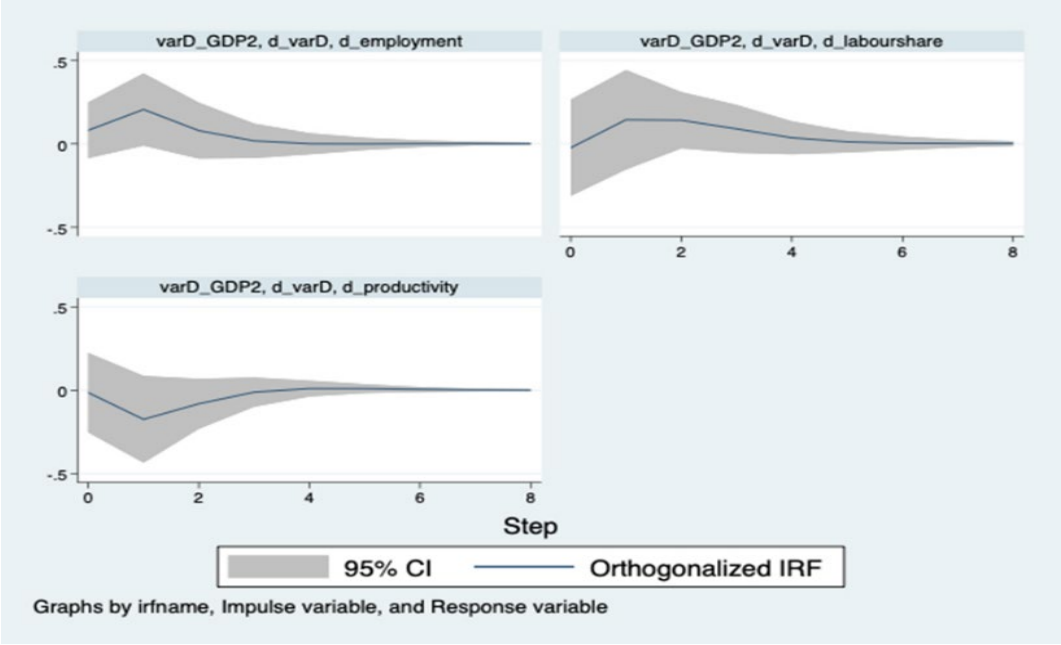


Table 13. Granger causality results for full-system VAR, employee representation laws

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Ee rep laws	Employment	0.8431	1	0.358
Ee rep laws	Productivity	1.9173	1	0.166
Ee rep laws	Labour share	1.2344	1	0.267
Ee rep laws	Investment	1.9234	1	0.165
Ee rep laws	GDP	0.3901	1	0.532
Ee rep laws	All	5.2348	1	0.388
Employment	Ee rep laws	3.5193*	1	0.061
Employment	Productivity	1.911	1	0.167
Employment	Labour share	2.3805	1	0.123
Employment	Investment	0.5540	1	0.457
Employment	GDP	0.0883	1	0.766
Employment	All	13.274**	1	0.016
Productivity	Ee rep laws	1.4454	1	0.229
Productivity	Employment	0.3422	1	0.559
Productivity	Labour share	3.0310*	1	0.082
Productivity	Investment	0.3422	1	0.559
Productivity	GDP	0.0876	1	0.767
Productivity	All	12.2310**	1	0.032
Labour share	Ee rep laws	0.4966	1	0.481
Labour share	Employment	11.326***	1	0.001
Labour share	Productivity	1.1848	1	0.276
Labour share	Investment	1.7015	1	0.192
Labour share	GDP	0.0925	1	0.923
Labour share	All	13.958**	1	0.016
Investment	Ee rep laws	0.2140	1	0.644
Investment	Employment	0.0898	1	0.764
Investment	Productivity	1.8038	1	0.179
Investment	Labour share	0.1732	1	0.677
Investment	GDP	1.2801	1	0.258
Investment	All	2.9078	1	0.714
GDP	Ee rep laws	0.7601	1	0.783
GDP	Employment	0.6351	1	0.425
GDP	Productivity	5.6304**	1	0.018
GDP	Labour share	0.9615	1	0.327
GDP	Investment	0.00021	1	0.988
GDP	All	7.3317	1	0.197

The Granger causality results show that industrial action law influences productivity and labour share, in the latter case at the 10% level only (Table 14); the IRF analysis suggests a negative impact on productivity and a positive one on the labour share, although in both cases the result is statistically weak as the zero line is within the 95% confidence interval (Figure 13). The FEVD analysis shows that industrial action laws explain 0.006% of the variance in employment in year 1, rising to 0.6% by year 8.

Figure 13. IRFs for industrial action laws on employment, productivity and labour share

