

THE EVOLUTION OF LABOUR LAW: CALIBRATING AND COMPARING REGULATORY REGIMES

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Abstract

We present evidence on the evolution of labour law in five countries (the UK, USA, Germany, France and India) using a newly-created dataset which measures legal change over time. The results cast light on the claim that legal origin, or the influence of common law and civil law regulatory styles, affects the content of labour law regimes. We find some divergence between common law and civil law countries at the aggregate level but a more complex picture when the index is decomposed so as to identify changes in specific areas of labour law. We discuss the potential significance of this relatively new approach to the measurement of law for understanding the forces at work in the evolution of labour law.

JEL Codes: J53, K31

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1. Introduction

The ‘legal origins’ hypothesis claims that national regulatory styles are influenced by the origins of legal systems in one or other of the principal legal families, namely the English common law, and the civil law in its French, German and Nordic variants. This claim, which was first made in the context of company and financial law (La Porta et al., 1998), has more recently been applied to labour law (Botero *et al.*, 2004). The studies have been used as a template for parts of the World Bank’s series of reports on *Doing Business* (World Bank, 2007 and various years). The legal origins hypothesis predicts that systems with a common law background are more likely than their civil law counterparts to produce efficient rules for the governance of the business enterprise. Two principal sets of explanations have been offered for this effect: the ‘adaptability channel’, according to which systems of the common law are more adaptive than civilian ones to changing economic conditions; and the ‘political channel’, according to which the common law provides fewer opportunities than the civil law for rent-extraction by insiders. In each case, the basis for the claim is the association of the common law with contract and self-regulation, and of the civil law with centralised state control of the economy.

The legal origins hypothesis has the potential to shed light on the contested relationship between labour law and economic growth. It also has implications for debate over labour market flexibility which has been going on since the 1980s and which has recently seen significant contributions from the OECD, in successive editions of its annual *Employment Outlook* (OECD, various years) and the European Commission, its 2006 report *Employment in Europe* (Commission, 2006a) and the recent Green Paper on the modernisation of labour law in the EU (Commission, 2006b). The scope of the legal origin claim is nevertheless broader than the focus of the OECD and EU, since it covers both developed and less developed countries. It also addresses the issue of the processes by which legal rules are formed, which has been largely neglected, up to this point, in the labour market flexibility debate. Thus it is possible that the legal origin approach may help us to answer some of the long-standing, and still unresolved, questions concerning the impact which labour law rules have on economic outcomes. This seems to be the assumption behind its use by the World Bank.

However, before the legal origins approach becomes a fully accepted aspect of policy making, it will be important to pay regard to its methodological and empirical foundations. This paper is part of that process. It will be argued here that the explanations given for the apparent effect of legal origins – the so-called ‘adaptability’ and ‘political’ channels – are flawed, because they rely to

an excessive degree on an over-stylised account of the common law-civil law divide, which misdescribes the differences between legal families. The empirical basis of the legal origins claim with regard to contemporary legal systems will also be re-examined. This will be done using newly-created longitudinal datasets which track changes in labour law, and related areas of the law governing the business enterprise, over the period from the 1970s to the present day.

Section 2 sets out the legal origins claim and identifies the central explanations which have been offered for the empirical findings on which it is based. Section 3 discusses the historical origins of diversity in labour and company law and section 4 presents evidence on the recent trajectory of legal change in five systems using longitudinal data. Section 5 concludes.

2. The legal origin hypothesis and its application to labour law

The legal origins theory which was initially advanced by Rafael La Porta, Francisco Lopez-de-Silanes, Andrei Shleifer and Robert Vishny (henceforth ‘LLSV’) maintains that that the common or civil law origin of a given country’s legal system is a major factor in its approach towards the regulation of the economy. As Juan Botero *et al.* (2004: 1345) put it, ‘countries in different legal traditions utilize different institutional technologies for social control of business... common law countries tend to rely more on markets and contracts, and civil law (and socialist) countries on regulation (and state ownership)’. Since most countries in the world inherited their legal systems from one of the small number of parent countries by virtue of colonization, military conquest or some other mode of legal transplantation, legal origin operates as an exogenous factor, operating to some degree independently of the political and economic context of each system. Its influence is manifested in the tendency of systems to adopt rules of a particular type and, at a further remove, in economic outcomes. Complementarity across legal and economic institutions ensures that systems remain on separate paths: at national level, ‘path dependence in the legal and regulatory styles emerges as an efficient adaptation to the previously transplanted legal infrastructure’ (Botero *et al.*, 2004: 1346).

The empirical basis for the legal origins claim is a series of studies based on the construction of multi-country datasets which provide a measure of the degree of regulation in particular areas of economic activity. These studies suggest that common law systems provide superior protection to shareholder and creditor rights than civilian systems do. These differential levels of regulation are linked, in turn, to variations in the size of financial markets (shareholder protection) and the share of private credit in the economy (creditor protection).

In addition, common law systems are shown to impose fewer barriers to entry into product markets, to rely on less ‘formalised’ dispute resolution procedures, and to rely to a greater degree on private contract and litigation as mechanisms of enforcement, than their civilian counterparts (see La Porta *et al.*, 1997, 1998, 2000; Djankov *et al.*, 2003, 2005, 2006).

Botero *et al.* (2004) extend this approach to labour law. They analyse labour regulation in three areas: employment protection law, the law governing employee representation and industrial action, and the law of social security. The method adopted is to code legal rules, for the most part, with values in a range from 0 to 1, with 0 indicating no protection and 1 maximum protection for the interests of the employee. Altogether over 100 variables are contained in their index, with the social security index accounting for somewhat more than a third of these. The analysis broadly confirms the findings of the earlier LLSV studies on shareholder rights and creditor rights: legal origin matters, in the sense that common law countries, as a whole, regulate the employment relationship to a lesser degree than civilian countries. A similar result is found for the industrial relations law index, but the effect of legal origin is not as strong here. Nordic-origin and French-origin systems of social security are found to be more generous than those of the common law, but this is not the case with German-origin systems. In terms of outcomes, Botero *et al.* find that a higher level of regulation on their index is correlated with higher levels of youth unemployment, lower rates of male labour force participation, and a larger informal economy. However, these effects are confined to systems with above average per capita incomes. This finding is interpreted as evidence that the more strongly labour laws are enforced, the more inefficiencies they produce (Botero *et al.*, 2004: 1378).