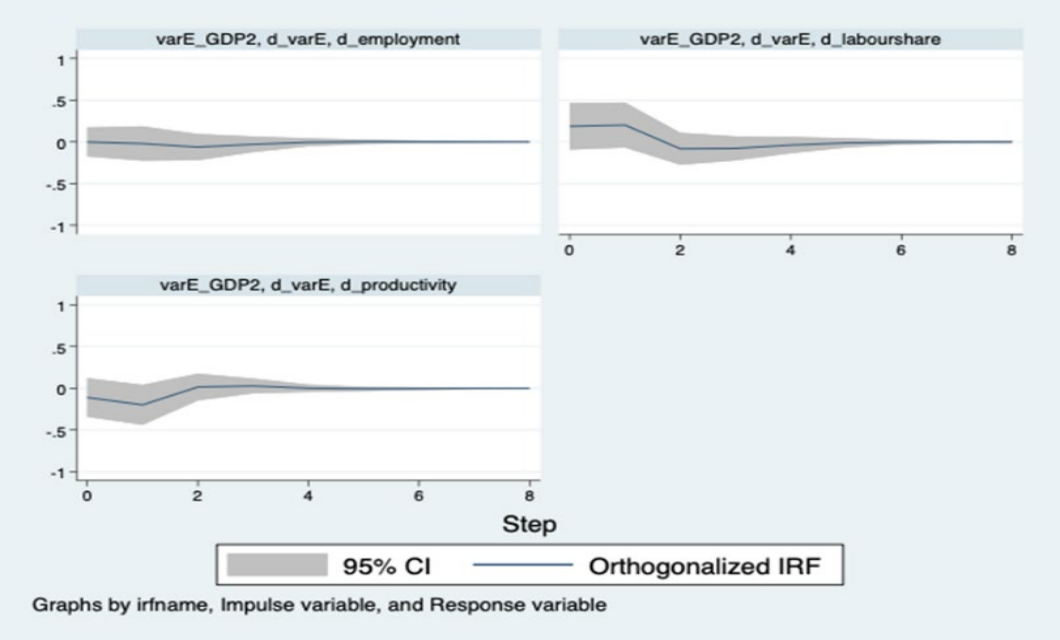


Table 14. Granger causality results for full-system VAR, industrial action laws

Dependent variable	Excluded (causal) variable	Chi square	lag	p-value
Ind act laws	Employment	5.0713**	1	0.024
Ind act laws	Productivity	2.2988	1	0.129
Ind act laws	Labour share	0.2325	1	0.630
Ind act laws	Investment	4.6639**	1	0.031
Ind act laws	GDP	0.7648	1	0.382
Ind act laws	All	9.0876	1	0.106
Employment	Ind act laws	0.3330	1	0.855
Employment	Productivity	2.2683	1	0.132
Employment	Labour share	1.8185	1	0.177
Employment	Investment	0.2852	1	0.593
Employment	GDP	0.0144	1	0.905
Employment	All	9.1754	1	0.102
Productivity	Ind act laws	3.9826**	1	0.046
Productivity	Employment	0.5810	1	0.446
Productivity	Labour share	4.5863**	1	0.032
Productivity	Investment	0.0516	1	0.446
Productivity	GDP	0.4819	1	0.488
Productivity	All	15.2800***	1	0.009
Labour share	Ind act laws	2.765*	1	0.096
Labour share	Employment	11.631***	1	0.001
Labour share	Productivity	1.1881	1	0.276
Labour share	Investment	2.5806	1	0.108
Labour share	GDP	0.0431	1	0.836
Labour share	All	16.8080***	1	0.005
Investment	Ind act laws	0.1736	1	0.677
Investment	Employment	0.0997	1	0.752
Investment	Productivity	1.8695	1	0.172
Investment	Labour share	0.2239	1	0.636
Investment	GDP	1.0477	1	0.306
Investment	All	2.8654	1	0.721
GDP	Ind act laws	0.7727	1	0.379
GDP	Employment	0.7705	1	0.380
GDP	Productivity	6.1116	1	0.013
GDP	Labour share	0.7705	1	0.380
GDP	Investment	0.0111	1	0.916
GDP	All	8.1254	1	0.149

Time Series Analysis: Summary

Using a full-system VAR analysis, we observe strong interdependencies between all variables, in particular over extended time periods, as indicated by the use of longer lags. GDP appears as a mediator through which the legal variables influence labour market outcomes, rather than as a confounder with an independent effect on both the law and the labour market. Labour laws are not Granger-caused by GDP alone in this model, nor does GDP independently influence labour market outcomes, with the exception of the labour share in the model with longer lags. GDP influences labour market outcomes in conjunction with the other variables, suggesting a mediating effect, not a confounding one.

It is only in the version of the model with an extended lag that labour law is endogenous to the economic variables (employment, labour share, and the combined effect of all variables). Thus,

in the short-term, at least, labour laws appear as exogenous influences over the economy, rather than the result of, or a response to, economic shocks. Endogeneity in the extended lag model suggests the presence of long-run institutional complementarities between law and the economy, but this is not inconsistent with law having causal impacts on the economy over shorter time spans.

Investment is unaffected by the legal variables at each level of analysis (in the sense that no statistically significant effects are reported) and is relatively little affected by the combined effect of the other indicators in the full-system model (focusing on those results which pass a significance threshold). Thus, while there is a case for seeing the labour law and labour market indicators as part of a single system of mutually dependent and interacting elements, investment would appear to be outside this system.

Panel data analysis: Econometric model

In this part, we present the results of a panel data analysis of the relationship between labour laws and economic outcomes in OECD countries over time. Taking a multi-country approach in this way enables us to contextualise the UK-specific findings reported above. Using a panel consisting of several countries enables us to identify a wider range of experiences than those observed in a single country. Given that the UK has a relatively low degree of labour protection compared to other OECD countries, its experience may not be typical. Analysing the effects of labour laws across countries enables us to identify general trends across developed countries, and may help to see how far the UK may be an outlier not just in terms of its degree of protection but with respect to the economic impacts of labour laws.

We estimate the following baseline panel regression model:

$$y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it}$$

where y_{it} is the economic outcome variable (employment, unemployment, productivity or labour share) for country i at time t, x_{it} is the labour regulation index (LRI, ZHC, PPBL or TUR), α_i captures unobserved country-specific effects, and ε_{it} is the error term which captures unobserved time-varying influences.

We estimate both fixed effects (FE) and random effects (RE) models. The FE estimator controls for unobserved, time-invariant country-specific characteristics that may be correlated with the independent variable. The RE model assumes that unobserved effects are uncorrelated with the regressors. The fixed-effect model should be able to capture changes caused by country-specific factors, while the random effects approach will better capture common trends across countries.

Panel data analysis: Approach to interpretation

There is not necessarily a clear a priori reason for preferring a fixed-effect model over a random-effect one in the context we are considering. On the one hand, country-specific factors, such as forms of government, underlying institutions and particular macro-economic histories, may determine the timing of adoption of labour laws, or whether they are adopted at all; such factors

may also mediate the influence of those laws on economic outcomes. On the other, labour laws might be expected to have certain common causes and effects in a group of countries all of which are market economies with long experience of industrialisation and a common approach to the rule of law and related institutions.

For these reasons, we employ both fixed-effect (FE) and random-effects (RE) models in our analysis, and report results for both. A Hausman test is used to indicate which model, FE or RE, best fits the data in a given case. This is a test generated by the structure of the data concerned and its closeness of fit with the model. Since there are good a priori reasons for considering both approaches, a finding that one model represents a better fit than the other under the Hausman test does not mean that the latter is of no interest for the analysis. In any case, as we shall see, the two models do not significantly diverge in the results they generate.

Panel data analysis: Data

Our legal data are sourced from the CBR Leximetric Database and the bespoke indices created for the purposes of the present analysis. We extend the main CBR-LRI dataset from 2022 to 2025 for the 38 current OECD countries. The new indices on zero hours contracts (CBR-ZHC) and parental, paternity and bereavement leave (CBR-PBBL) code for 14 selected OECD countries including the UK for the period 2016-2025 (on the choice of countries see section 5 above). The new index on trade union rights contained in the ERA (CBR-TUR) codes for the same 14 OECD countries including the UK for the period 1970-2025.

Our economic data refer to employment, unemployment, labour productivity (output per hour of labour input) and the labour share of national income. These data are sourced from the World Development Indicators, OECD and ILO. As data are not available for all current OECD countries before 1990, we use data from 1990 in our analyses. The analyses of the main CBR-LRI and the CBR-TUR therefore cover the period 1990-2024, while the analyses of the CBR-ZHC and CBR-PBBL refer to the shorter period for which those indices were coded, namely, 2016-2024.

Data for the economic variables are expressed in natural log form. This is done to take into account the possibility of non-linear effects, and specifically the likelihood that the economic effects of labour laws tail off at higher values (Cazes et al., 2012). Reporting results in log-form also facilitates the analysis of the magnitude of effects (see below).

Panel data analysis: Results

The results are summarised in Table 15. Across most of the regressions for the main CBR index, there is a positive relationship between labour laws and employment and an inverse one with unemployment, and a positive relationship also with productivity. Working time laws are an exception to this pattern, with associations showing employment decreasing, unemployment increasing, and productivity decreasing as working time laws are strengthened. Most of the correlations for the labour share variable are not statistically significant; some show declines.

For the bespoke subindices created with laws specific to the ERA in mind, namely those relating to zero hours contract laws, leave laws and trade union rights, we see employment and

productivity rising and unemployment falling. The leave index is correlated with a falling labour share, while the trade union right index is correlated with an increase in the labour share.

Table 16 contains the full results for the analysis of the main CBR-LRI index. The independent variables are the overall labour law score and the scores for each of the five sub-indices. Labour laws as a whole are associated with higher employment, lower unemployment, higher productivity and a lower labour share. Laws on different forms of employment are associated with higher employment, lower unemployment and higher productivity. Working time laws are associated with lower employment, higher unemployment and lower productivity. Dismissal laws are associated with higher employment and lower unemployment. Laws on employee representation are associated with higher employment, lower unemployment, higher productivity and a lower labour share. Laws on industrial action, finally, are associated with higher employment, lower productivity, and a lower labour share.

Table 16 also shows the results for the analyses of new indices we created on zero-hour contracts, leave rights and trade union rights. Laws on zero-hour contracts are associated with higher employment, lower unemployment and higher productivity. Laws on parental, paternity and bereavement leave are associated with higher employment, lower unemployment, higher productivity and lower labour share. Laws on trade union rights are associated with higher employment, lower unemployment, higher productivity and a higher labour share.

Table 15 Summary of panel data analysis

	Employment	Unemployment	Productivity	Labour share
Labour laws (all)	+***	-***	+***	-***
DFE laws	+***	-***	+***	-
Working time laws	-***	+***	-***	+
Dismissal laws	+**	-***	+	-
Employee representation laws	+***	-***	+***	-***
Industrial action laws	+***	-	-**	-***
ZHC laws	+***	-***	+***	-
Leave laws	+*	-***	+***	-**
Trade union rights	+*	-***	+***	+*

Notes: FE=fixed effects model, RE=random effects model. Standard errors are in parentheses. *** p<0.1; ** p<0.5; *** p<0.1

Sources: legal data are sourced from the CBR Leximetric Database (Deakin et al., 2023, Adams et al., 2023) and the authors' own coding. Economic variables are sourced from the World Bank, OECD and ILO.

Table 16. Panel data analysis, labour laws (CBR-LRI) and economic variables, OECD-38, 1990-2024

Independent variable	Employment		Unemployment		Productivity		Labour share	
	FE	RE	FE	RE	FE	RE	FE	RE
Labour laws (all)	0.5313***	0.4093***	-1.5154***	-1.1173***	3.2125***	3.0985***	-0.4341***	-0.3379***
	(0.5660)	(0.0520)	(0.2283)	(0.2073)	(0.1142)	(0.1132)	(0.1143)	(0.0985)
R-squared	0.0812	0.0043	0.0340	0.0129	0.4241	0.0176	0.0178	0.0033
Preferred model		RE		RE		RE		RE
Different forms of	0.1881***	0.1773***	-0.3822***	-0.3554***	0.8441***	0.8423***	-0.0361	-0.0359
employment laws	(0.1592)	(0.1576)	(0.0625)	(0.0617)	(0.0620)	(0.0260)	(0.0310)	(0.0302)
R-squared	0.1228	0.0268	0.0290	0.0031	0.4931	0.1219	0.0017	0.0017
Preferred model		RE		RE		RE		RE
Working time laws	-0.1632***	-0.1441***	0.5690***	0.5563***	-0.9026***	-0.8517***	0.0854	0.1014
	(0.0360)	(0.0341)	(0.2080)	(0.1827)	(0.1214)	(0.1176)	(0.0675)	(0.6189)
R-squared	0.0202	0.0054	0.0059	0.0290	0.0489	0.0046	0.0020	0.0333
Preferred model		RE		RE		RE		RE
Dismissal laws	0.0962**	0.0684**	-0.8985***	-0.6258***	0.1891	0.1795	-0.0856	-0.0172
	(0.3792)	(0.0348)	(0.2014)	(0.1786)	(0.1161)	(0.1125)	(0.0583)	(0.0542)
R-squared	0.0067	0.0462	0.0157	0.0071	0.0025	0.0025	0.0027	0.0614
Preferred model		RE		RE		RE		RE
Employee representation	0.1278***	0.1100***	-0.6661***	-0.6014***	1.3752***	1.3234***	-0.3607***	-0.3113***
laws	(0.0334)	(0.0317)	(0.1364)	(0.1282)	(0.0861)	(0.0848)	(0.0675)	(0.6138)
R-squared	0.0144	0.0075	0.0187	0.0051	0.1918	0.0051	0.0346	0.0087
Preferred model		RE		RE		RE		RE
Industrial action laws	0.2186***	0.0811***	-0.1537	0.1586	-0.8666***	-0.7095***	-0.4898***	-0.3049***
	(0.0640)	(0.0513)	(0.3119)	(0.2264)	(0.1879)	(0.1706)	(0.1055)	(0.0835)
R-squared	0.0116	0.0087	0.0002	0.0328	0.0194	0.0000	0.0263	0.0000
Preferred model		RE		RE		RE		RE
ZHC laws	0.0417***	0.0406***	-0.2319**	-0.2014**	0.1545***	0.1535***	-0.0933	-0.0890
	(0.0112)	(0.0299)	(0.1082)	(0.1015)	(0.0244)	(0.0242)	(0.0260)	(0.0257)
R-squared	0.1101	0.0114	0.0397	0.0004	0.2427	0.0088	0.1040	0.0127
Preferred model		RE		RE		RE		RE
PBBL laws	0.0512*	0.0391	-0.8958***	-0.3479	0.1978***	0.1825***	-0.1531**	-0.1513**
	(0.0291)	(0.0289)	(0.2595)	(0.2255)	(0.0726)	(0.1712)	(0.0663)	(0.0640)
R-squared	0.0271	0.1764	0.0969	0.1693	0.0561	0.0177	0.0458	0.0196
Preferred model	FE		FE			RE		RE
TUR laws	0.0448*	0.0382*	-0.5057***	-0.3430**	0.2611***	0.2431***	0.1568*	0.1119
	(0.0230)	(0.0224)	(0.1823)	(0.1694)	(0.879)	(0.0812)	(0.0910)	(0.0783)
R-squared	0.0090	0.0179	0.0127	0.0546	0.0217	0.0279	0.0100	0.0002
Preferred model		RE	FE			RE		RE

Notes and sources: see Table 15.