3. Explanations for the legal origins effect

The authors of the principal legal origins papers have presented their findings as empirical discoveries, without attempting to offer a wider theoretical framework into which they could be fitted. This has left other authors, most notably Thorstein Beck and Ross Levine in a series of papers, to offer two broad sets of explanations (see Beck, Demirgüç-Kunt and Levine, 2003a, 2003b, 2004; Beck and Levine, 2003). The first of these, known as the ‘adaptability channel’, holds that the common law, as it is mostly the product of case law, evolves incrementally to meet the needs of the economy as they change over time. The civil law is, it is argued, more ‘rigid’ as change can only occur in the event of a fundamental revision of the codes and other statutory texts which constitute the principal source of the law; in civil law jurisdictions, case law does not constitute a formal source of legal rules as it does in the common law. The

second explanation is based on the so-called ‘political channel’. This view maintains that common law systems are more effective than their civilian counterparts in reducing opportunities for wasteful rent-seeking. Because, it is thought, legislation plays a more important role in the civil law than in the common law, there is a higher likelihood of regulatory capture in civilian systems. A variant of this argument claims that the tradition of judicial independence in the English common law has given rise to rules which protect individual property rights against expropriation by the state. The two sets of claims can be seen as complementary, as in the work of F.A. Hayek (1960, 1980).

The problem with these explanations is not that adaptability (or efficiency) and politics do not matter – they clearly do – but with the particular assumptions made about their links to legal origin. These supposed links depend on stylized facts about the common law and civil law which are open to question. They certainly go against the grain of recent comparative legal scholarship which has arrived a more nuanced understanding of the differences between systems than that associated with the works of René David and other comparatists of the 1960s who popularized the idea of legal families (David and Brierley, 1968). Ugo Mattei, for example, has argued that the idea that common law judges have discretion to shape rules to changing economic circumstances, while civilian judges are bound to apply, through rigid deductive logic, the strict legal text of the code, is ‘dramatically misleading, being based on a superficial and outdated image of the differences between the common law and the civil law’. While it is the case that the drafters of the French civil code sought to limit doctrine of judicial precedent, ‘neither before nor after the French codification could any of the civil law systems be fairly characterised as the one described by the French post-revolutionary scholars’ (Mattei, 1997: 83). Arguments about whether judicial decisions are a formal ‘source’ of law in civilian systems aside, Basil Markesinis’s work has put beyond doubt the prominent role of judicial decision-making in the civil law world (Markesinis, 2003). Gunther Teubner (2001) and Katharina Pistor (2005) have highlighted the extent to which doctrines that are regarded as being at the core of the distinctive civilian approach to economic regulation, such as the application of the concept of good faith to commercial contracts, were judicial innovations.

If we look beyond the stylized facts used by legal origins adherents, it is immediately apparent that the vast majority of rules in the areas of company law and labour law are statutory in origin in the common law and civil law alike. The growth of companies legislation in the common law world since the middle decades of the twentieth century (a trend which, far from abating, shows recent signs of intensifying with the adoption of the huge Companies Act 2006 in the

UK) has led commentators such as Paul Davies (1998: 8) to argue that common law judges now have less discretion to develop the law than their civilian counterparts. Whereas common law judges have limited room for manoeuvre in interpreting statutes, civilian judges have inherent powers to develop the law using 'general clauses', such as good faith, which ameliorate the apparent rigidity of the codes (Pistor, 2005).

This is not to deny that there are significant differences in regulatory style between the common law and civil law. There is a case for saying that civilian systems today give greater scope to mandatory rules in the area of economic regulation than is the case with the common law. Even in the area of commercial contract law, governing relations between economic entities where no issues of consumer or employee protection arise, judges in France and Germany retain the power to control unfair or 'abusive' contract terms, contrary to the formal emphasis on freedom of contract in such relationships in the English and American common law (Teubner, 2001). From a common law point of view, the civilian approach constitutes a formal constraint on the contractual autonomy of the parties. From the civilian perspective, however, the mandatory rules of law which give expression to good faith and related notions in commercial dealings are viewed as one of the foundations of the contractual relationship, which cannot operate in isolation from these principles. In a similar sense, the concept of 'capacity' which, in the common law, is seen as explaining a few isolated cases where the power to make binding agreements is denied (to the young, for example, or to the very ill), is seen in civilian systems as the concerned with establishing the legal preconditions for the right to enter into enforceable contracts. In the civil law, the contract is not a relationship *regulated* by law, but one *constituted* by it (Deakin, 2006).

It is an open question how far such differences of 'legal culture', expressed at the level of juridical discourse, result in rules which are substantively different across legal systems. A prominent view in contemporary comparative legal scholarship, expressed by Konrad Zweigert and Hein Kötz, is that 'different legal systems give the same or very similar solutions, even as to detail, to the same problems of life, despite the great differences in their historical development, conceptual structure, and style of operation'; as a result, they suggest, 'we find that as a general rule developed nations answer the needs of legal business in the same or in a very similar way' (Zweigert and Kötz 1998: 40). The concept of 'functional equivalents' which they developed to explain how formal diversity of legal rules masked a deeper functional continuity is an indispensable tool of comparative legal analysis, and arguably of comparative analysis more generally.

But functional *continuity* need not imply that rules are precisely *equivalent* in their effects. One illustration of this relates to a basic feature of contemporary labour law systems, namely the approach to defining the scope of the ‘employment relationship’ as the relation to which mandatory and other rules of labour legislation are applied. The approach of the common law has long been to stress that the existence of the employment relationship is a matter for the contracting parties, who are free to contract for whatever terms they wish; only if the agreement they make satisfies the criteria for the presence of employment will they be subject to the compulsory provisions of legislation. In 1988 an English Court of Appeal judge commented that a person ‘is without question free under the law of contract to carry out certain work for another without entering into a contract of service. Public policy has nothing to say either way’.¹ This view can be contrasted to that of the social chamber of the French Court de cassation which in 2000 enunciated this somewhat different statement of principle: ‘the existence of an employment relationship does not depend on the will of the parties however they have expressed it, nor on the label which they give their agreement, but on the factual matrix within which the relevant labour services are carried out’.² The criminal chamber of the Court had previously said in 1985, in a case concerning workers who had been given the title of ‘artisans’ by their employer under agreements purporting to be ‘sub-contracts’, that the will of the parties ‘is insufficient to remove from workers the social status that necessarily attaches to them by virtue of the manner in which they carry out their tasks’.³ In Germany, the Bundesarbeitsgericht, in a decision of 1967, took a similar view, arguing that as ‘German labour law is mandatory’ so is the application of employee status, so that ‘only in borderline cases can account be taken of how the parties have labelled a particular contract’.⁴ None of these statements can be taken completely at face value, and the three systems are closer together than might be supposed from considering these decisions in isolation: in Britain, the courts will disregard a ‘label’ or description of the contract which does not accord with the practice of employment, while French and German courts will take into account the view of the parties in borderline cases.⁵ But it is also the case that the common law approach has led to the use of standard contract terms to avoid the terms of protective statutes (see Deakin, 2004), to a far greater extent than is possible in France and Germany where stricter rules concerning the legal definition of the employment relationship apply. It is possible to identify here the role of deeply-ingrained assumptions about the role of the law in regulating economic relationships which have the potential to shape the interpretation, and in the final analysis the social and economic effects, of substantive rules of law.