Panel Data Analysis: Summary

The results for the panel data analysis show an association between increasing worker protection through law and rising employment, with unemployment falling. Productivity also rises. This result is obtained for the overall labour law score and for the subindices on different forms of employment and employee representation laws. Some of the sub-indices show diverging results. Thus, the working time score shows employment and productivity declines, the inverse of the result for the overall index. The dismissal law subindex does not record any statistically significant relationship with productivity, and the industrial action index record a productivity decline. The overall index is associated with a falling labour share, as are the subindices in employee representation and industrial action.

Inferring a causal effect from a correlation in a panel data analysis is not straightforward. Unlike the VARs we used in our time-series analysis, a panel data regression does not enable us to identify the predominant direction of the causal flow. Thus, the associations reported in Tables 15 and 16 could be interpreted as indicating the effects of the economic variables on the legal ones. Reverse-causal effects might explain the unexpected association between the falling labour share and higher values on the indices for collective labour rights, in scenarios where declining returns to labour prompted legislatures to strengthen employee representation and industrial action laws.

The declining labour share we observe is suggestive of an inverse relationship between labour share and productivity. This might be interpreted as part of the wider tendency, identified by Piketty (2013), for capital to capture a growing share of the returns to economic growth over time. If this effect predominates, labour laws which have pro-growth effects through their positive impact on productivity and employment may end up depressing the relative share of national income allocated to labour, in the form of wages and salaries, compared to the returns to capital in the form of dividends and rents. Since the labour and capital shares are a unity, as the capital share rises in relative terms, the labour share necessarily falls.

The results we obtain for the working time indicator diverge from those for the LRI (all labour laws) index as a whole and for the other subindices, in that they show employment declines and productivity falls following the strengthening of worker protections (and, conversely, employment and productivity increases when protection is reduced). They also show a positive, although not statistically significant, impact on the labour share, of increases in protection. The ERA does not make changes to UK working time law, so these results are not directly relevant for our analysis of the likely impact of the Act.

Unlike the other four subindices and the main index, the working time index for OECD countries records an overall decline in the level of protection over the period between 1990 and the present day – the period to which our econometric analysis relates. These declines are connected to the introduction of measures to make controls over working time more flexible, in particular, the introduction of annualisation of working hours limits in many EU countries following the adoption of the Working Time Directive in 1994 and its subsequent implementation at national level. Our results suggest that this process of flexibilisation, which reduced levels of working time protection from what had been historic highs, could have had positive impacts for employment and

productivity. Such a conclusion would be consistent with the 'plateau hypothesis' (Cazes et al., 2012), according to which the economic impacts of between labour law are non-linear: positive at a low level, but negative once a certain higher level, beyond a 'plateau' of protection is reached. This is a matter that could be explored in future research, for example by studying the effects of national working time laws on sectors where they had a significant impact.

The results for the indices which overlap with the ERA mostly show a pattern similar to the predominant result for the main index, namely, a conjunction of rising employment and rising productivity. The trade union rights index, in addition, is correlated with a rising labour share. This result implies that the tendency for the labour share to fall in a growing economy can be counteracted by the adoption of sufficiently strong collective labour laws.

The reported coefficients imply relatively small magnitudes for any possible causal effects. The coefficient for employment, 0.4093, indicates that for each one point increase in the legal index score, there is a fractional increase, of around 40%, in the score for the economic variable. Most changes in the law are of a much small magnitude than this, closer to 0.01 point rises, so the employment effects of any single change, while positive, can be expected to be also very small – around 0.04%.

The reported R-squares are also mostly very low, suggesting that these models have weak explanatory force. This would suggest that in so far as labour laws influence economic outcomes, their impact is small compared to other factors, while, conversely, factors other than the economy affect the adoption of labour laws.

Overall Economic Assessment

Our analysis suggests that the legal impacts of ERA would be significant, although they would mark less than a fundamental transformation. The Act will result in UK law being at its most protective for several decades. However, the scores for the sub-indices on working time, dismissal, employee representation and industrial action would still be below their earlier peaks; the overall high is attributable to the rise in protections relating to different forms of employment which has occurred since the 1990s. In comparative terms, the UK would still be behind the OECD average with respect to the index as a whole.

When we focus on those aspects of UK labour law which the Act specifically addresses, rather than labour law as a whole, a somewhat different picture emerges. Then the UK can be seen to be at or above the average level of protection in a sample of comparable OECD countries with respect to zero hours contracts, leave rights, and more granular aspects of trade union rights. Thus, the reason the UK continues to lag behind the OECD average is connected to targeted nature of the reforms contained in the ERA.

According to our time-series analysis, each single-unit standard deviation increase in the LRI (all labour laws) score induces a response of 0.2395 of a single unit, that is, a 0.24% rise after rounding, in the employment rate. The standard deviation for the LRI time series between 1970 and 2025 is 0.0736 of a single unit increase. The ERA increases the LRI score by 0.0248 points. Thus, our analysis implies that the ERA would increase the employment rate by around one third of the impact of a standard deviation, in other words, just over 0.08%.

The small impacts reported in our time series analysis may arise from the tendency of a multivariate VAR containing multiple parameters to bias down the magnitude of the observed effects (see this section, above). There are further reasons for expecting small magnitudes. Many factors in addition to labour laws are likely to impact on employment, productivity and investment. Thus, labour laws may contribute to macroeconomic trends, without being their main determinant. However, our time series analysis clearly does suggest that labour laws have economic impacts of various kinds, in particular on employment, and that the employment impact is positive, in the sense of contributing to an increase in the employment rate.

A further feature of our time series analysis is that we can be reasonably confident in rejecting a reverse causal effect. The principal causal flow, according to our Granger causality results, runs from law to the economy. Law is only endogenous to economic changes in a full-system VAR with an extended lag of several years; in the short to medium term, law operates as an exogenous cause of economic change. Nor is there is evidence of GDP acting as a true third cause or confounder, although it may act as a mediator, or channel through which labour laws have causal effects.

Turning to our panel data, we may begin by bearing in mind that this analysis looks at the OECD as a whole (for the analysis of the LRI and its subindices) and a cross-section of OECD countries (for our newly created indices on zero hours contracts, leave, and trade union rights). In other words, it is not a UK-specific analysis, as is the case with our time series analysis. In addition, a panel data analysis of the kind we have conducted is in principle only able to identify statistical associations, rather than causal flows, as in a VAR. Where statistically significant correlations can be observed, they can be understood as evidence of a potential causal effect.