If, in terms of the law-making process, as well at the more intangible level of regulatory culture and ‘legal style’ (Markesinis, 1994), there are important differences between common law and civil law approaches, these could potentially constitute barriers to the flow of ideas from one system to another (see Teubner, 2001). Conversely, they could facilitate the exchange of legal models *within* the main legal families, as in the case of judicial borrowings which are well known in the common law world, and the work of cross-national legal commissions such as those which have long operated in the Nordic systems. To that extent, a legal origins effect could be expected to arise from the division of systems into different legal families. However, the strength of such an effect would differ from one context to another, in particular when set against opposing tendencies for the convergence of rules deriving from the forces of cross-national harmonization, regulatory competition and the activities of transnational legal services and accounting firms.

Account must also be taken of the extent to which legal rules, their foreign origin notwithstanding, are ‘endogenised’ by local economic and political contexts. This is a theme common both to the modern comparative legal doctrine of functional analysis (Zweigert and Kötz, 1998) and of the varieties of capitalism approach in the contemporary political science literature (Hall and Soskice, 2001). The latter identifies a voluntaristic approach to labour law regulation in ‘liberal market’ systems which is complementary to institutions supporting dispersed share ownership and the prioritization of financial interests in corporate governance; by contrast, the integration of worker interests into the structure of the firm through codetermination, in its various forms, can be seen to be complementary to patterns of concentrated share ownership and a ‘stakeholder’ orientation to company law in the ‘coordinated market’ systems. Differences in regulatory style have played a role in institutionalizing these lock-in effects, making them more difficult or costly to shift at national level, and creating the conditions for the persistence of diversity (Ahlering and Deakin, 2007).

According to this argument, a critical issue is the timing of the major legal innovations of the nineteenth century – above all, the adoption of the private law codes on the mainland of Europe and the equivalent moves to legal modernization in Britain – with regard to industrialization (Deakin, 2007). Britain’s early industrialization meant that the modern business enterprise began to emerge before the point at which the legal transition from late-medieval or early-modern forms of regulation had been completed. In France and most of the rest of western Europe, on the other hand, the private law codes were put in place several decades before there was large-scale industrialization. This had profound implications for both legal and economic development. In Britain, the

characteristic legal forms of the business enterprise – the contract of employment, in labour law, and the company limited by share capital, in company law – had not fully developed, outside certain areas of the economy, when industrialization was getting underway. On the continent, they were already in place and in a position to support the emergence of large-scale industrial enterprise. One of the consequences of Britain's early industrialization was the persistence into the final decades of the nineteenth century of the quasi-penal master-servant model, which not only delayed the appearance of the contract of employment as a juridical concept, but helped to institutionalize the view of the enterprise as the employer's unencumbered property (Deakin and Wilkinson, 2005). On the continent, penal legislation governing work relations more quickly gave way to the concept of juridical equality between worker and employer which had been embodied in the codes (Simitis, 2000). In French labour law, the employer's powers of control were subsequently mediated by the development of mandatory social legislation (*ordre social public*) while in Germany a similar mediating role was played by mutual contractual duties of trust and loyalty (Supiot, 1994).

The timing and nature of industrialization in different systems is arguably a much more powerful force shaping present-day diversity than legal origin; but legal origin may be one of the 'carriers of history' through which diversity across systems is preserved and perpetuated over time. Historical contingency, rather than economic efficiency, played a major role in determining which legal models were transplanted, and with what effects. Through colonization, developing countries received legal forms from the relevant parent systems. Legal origins theorists assume that common law systems received from Britain an approach to law making and legislative drafting, and a particular view of the importance of the autonomy of the contracting parties, which differed from the inheritance of systems which were influenced by the traditions of continental Europe. This view is assumed, rather than being demonstrated, in the legal origins literature. There is, however, a substantial body of evidence concerning the diffusion of a particular legal model of work relations which was associated with British colonization.

What British colonies received in the area of work relations was a modified form of the master-servant model (for a full account see the papers in Hay and Craven, 2004). The persistence of the master-servant model into the late nineteenth century in Britain – itself the contingent result of Britain's early industrialization (Deakin and Wilkinson, 2005; Ahlring and Deakin, 2007) – meant that this model was adopted in its colonies in early north America, the West Indies, Africa, India and Australia. In some cases master-servant laws were still being put in place as late as the 1930s. Only at this late stage did the

Colonial Office in London begin to start ameliorating the effects of the laws, a move which was often resisted by local employers (Banton, 2004). There were very high prosecution rates and the penal sanctions were widely relied on, with their use increasing in the course of the nineteenth century. In Britain, master-servant laws were used to stabilize the labour supply, reduce the bargaining power of workers and shore up managerial prerogative in the mainly small-scale manufacturing enterprises which were characteristic of its industrial structure; in the colonies, the same laws were used to assist in the dispossession and separation from the land of indigenous populations and to maintain the supply of cheap labour which was essential in plantation and mining-based economies. The influence of this form of regulation only waned with the growing influence of ILO Conventions, decolonization and democratization in the course of the twentieth century (Hay and Craven, 2004).