With these qualifications, the panel data analysis suggests the following with respect to magnitudes. Looking firstly at the LRI, that is, labour laws as a whole, the employment coefficient is 0.4093. This means that for each percentage point increase in the LRI, there is an increase of approximately 0.4 of a percentage point in the employment rate. The LRI increases by 0.0248 points, or somewhat more than two percentage points after ERA implementation. This implies a positive association, of around one percentage point, between measures equivalent in terms of protection to those contained in the ERA, on the one hand, and employment growth, on the other. As just noted, this result comes with the qualification that it is neither specific to the UK, nor evidence, in itself, of a causal effect.

We also obtain statistically significant results for unemployment (coefficient -1.1173), productivity (coefficient 3.0985) and labour share (coefficient -0.3379), from rises in labour law protection in OECD countries between 1990 and the present. These would translate into unemployment falls of 2.8 percentage points for ERA-equivalent measures; productivity gains of 7.7 percentage points for the ERA; and labour share falls of 0.84 of a percentage point for the ERA.

We observe a similar pattern when applying our panel data analysis to the newly created indices for zero hours contracts, leave rights and trade union rights. For the OECD as a whole, the zero hours contracts law index is significantly correlated with employment (coefficient 0.0406), unemployment (coefficient -0.2014), and productivity (coefficient 0.1535). The index for parental, paternity and bereavement leave is significantly correlated with employment (coefficient 0.0512), unemployment (-0.8958), productivity (coefficient 0.1825), and the labour

share (coefficient -0.1513). The index on trade union rights is significantly correlated with employment (coefficient 0.0448), unemployment (0.5057) and productivity (0.2431). It is also significantly and positively correlated with the labour share (coefficient 0.1568) although this result is obtained for the fixed-effects regression, which is not the one selected as most consistent with the structure of the data according to the Hausman test (see Table 16).

Summarising our results for the newly created indices, we may conclude that when laws similar to those contained in the ERA were introduced in other OECD countries between 1990 and 2024, they were associated with rising employment and productivity in the case of zero hours hours contracts, leave rights, and trade union rights. Leave rights were associated with a falling labour share and trade union rights with a rising labour share.

The results just described for both the UK-specific and the OECD-wide analysis are subject to a number of limitations and qualifications.

A first qualification is that the results reported are averages for the UK over time and for the OECD as a whole and over time. The circumstances in which the ERA are to be introduced may not be typical of the average legal intervention in the UK over the preceding 50-year period, nor of the general trend across OECD countries since the 1990s.

A second qualification is that different results might be obtained for specific industries or regions. We have presented data at the level of the whole economy. Disaggregating the data by sector or geographical area might indicate trends which go against the overall impact.

A third qualification is there is likely to be a degree of non-linearity in the impacts of labour laws on the economy that we have reported. In other words, the expected impact of a given legal reform will differ according to the pre-existing level of regulation. According to the 'plateau hypothesis', for which there is convincing evidence (Cazes et al., 2012), labour law reforms introduced from a low base tend to have positive employment effects, before reaching a 'plateau' where protections can be improved without having either positive or negative effects. At a certain point, additional protections lead to employment declines. The implication of non-linearity is that the positive impacts of labour laws on employment and productivity that we identify may not hold beyond a certain point. However, it may be borne in mind that UK labour law is currently at the lower end of the spectrum in terms of protection by reference to other OECD countries, and also with respect to earlier periods in recent UK history. Thus there not a high risk of the ERA taking UK law to the edge of the 'plateau' at which positive or neutral impacts turn into negative ones.

Bearing in mind these qualifications, our baseline result is as follows. Our UK-specific analysis suggests that implementation of the ERA can be expected to have a small, positive impact on employment. Our OECD-wide analysis points to a potentially positive relationship between the ERA, on the one hand, and employment and productivity, on the other. We also observe a potentially positive relationship between the trade union rights contained in the ERA, and the labour share of national income.

7. Conclusion

In this paper we have estimated the impact of the changes contained in the Employment Rights Act on UK labour law. To arrive at an estimate, we used as a benchmark the Centre for Business Research Labour Regulation Index (CBR-LRI). This is an index of labour laws around the world constructed in order to allow for systematic comparisons to be made between countries and over time. The CBR-LRI codes for labour laws in 117 countries over the period between 1970 and 2022. It has a wide topic coverage, coding for laws in five discrete areas which are each represented by a sub-index: the laws governing different forms of employment (that is, the law defining employment status and regulating the treatment of part-time, fixed-term and temporary agency work), working time, dismissal, employee representation, and industrial action.

Using the benchmarking methodology underlying the CBR-LRI, we estimate that the effect of the Act would be to bring about an increase in the degree of protection conferred by UK labour law of approximately 0.025 points on a 0-1 scale, a rise of around 5% from the previous score. These increases are approximately comparable in terms of magnitude to those brought about by laws enacted in the mid-1970s and late-1990s, although less than the fall in protection which occurred in the early 1980s. Thus using the CBR-LRI score as a benchmark, the Act would increase the UK's level of protections to its highest level in several decades.

The CBR-LRI also permits cross-national comparisons. Enacting the Employment Rights Act would bring the UK closer to the average level of protection in OECD and EU countries, but would still leave the UK approximately 0.13 on a 0-1 scale, that is, 13 percentage points, below the average OECD country score in 2025, and 0.19 on a 0-1 scale, that is, 19 percentage points, below the EU average.

There is only a partial overlap between the CBR-LRI Index and the coverage of the Act. The Index does not code for laws concerning zero hours contracts, nor for leave rights. To deal with this lack of overlap, we constructed new indices for the law on zero hours contracts and paternity, parental and bereavement leave. We also constructed a new trade union rights index which coded collective labour law with more granularity than that contained in the parent CBR-LRI index.

We then benchmarked the UK scores for the new indices against those of a selected number of other OECD countries, chosen to include larger developed market economies similar to the UK in terms of size, as well as a range of countries from different legal traditions (common law and civil law origin). Implementation of the Act's provisions would take the UK above this OECD average for zero hours contracts rights and leave rights and would restore the UK to the OECD average for the trade union rights legislated for in the Act. However, it would leave the UK below the OECD average for collective labour law rights as a whole.

Next we carried out econometric analyses with a view to estimating the likely economic impacts of the changes made by the ERA. We firstly conducted a times-series analysis of trends in UK law since the 1970s. This analysis shows that the average effect of an increase in worker protection over this period has been to increase employment. A single standard deviation increase in the overall LRI index score is correlated with a rise in employment of around a quarter of a percentage point. As the ERA increases worker protection by a fraction of a single standard

deviation, the expected impact of the Act on employment is less than a tenth (0.08) of a single percentage point.