What is suggested, then, in this historical-institutional approach, is that legal origin works through an ‘institutional channel’ which tends to preserve certain cross-national differences. The common law is no more disposed to the production of efficient rules than the civil law; rather, legal rules in each jurisdiction are more or less adaptive to local economic conditions, but without adaptativeness implying optimality. The force of legal origin in the face of pressures for convergence, such as those deriving from regulatory competition or harmonization through standard setting, varies from context to context. This is a ‘weak’ legal origins effect, in contrast to the strongly functionalist one identified by the predominant theories of the ‘adaptability’ and ‘political’ channels. The degree to which such an effect has actually operated to influence the path of economic development across systems cannot be assumed *a priori* but is a matter for empirical analysis, which needs to focus on particular cases if the mechanisms of diffusion are to be properly understood. We turn now to take a closer look at the empirical foundations of the legal origins approach.

4. Calibrating and comparing contemporary regulatory regimes: a preliminary analysis

4.1 Methodological issues in coding labour law

As we have seen, the empirical foundation for the legal origins claim is the construction by LLSV of a series of indices mapping the effects of different areas of law in a wide range of developed and developing countries; over fifty countries are covered in most of the indices, and over eighty in the labour index of Botero *et al.* A number of methodological objections can be raised against the indexing approach. One of the most important relates to the issue of weighting. It is not just that each country – from the largest, most highly developed economies to the least developed ones – is accorded equal weight in the index; if the theory of functional equivalents has any traction here, the relative importance of a given legal variable will differ from country to country, depending on the different roles it plays in each system. This is a general problem but it is a particular issue in the labour law context where there is considerable diversity across systems in the mechanisms used to protect labour interests (such as collective bargaining versus codetermination; unfair dismissal law versus legal support for strike action over dismissals; and so on).

There are other problems in coding in the labour law field. These include the tendency for many apparently mandatory labour law rules not to be applied in certain industries or regions of national economies, a particular issue developing countries with large informal or unorganized sectors, but one which is by no means confined to the developing world; the difficulties in using binary variables to capture gradations in the effects of legal rules across countries; the growing use of default rules and other ‘reflexive’ norms which may be varied by either individual or collective agreements, giving rise to particular difficulties in attaching values to certain variables; and the importance of non-legal sources of norms, such as collective agreements, which may have de facto binding effect, but which may be difficult to identify from a search based on legal sources alone.

To some degree, all of the objections just made are inherent in the coding project; they can be addressed, to some degree, as we shall see below, but never completely resolved. In order for any coding to be done at all, it has to be accepted that the resulting index will be, at best, an incomplete proxy for the real effects of labour law and related rule-systems (such as collective agreements) in a given country. If the range of potential legal variables is huge, then so is the range of social and economic variables which may influence the application and enforcement of the law in practice, and which may render the

effect of law in practice very different from the way the formal rule intended it to be. The issue, with regard to any index, is not whether it is a completely realistic account of the workings of the law, since almost by definition, this cannot be achieved. The issue, rather, is how close to reality the index is, compared to the alternatives.

The greatest limitation of the Botero *et al.* index, as with the other indices developed by LLSV, is that it is only cross-sectional: it aims to describe the law as it stood at the end of the 1990s. It is not possible to say anything at all about the pace and direction of legal change using this approach, even though one of the core aspects of the legal origins claim is the suggestion that legal transplants which occurred decades, even centuries ago, still influence the content of laws today. From the viewpoint of a ‘strong’ legal origins effect, the absence of historical information may not matter greatly; legal origin can be assumed to have a time-invariant effect, since it is the result, for nearly all systems, of a one-off event of legal reception, the consequence of the copying of laws, or of having them imposed through conquest or colonization. But from the point of view of a ‘weak’ legal origins effect, time is an important factor, since it is possible that the force of legal origin may vary across different periods, according to the relative strength or weakness of factors of convergence such as regulatory competition or transnational harmonization. The time-dimension is also critical to understanding the causal sequence between legal change and economic development: which comes first, and how does one influence the other?

For these reasons, the development of longitudinal indices is an important step in testing the legal origins hypothesis. The longitudinal labour regulation index which we will now describe is part of a wider project of work in which similar indices have been developed for shareholder protection and creditor rights.⁶

4.2 Constructing a longitudinal labour regulation index

An index of this kind cannot simply describe the law; it has to be based on a theoretical model of how law works to shape economic relations. The longitudinal labour index follows the same functional approach as Botero *et al.* (2004), which is to assume that laws which impose mandatory or, in some cases, default rules on employers limit their formal freedom of action while, conversely, empowering employees and enhancing their bargaining power. It is recognised that labour law rules may play a dual role: they redistribute resources from employers (or their ultimate ‘principals’, such as shareholders) to employees, but they may also have an efficiency aspect to them, in the sense of providing insurance to the employee against risks associated with loss of

income and employment (Simon, 1951), compensating for informational asymmetries (Stiglitz, 2002), reducing transaction costs deriving with the incompleteness of the employment contract (Williamson, Wachter and Harris, 1975), and overcoming coordination or collective action problems which limit the scope for efficient rules to emerge spontaneously (Hyde, 2006). Thus just as maximum employment protection through law (a score of ‘1’) may not be optimal for employees, given possible inefficiencies from over-regulation, so its complete absence (a score of ‘0’) may not be optimal for employers, given the presence in unregulated labour markets of transaction costs and other barriers to coordination.

The longitudinal labour regulation index which we are introducing here covers five aspects of labour and employment law: the regulation of alternative forms of labour contracting to that of the standard full-time, indeterminate employment relationship (self-employment, part-time work, fixed-term contracting and agency work); the regulation of working time; the regulation of dismissal; the law governing employee representation; and the law governing industrial action.⁷ Altogether, our index consists of 40 individual variables. The variables, and the descriptions we used for coding them, are set out in the Appendix to this paper. The categories we use broadly correspond to equivalent parts of the index prepared by Botero *et al.* and should make comparisons with their work possible.⁸ However, we do not adopt precisely the same definitions of variables that they do, nor do we adopt the same approach to coding. The most important difference between our approach and theirs is that we take account not just of the formal or positive law, but also of self-regulatory mechanisms, including collective agreements, which play a functionally similar role to that of the law in certain systems. In taking this approach we are following a core principle of comparative legal analysis suggested by Zweigert and Kötz (1998), to the effect that the same effect might be achieved in one system by a rule of law and in another by self-regulatory instruments or soft law. We also attempt to code for differences in the form of legal rules, in a way which captures the extent to which they are formally binding or mandatory, on the one hand, or capable of modification by the parties (‘default rules’). Contrary to the approach taken by Botero *et al.* and to nearly all other similar attempts to develop indices measuring the strength of weakness of legal regulation, we cite the specific legal sources for each of the values contained in our dataset.⁹ The full dataset, with sources and explanations for the codings, is too extensive to reproduce here (it is over 100 pages long), but can be viewed on and a website set up for this purpose.¹⁰

The laws for five countries are reported – the UK, US, Germany, France and India – for the period 1970-2006. One reason for choosing a small sample is that there is a cost to increasing the sample size thanks to the complexity of the coding process, and a trade off between the number of countries covered and the depth in which any single country can be described. By taking into account default rules and non-legal sources of binding norms, the longitudinal labour regulation index is, in terms of the range of rules which are covered, more comprehensive than the Botero *et al.* index. In addition, the values reported in the index are complemented by more detailed country-level data on the evolution of labour law in each system, as will become clear below. Although only five countries are studied, each one is an important case: three are ‘parent’ systems, one is the world’s largest economy, and the other is its largest democracy.

4.3 The evolution of labour law: a ‘leximetric’ analysis

Our aim here is to present a ‘leximetric’ analysis (see Lele and Siems, 2007; Siems, 2007) which uses the indexing method to map out the principal differences between legal systems. For reasons of space, the separate set of questions concerning the link between legal systems and wider political and economic forces is not considered here.¹¹ Figures 1-3 report our findings on the evolution of labour law over time and compare them to trends in shareholder protection law and creditor rights over the same period. The central point which a longitudinal analysis reveals is that there is no consistent legal origin effect across the three categories of law.¹² In the case of shareholder rights, there is a rising trend of protection in all countries. This is largely the effect of convergence on the core contents of corporate governance codes and similar legal instruments which, in all systems, have stressed the importance of independent directors on boards, a greater separation of management from supervision and monitoring at board level, and, in general, the empowerment of shareholders against incumbent management (Lele and Siems, 2007). For creditor rights, there is not the same degree of common movement across systems, nor a clear pattern of difference based on legal origin. In respect of labour law, however, there is a clear divergence between the two civil law systems, France and Germany, and the three others, although the gap with India is much smaller than it is with the UK and the US.

Figure 1: Aggregate Labour Regulation (40 variables)

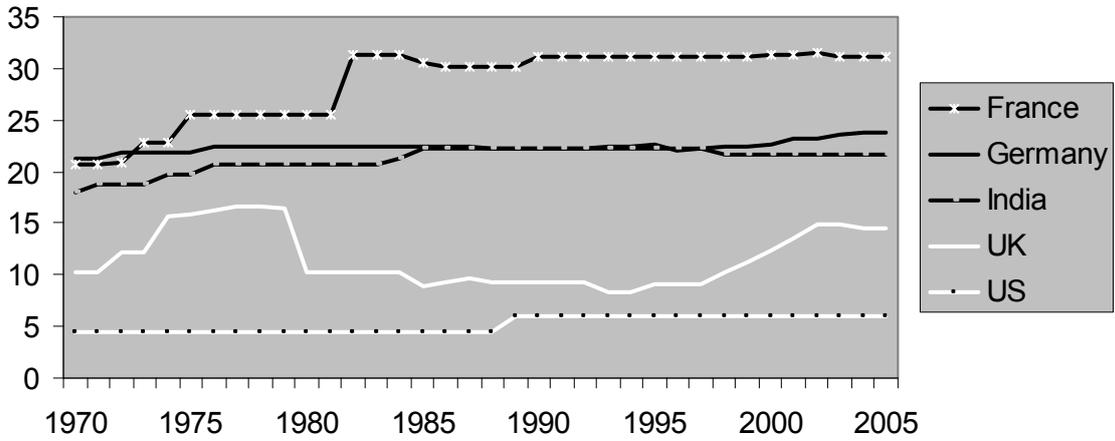
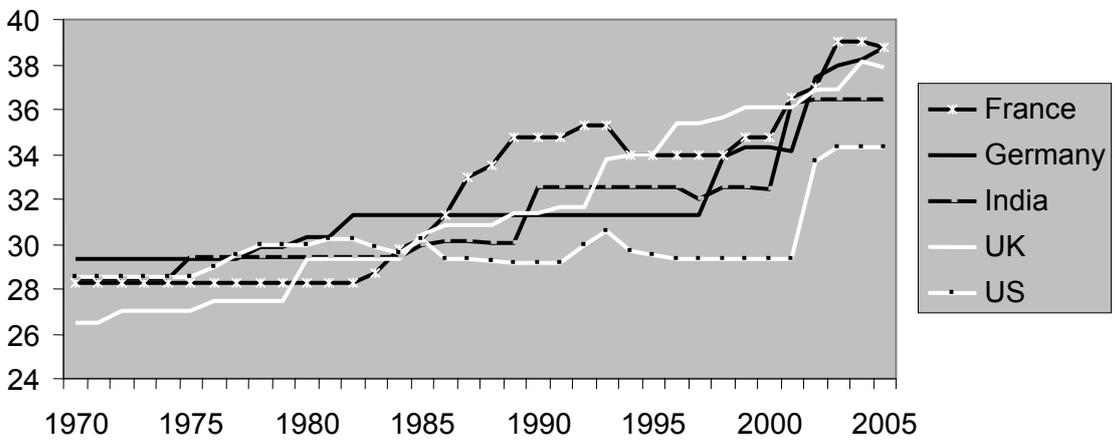
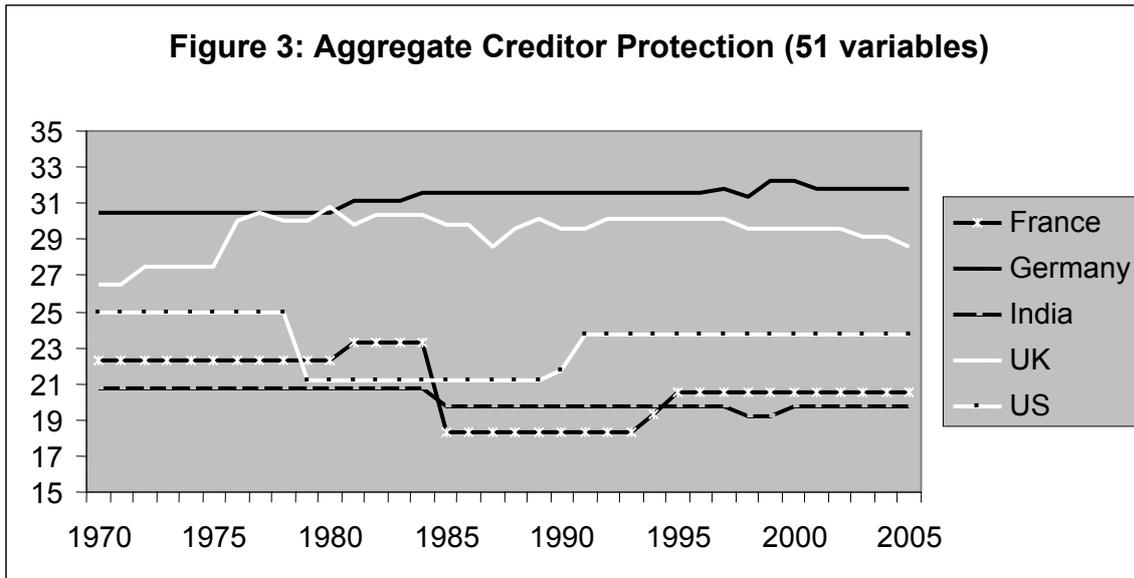