We then carried out a panel data analysis for the 38 OECD countries including the UK from the 1990s to the present day. This analysis shows a potentially positive impact of changes in the overall index, as well as in the sub-indices for different forms of employment, dismissal law and employee representation law, on employment and productivity, although with some possible negative impacts on the labour share of national income. With respect to our newly created indices, the panel data analysis identifies potentially positive impacts of laws on zero hours contracts, leave rights and trade union rights on employment and productivity; a negative impact of leave rights on the labour share; and a positive impact of trade union rights on the labour share.

Our principal finding, that improvements in worker protection through labour laws tend to produce positive but small increases in the employment rate, is consistent with earlier studies using the CBR-LRI index (Deakin and Sarkar 2008; Adams et al., 2019). The small size of the magnitudes we have reported may reflect methodological issues, including the tendency for the econometric methods we used to produce unduly low estimates as a result of the large number of parameters employed. It may also reflect the multiplicity of potential causes of changes in our economic variables. One implication of our study is that the relative contribution of labour laws to employment growth, for example, is likely to be small, compared to macroeconomic and technological causes of growth.

Since we do not find statistically significant effects on productivity in our UK-specific time series analysis, we cannot conclude from this analysis that the pathway to higher employment lies through productivity gains, notwithstanding theoretical support for this possibility (see section 6 above). Our panel data study, on the other hand, reports positive impacts on both employment and productivity of increasing labour law protections in OECD countries as a whole. In those areas of law where the ERA would bring the UK up to the average level of protection across the OECD, our panel data analysis suggests scope for improvements in employment and productivity from zero hours contracts rights and leave rights, and an improvement in the labour share of national income as a result of changes to trade union rights. This is evidence in favour of the proposition that stronger labour laws can help promote economic growth while also addressing distributional issues.

Our findings are necessarily qualified. As we did not carry out industry-specific analyses as part of our time-series study, we cannot address the question of how far labour law reforms bring about structural changes in the economy, which might favour some sectors over others. However, the finding of an overall increase in employment from the implementation of the ERA remains relevant for the purposes of policy assessment.

Findings from the panel data study, which relate to the OECD as a whole, may not necessarily translate into the UK context in a uniform way. However, the UK is a developed market economy in common with other OECD member states, and so might be expected to respond to labour law changes in a not-dissimilar way. As the UK is at the lower end of worker protection within the wider the OECD group, our results suggest that there is scope to align the UK with a model of

labour regulation across developed economies which has achieved complementary improvements in employment, productivity and distribution in recent decades.

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Annex: Additional Tables

Table A1. Steps in creating the CBR-LRI index

Terminology	**Definition**	**Application to CBR-LRI**
Phenomenon	Object of interest	Labour law
Construct	Concept which more precisely captures the object of interest	Legal regulation of work relations = legal protection of workers

Indicator(s)	Variable(s) which express the construct in numerical terms	
	Coding protocol or algorithm to translate primary material (legal texts) into numbers	40 indicators, grouped into 5 sub-indices
	Measurement scale for capturing the dimension of interest	
Protocol	Primary source material for the coding	Definitions of coding protocols for each indicator
Scale	Adjusting the weight to be accorded to an indicator or indicators	Scores are normalised on a 0-1 scale with a higher score indicating greater protection
	Aggregating or averaging variable scores to arrive at an overall score	
Sources	Presentation and visualisation of the data	Original legal texts (statutes and judgments), sourced from the ILO NATLEX database, law libraries, and online materials; textbooks and other relevant materials summarising and interpreting national laws
Weights	Updating the index to correct for errors, omissions and changes	Weights can be adjusted exogenously to reflect a particular causal theory or endogenously by reference to a statistical technique such as clustering or principal component analysis

Aggregation		Different variable combinations can be used to study particular areas of labour law The data are presented in country/year units in an excel spreadsheet, the explanations in a related sourcebook, both publicly available
Reporting		Feedback from national experts and users of the index is reflected in the scores contained in the dataset, which is also updated on a periodic basis to reflect new laws
Error correction		

Source: Adams et al., 2023

Table A2. CBR-LRI sub-indices and indicators

A. Different forms of employment
1. The law, as opposed to the contracting parties, determines the legal status of the worker
2. Part-time workers have the right to equal treatment with full-time workers
3. Part time workers have proportionately equal dismissal rights to those of full-time workers
4. Fixed-term contracts are allowed only for work of limited duration
5. Fixed-term workers have the right to equal treatment with permanent workers
6. Maximum duration of fixed-term contracts
7. Agency work is prohibited or strictly controlled

8. Agency workers have the right to equal treatment with permanent workers of the user undertaking
B. Regulation of working time
9. Annual leave entitlements
10. Public holiday entitlements
11. Overtime premia
12. Weekend working
13. Limits to overtime working
14. Duration of the normal working week
15. Maximum daily working time
C. Regulation of dismissal
16. Legally mandated notice period (all dismissals)
17. Legally mandated redundancy compensation
18. Minimum qualifying period of service for normal case of unjust dismissal
19. Law imposes procedural constraints on dismissal
20. Law imposes substantive constraints on dismissal
21. Reinstatement normal remedy for unfair dismissal
22. Notification of dismissal
23. Redundancy selection
24. Priority in re-employment
D. Employee representation
25. Right to unionisation
26. Right to collective bargaining
27. Duty to bargain
28. Extension of collective agreements
29. Closed shops
30. Codetermination: board membership
31. Codetermination and information/consultation of workers

E. Industrial action
32. Unofficial industrial action
33. Political industrial action
34. Secondary industrial action
35. Lockouts
36. Right to industrial action
37. Waiting period prior to industrial action
38. Peace obligation
39. Compulsory conciliation or arbitration
40. Replacement of striking workers

Source: Adams et al., 2023

Table A3. CBR-LRI Coding Template

Variable	Definition
A. Different forms of employment	
1. The law, as opposed to the contracting parties, determines the legal status of the worker	Equals 0 if the parties are free to stipulate that the relationship is one of self-employment as opposed to employee (or equivalent) status; 0.5 if the law allows the issue of status to be determined by the nature of the contract made by the parties (as in the case of the English common law 'mutuality of obligation' test); and 1 if the law mandates employee status on the parties if certain specified criteria are met (such as form of payment, duration of hiring, etc.). Scope for scores between 0 and 1 to reflect changes in the strength of the law. A higher score is coded in jurisdictions in which judicial decisions and/or legislation relating to platform work have recognised the potential for this form of work to give rise to a regular employment or work relationship, if the normal conditions for such a relationship are present. The presence of laws protecting platform workers regardless of their employment status is also reflected in the coding.

2. Part-time workers have the right to equal treatment with full-time workers	Equals 1 if the legal system recognises a right to equal treatment for part-time workers (as, for example, in the case of EC Directive 97/81/EC. Equals 0.5 if the legal system recognises a limited right to equal treatment for part-time workers based on e.g. anti-discrimination law. Equals 0.25 if there is a right to equality based on a general right of workers not be treated arbitrarily or unequally in employment. Equals 0 if neither of the above. Scope for scores between 0 and 1 to reflect changes in the strength of the law.
3. The cost of dismissing part-time workers is equal in proportionate terms to the cost of dismissing full-time workers	Equals 1 if as a matter of law part-time workers enjoy proportionate rights to full-time workers in respect of dismissal protection (notice periods, severance pay and unjust dismissal protection). Equals 0 otherwise. Scope for further gradation 0 and 1 to reflect changes in the strength of the law.
4. Fixed-term contracts are allowed only for work of limited duration.	Equals 1 if the law imposes a substantive constraint on the conclusion of a fixed-term contract, by, for example, allowing temporary hirings only for jobs which are temporary by nature, training, seasonal work, replacement of workers on maternity or sick leave, or other specified reasons. Equals 0 otherwise. Scope for gradation between 0 and 1 to reflect changes in the strength of the law.
5. Fixed-term workers have the right to equal treatment with permanent workers	Equals 1 if the legal system recognises a right to equal treatment for fixed-term workers (as, for example, in the case of EC Directive 99/70/EC). Equals 0.5 if the legal system recognises a limited right to equal treatment for fixed-term workers based on e.g. anti-discrimination law. Equals 0.25 if there is a right to equality based on a general right of workers not be treated arbitrarily or unequally in employment. Equals 0 if neither of the above. Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.
6. Maximum duration of fixed-term contracts	Measures the maximum cumulative duration of fixed-term contracts permitted by law before the employment is deemed to be permanent. The score is normalised from 0 to 1, with higher values indicating a lower permitted duration. The score equals 1 if the maximum limit is less than 1 year and 0 if it is 10 years or more or if there is no legal limit.
7. Agency work is prohibited or strictly controlled	Equals 1 if the legal system prohibits the use of agency labour.

	Equals 0.5 if it places substantive constraints on its use (in the sense of allowing it only if certain conditions are satisfied, such as a demonstrable need on the part of the employer to meet fluctuations in labour demand). Equals 0 if neither of the above. Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.
8. Agency workers have the right to equal treatment with permanent workers of the user undertaking	Equals 1 if the legal system recognises a right to equal treatment for agency workers, in relation to permanent workers of the user undertaking, in respect of terms and conditions of employment in general Equals 0.5 if the legal system recognises a limited right to equal treatment based on e.g. anti-discrimination law, if this right permits a comparison with the user undertaking. Equals 0.25 if there is a right to equality based on a general right of workers not be treated arbitrarily or unequally in employment, if this right permits a comparison with the user undertaking. Equals 0 if neither of the above. Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.
A. Different forms of employment	***Measures the cost of using alternatives to the 'standard' employment contract, computed as an average of the variables 1-8.***
B. Regulation of working time	
9. Annual leave entitlements	Measures the normal length of annual paid leave guaranteed by law or collective agreement. The same score is given for laws and for collective agreements which are de facto binding on most of the workforce (as in the case of systems which have extension legislation for collective agreements). The score is normalised on a 0-1 scale, with a leave entitlement of 30 days equivalent to a score of 1.
10. Public holiday entitlements	Measures the normal number of paid public holidays guaranteed by law or collective agreement. The same score is given for laws and for collective agreements which are de facto binding on most of the workforce (as in the case of systems which have extension legislation for collective agreements). The score is normalised on a 0-1 scale, with an entitlement of 18 days equivalent to a score of 1.
11. Overtime premia	Measures the normal premium for overtime working set by law or by collective agreements which are generally applicable. The same score is given for laws and for collective agreements which are de facto binding on most of the workforce (as in the case of systems which have extension legislation for collective agreements). The score equals 1 if the normal premium is double time, 0.5 if it is time and half, and 0 is there is no premium.
12. Weekend working	Measures the normal premium for weekend working set by law or by collective agreements which are generally applicable. The same score is given for laws and for collective agreements which are de facto binding on most of the workforce (as in the case of systems which have extension legislation for collective agreements). The

	score equals 1 if the normal premium is double time, 0.5 if it is time and half, and 0 is there is no premium. Also score 1 if weekend working is strictly controlled or prohibited.
13. Limits to overtime working	Measures the maximum weekly number of overtime hours permitted by law or by collective agreements which are generally applicable. The score equals 1 if there is a maximum duration to weekly working hours, inclusive of overtime, for normal employment and 0 if there is no limit on any kind. Where reference periods are set by legislation, scores between 0 and 1 are set depending on the length of the period, with a scale ranging from 0.2 for 12 months or more, through 0.5 for six months, to 0.8 for less than one month.
14. Duration of the normal working week	Measures the maximum duration of the normal working week exclusive of overtime. The score is normalised on a 0-1 scale with a limit of 35 hours or less scoring 1 and a limit of 50 hours or more, or no limit, scoring 0. The same score is given for laws and for collective agreements which are de facto binding on most of the workforce (as in the case of systems which have extension legislation for collective agreements).
15. Maximum daily working time.	Measures the maximum number of permitted working hours in a day, taking account of rules governing rest breaks and maximum daily working time limits. The score is normalised on a 0-1 scale with a limit of 8 hours or less scoring 1 and a limit of 18 hours or more scoring 0.
B. Regulation of working time	***Measures the regulation of working time, computed as an average of variables 9-15.***
C. Regulation of dismissal	
16. Legally mandated notice period (all dismissals)	Measures the length of notice, in weeks, that has to be given to a worker with 3 years' employment. Normalise the score so that 0 weeks = 0 and 12 weeks = 1.
17. Legally mandated redundancy compensation	Measures the amount of redundancy compensation payable to a worker made redundant after 3 years of employment, measured in weeks of pay. Normalise the score so that 0 weeks = 0 and 12 weeks = 1.
18. Minimum qualifying period of service for normal case of unjust dismissal	Measures the period of service required before a worker qualifies for general protection against unjust dismissal. Normalise the score so that 3 years or more = 0, 0 months = 1.
19. Law imposes procedural constraints on dismissal	Equals 1 if a dismissal is necessarily unjust if the employer fails to follow procedural requirements prior to dismissal. Equals 0.67 if failure to follow procedural requirements will normally lead to a finding of unjust dismissal. Equals 0.33 if failure to follow procedural requirement is just one factor taken into account in unjust dismissal cases. Equals 0 if there are no procedural requirements for dismissal. Scope for gradations between 0 and 1 to reflect changes in the strength of the law.
20. Law imposes substantive constraints on dismissal	Equals 1 if dismissal is only permissible for serious misconduct or fault of the employee. Equals 0.67 if dismissal is lawful according to a wider range of legitimate reasons (misconduct, lack of capability, redundancy, etc.).