Figure 2: Aggregate Shareholder Protection (60 variables)





On the face of it, this analysis supports the legal origins claim for labour law. However, the time dimension introduced by a longitudinal analysis alters the picture from the cross-sectional view provided by Botero *et al.* Looking beyond the immediate common law/civil law divide, we can see that three of the systems - Germany, the US and India – have experienced relatively little change, with Germany changing slowly and incrementally for the most part, and both India and the US hardly at all. By contrast, both the UK and France have seen very considerable change over this period, although in opposite directions. The UK, starting from a position of substantial protection for labour interests in the 1970s (although still below the aggregate level in France, Germany and India), underwent a rapid decline in the intensity of regulation during the 1980s and early 1990s, with a limited revival from the late 1990s. The events triggering these changes were political: the election of a Conservative government committed to a policy of labour market deregulation in 1979, and the return to office in 1997 of a Labour government which ended the UK’s opt-out to the EU Social Charter and proceeded to incorporate a large body of EU labour law into the UK system, as well as legislating on certain other matters. In France, the election of the socialist government in 1981 led to a series of labour law reforms, the ‘Auroux laws’, which were enacted in 1982 and affected a wide range of issues in both individual and collective labour law. Since that time, French labour law has tracked the changing political fortunes of the main parties, with some reduction in protection between 1986 and 1990 and more recently from 2003 when right-wing parties had a clear legislative majority; but this retrenchment has not led to a return to pre-1982 levels of labour protection.

A fuller picture can be obtained from figures 4-8 which summarise the results from the five sub-indices for the labour regulation index. The US is an outlier here: it has weak levels of regulation in each of the five categories. This is a reflection of the weakness of basic laws governing working time (derived from federal legislation of the 1930s which has not been effectively updated since); a rigid and (for several decades) unreformed system of industrial relations law which neither provides for compulsory worker representation at workplace level in the manner of continental European codetermination, nor for a meaningful right to strike; and the employment at will rule in individual employment law, which preserves the managerial power to discipline and more or less untouched by statute or even by residual common law principles of fairness such as the concept of mutual trust and confidence which operates in the English common law of employment. French labour law, conversely, is strong across all categories, and in particular with regard to the control of working time and regulation of alternative employment contracts. German labour law stands out on the issue of employee representation, thanks to its codetermination laws, which are stronger than those of France in several material respects. Changes to German unfair dismissal law in recent years, while controversial, are minor when set against the historical trend of employment law in that country, and by the standards of other systems. The changes to German labour market regulation under the various phases of the Hartz reforms in the course of the 2000s mainly concerned social security law, which does not appear in this index.

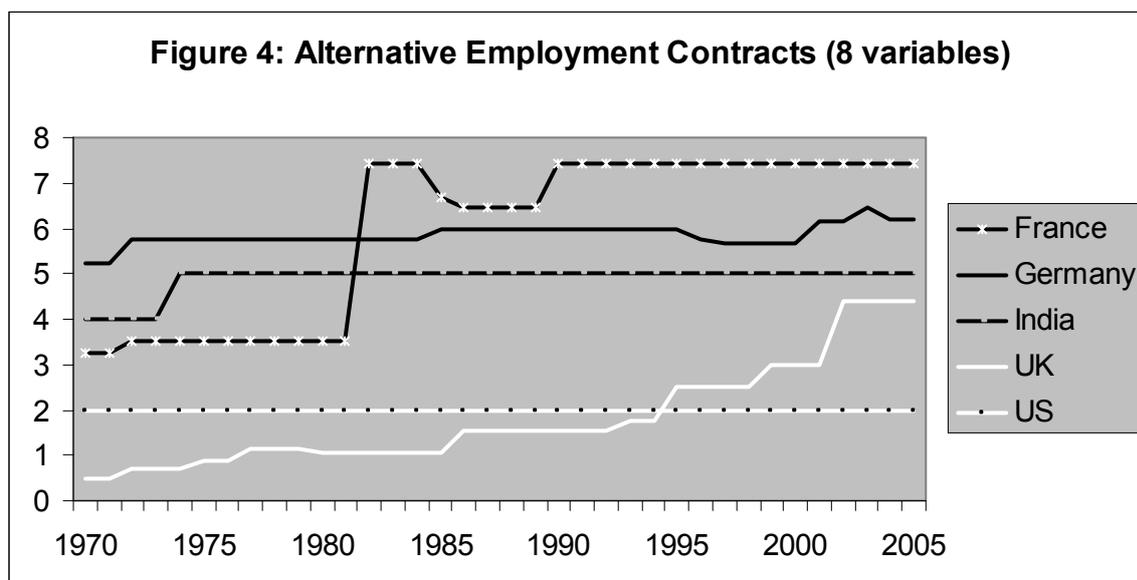


Figure 5: Regulation of Working Time (7 variables)