	Equals 0.33 if dismissal is permissible if it is 'just' or 'fair' as defined by case law. Equals 0 if employment is at will (i.e., no cause dismissal is normally permissible). Scope for gradations between 0 and 1 to reflect changes in the strength of the law.
21. Reinstatement normal remedy for unfair dismissal	Equals 1 if reinstatement is the normal remedy for unjust dismissal and is regularly enforced. Equals 0.67 if reinstatement and compensation are, de iure and de facto, alternative remedies. Equals 0.33 if compensation is the normal remedy. Equals 0 if no remedy is available as of right. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
22. Notification of dismissal	Equals 1 if by law or binding collective agreement the employer has to obtain the permission of a state body or third body prior to an individual dismissal. Equals 0.67 if a state body or third party has to be notified prior to the dismissal. Equals 0.33 if the employer has to give the worker written reasons for the dismissal. Equals 0 if an oral statement of dismissal to the worker suffices. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
23. Redundancy selection	Equals 1 if by law or binding collective agreement the employer must follow priority rules based on seniority, marital status, number or dependants, etc., prior to dismissing for redundancy. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
24. Priority in re-employment	Equals 1 if by law or binding collective agreement the employer must follow priority rules relating to the re-employment of former workers. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law. Code 1 for a priority period of one year or more, reduced codings for shorter periods.
C. Regulation of dismissal	***Measures the regulation of dismissal, calculated as the average of variables 16-24***
D. Employee representation	

25. Right to unionisation	Measures the protection of the right to form trade unions in the country's constitution (flexibly interpreted in the case of countries without a codified constitution). Equals 1 if a right to form trade unions is expressly granted by the constitution. Equals 0.67 if trade unions are described in the constitution as a matter of public policy or public interest. Equals 0.33 if trade unions are otherwise mentioned in the constitution or there is a reference to freedom of association which encompasses trade unions. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
26. Right to collective bargaining	Measures the protection of the right to collective bargaining or the right to enter into collective agreements in the country's constitution (loosely interpreted in the case of system such as the UK without a codified constitution). Equals 1 if a right to collective bargaining is expressly granted by the constitution. Equals 0.67 if collective bargaining is described as a matter of public policy or public interest (or mentioned within the chapter on rights). Equals 0.33 if collective bargaining is otherwise mentioned in the constitution. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
27. Duty to bargain	Equals 1 if employers have the legal duty to bargain and/or to reach an agreement with unions, works councils or other organizations of workers. Equals 0 if employers may lawfully refuse to bargain with workers. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
28. Extension of collective agreements	Equals 1 if the law extends collective agreements to third parties at the national or sectoral level. Extensions may be automatic, subject to governmental approval, subject to a representativeness requirement, or subject to a conciliation or arbitration procedure. Equals 0 if collective agreements may not be extended to non-signatory workers or unions, or if collective agreements may be extended only at the plant level. Mandatory administrative extensions of collective agreements are coded as equivalent to mandatory extensions by law. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law. To the extent that the law allows plant-level

	collective agreements or individual contracts to prevail over sectoral agreements, the score will be reduced accordingly.
29. Closed shops	Equals 1 if the law permits both pre-entry and post-entry closed shops. Equals 0.50 if pre-entry closed shops are prohibited or rendered ineffective but post-entry closed shops are permitted (subject in some cases to exceptions e.g. for pre-existing employees). Equals 0 if neither pre-entry or post-entry closed shops are permitted to operate. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
30. Codetermination: board membership	Equals 1 if the law gives unions and/or workers to right to nominate board-level directors in companies of a certain size. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
31. Codetermination and information/consultation of workers	Equals 1 if the works councils or enterprise committees have legal powers of co-decision making. Equals 0.67 if works councils or enterprise committees must be provided by law under certain conditions but do not have the power of co-decision making. Equals 0.5 if works councils or enterprise committees may be required by law unless the employer can point to alternative or pre-existing alternative arrangements. Equals 0.33 if the law provides for information and consultation of workers or worker representatives on certain matters but where there is no obligation to maintain a works council or enterprise committee as a standing body. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
D. Employee representation	***Measures the protection of employee representation, calculated as the average of variables 25-31.***
E. Industrial action	
32. Unofficial industrial action	Equals 1 if strikes are not unlawful merely by reason of being unofficial or 'wildcat' strikes. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
33. Political industrial action	Equals 1 if strikes over political (i.e. non work-related) issues are permitted.

	Equals 0 otherwise. Scope for gradations between 0 and 1 to reflect changes in the strength of the law.
34. Secondary industrial action	Equals 1 if there are no constraints on secondary or sympathy strike action. Equals 0.5 if secondary or sympathy action is permitted under certain conditions. Equals 0 otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
35. Lockouts	Equals 1 if lockouts are not permitted. Equals 0 if they are. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
36. Right to industrial action	Measures the protection of the right to industrial action (i.e. strike, go-slow or work-to-rule) in the country's constitution or equivalent. Equals 1 if a right to industrial action is expressly granted by the constitution. Equals 0.67 if strikes are described as a matter of public policy or public interest. Equals 0.33 if strikes are otherwise mentioned in the constitution. Equals zero otherwise. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
37. Waiting period prior to industrial action	Equals 1 if by law there is no mandatory waiting period or notification requirement before strikes can occur. Equals 0 if there is such a requirement. Scope for gradations between 0 and 1 to reflect changes in the strength of the law.
38. Peace obligation	Equals 1 if a strike is not unlawful merely because there is a collective agreement in force. Equals 0 if such a strike is unlawful. Scope for gradations between 0 and 1 to reflect changes in the strength of the law.
39. Compulsory conciliation or arbitration	Equals 1 if laws do not mandate conciliation procedures or other alternative-dispute-resolution mechanisms (other than binding arbitration) before the strike. Equals 0 if such procedures are mandated. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.

40. Replacement of striking workers	Equals 1 if the law prohibits employers to fire striking workers or to hire replacement labour to maintain the plant in operation during a non-violent and non-political strike. Equals 0 if they are not so prohibited. Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
E. Industrial action	***Measures the protection of industrial action, calculated as the average of variables 32-40.***

Source: Adams et al., 2023

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