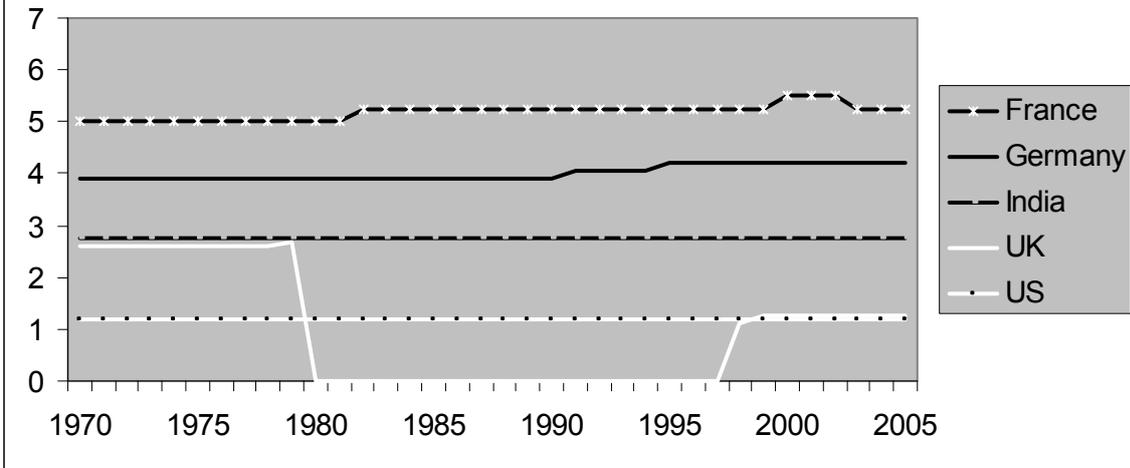


Figure 6: Regulation of Dismissal (9 variables)

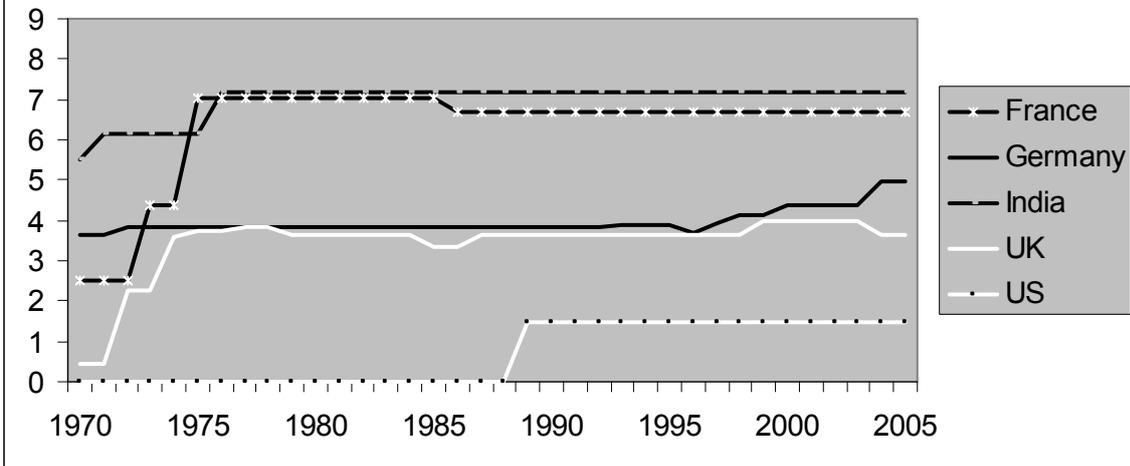


Figure 7: Employee Representation (7 variables)

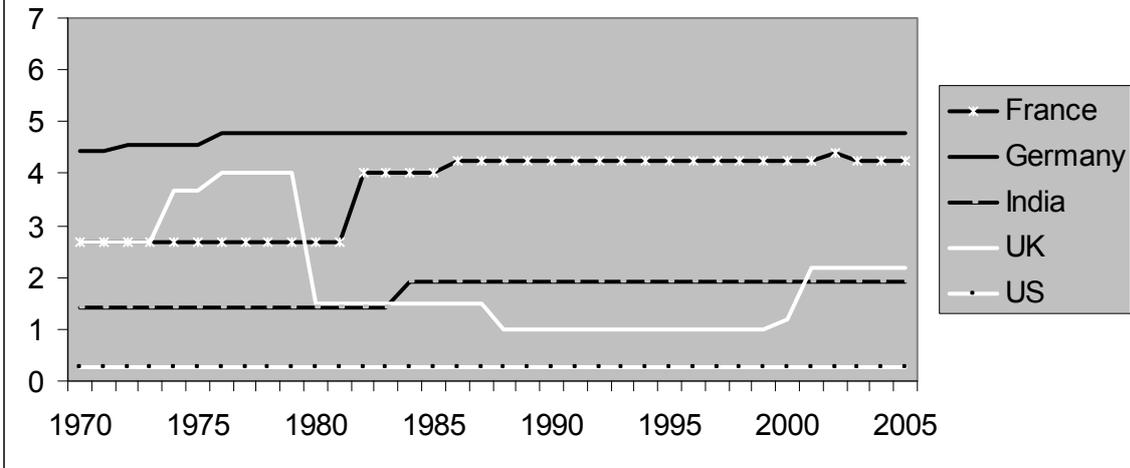
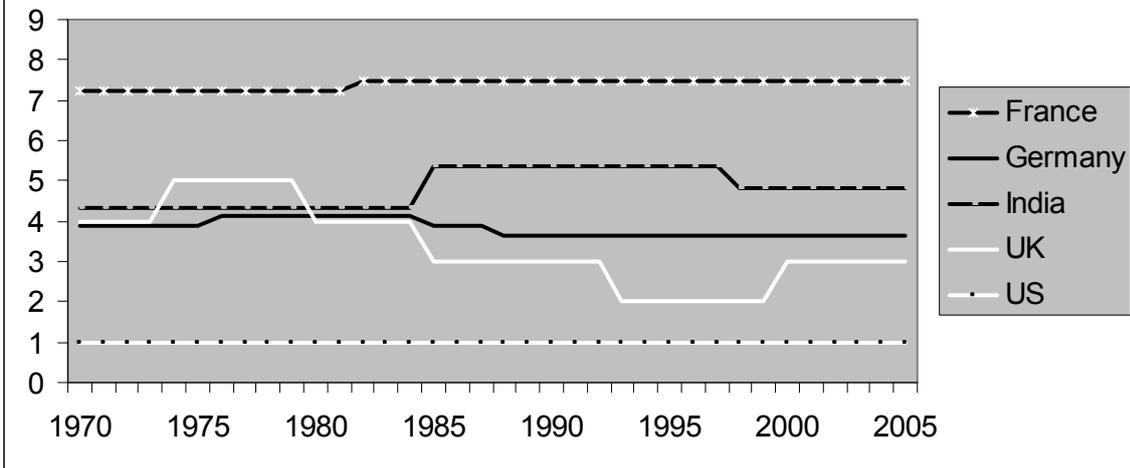


Figure 8: Industrial Action (9 variables)



The breaking down of the index by categories is particularly revealing for the UK. Where labour law was strong in the 1970s, in respect of employee representation (at a time when the closed shop was widely enforced, although there was no codetermination and few mandatory rules on information and consultation), it is weak today, even a decade after the election of a Labour government; and where it was weak in the 1970s, in relation to the control of alternative employment contracts, it is strong today, as a result of EU directives on part-time and fixed-term employment which have been implemented since 1997. Working time controls, which were strong in the 1970s as a result of legal mechanisms for (in effect) extending the terms of multi-employer collective bargaining, disappeared from view in the 1980s as that system of legal support for sectoral collective agreements was dismantled; the implementation in 1998 of the European Working Time Directive has only partially redressed the balance. UK dismissal law has been relatively stable throughout the period from the early 1970s when it was first introduced; at the start of the 2000s, it was more or less aligned with German law, but since then has declined in significance at the same time as German law was being strengthened.

The centrepiece of India's labour law is legislation passed in the 1940s in the immediate aftermath of independence, the Industrial Disputes Act 1947. This provides a framework for collective bargaining and protects the right to strike. Working time controls derive from factories legislation based on the British model. India's unfair dismissal laws were introduced in the 1970s and contain a concept of liability for 'retrenchment' which sets a high formal standard of protection by international standards. The laws reported for India are, for the most part, federal laws; we also report some state-level variations for the more heavily industrialized states (such as Maharashtra) and the extensive case law which plays a significant role in the Indian system.

India's labour law can be seen to have been influenced by the British model inherited on independence in the case of its factories legislation, but for the most part the common law heritage was repudiated. Whereas the pre-1979 model of collective labour law in Britain stressed the role of voluntary trade union organization within a framework of 'immunities' from civil liability in relation to the conduct of collective bargaining and of industrial action, India's system, under the Act of 1947, used direct legal regulation of collective relations and of basic labour standards to set a floor of rights. India's dismissal law is also far more protective than Britain's. After 1976, for example, governmental permission was required for large-scale lay-offs and business closures in firms employing 300 workers or more, a threshold reduced to 100 with effect from 1984. The deregulation of the labour market which took place

in Britain from the early 1980s onwards appears to have had no influence on Indian practice, although this is an issue which is much debated in India and which has given rise to an empirical literature examining the effects of labour laws in that country (most notably by Besley and Burgess, 2004; for discussion of their approach to coding, see Bhattacharjea, 2006). In general, it is difficult to discern a strong influence of common law origin on India's post-war labour law evolution.

A wider understanding of the operation of labour law within the Indian economy would require a deeper consideration of the role played by the informal or unorganized sector. The index we have constructed just measures the formal rules; we are making no assumptions about how those rules are applied in particular sectors of the economy. As we have already noted (see section 4.1 above), the problem of the enforcement of labour law is not unique to India. In each of the countries in our sample, the application of legal norms can be expected to vary according to by industry and size of firm, and the law may have little or no effect in respect of illegal or unregistered work. The scale of non-enforcement is generally understood to be greater in India than in the other countries covered here. However, this does not, in itself, invalidate the approach we have taken to coding India's labour laws. It is important to have a measurement of the formal law because of the claim, made by Botero *et al.* (2004) among others, that legal regulation is itself a cause of the growth of the informal sector in developing countries. This issue is beyond the scope of the present paper.¹³ More relevant to our present analysis is the question of how far legal origin shapes the contents of the law. Having a formal measure of India's labour law, alongside similar measures for other countries, enables us to test this claim. As our analysis above indicates, the claim is not particularly well borne out in the Indian case.

Nor is there much evidence of a shared common law origin effect in the cases of the UK and the USA. The US system of collective labour relations is entirely distinct from the British one, as it depends on a mechanism of legal certification of unions as bargaining agents which has no parallel in the British tradition. Although the UK has had laws for the compulsory recognition of trade unions between 1971 and 1979 and again from 2001, they operate as an adjunct to what remains, essentially, a voluntary system. In the short period, between 1971 and 1974, when British industrial relations legislation borrowed directly from the American model, the transplantation process worked badly. At the level of individual employment law, the two systems diverged as long ago as the start of the twentieth century when most American states adopted the employment at will rule (or presumption), while British courts were inserting customary notice periods into contracts of employment and beginning to develop a set of common

law implied terms governing the employment relationship (Deakin and Wilkinson, 2005; Njoya, 2007). The enactment of unfair dismissal law in the 1970s set the systems further apart, even before the UK's membership of the European Union (as it became) provided a further impetus to their divergence.

The longitudinal comparison also highlights certain important differences between France and Germany. Firstly, their proximity in aggregate terms conceals differences at the level of the sub-indices. On industrial action law and dismissal law, they are not very close to each other. They are closer together on the issues of regulation of the form of the employment contract and controls over working time. Their respective laws on employee representation are quite closely aligned, but within this category there are significant differences between them: as we have noted, German codetermination rights are more extensive than their French equivalents.

What is the extent of convergence between systems? Our lexicometric analysis offers a first look at some possible answers. Figure 9 measures the means of the differences between individual scores in the five countries; figure 10 measures the coefficients of variance in the aggregate scores for the index as a whole. Because figure 9 focuses on individual variables, and figure 10 focuses on the aggregate scores, they can be taken as indicators of the degree of formal and functional convergence respectively. What they both suggest is that after a period of divergence up to the early 1980s, there has been a slow return to convergence since, but that the extent of convergence is less now than it was during the 1970s. Figure 11 shows which systems were the closest to the average scores over the period under review. It shows that the US is an outlier, although for parts of the period, French law was the most divergent from those of the other systems. As we have seen, the US system stands out for its lack of labour regulation across the whole range of individual and collective labour law issues. Since the early 2000s, some reduction in the levels of regulation in France has seen it converging again with the rest. The UK's position as the system to which the others are, as a group, most closely converging may be explained by the combination of its common law heritage and its openness to EU influences, the latter bringing it closer to France and Germany.

Figure 9: "Formal Convergence" in Employment Protection

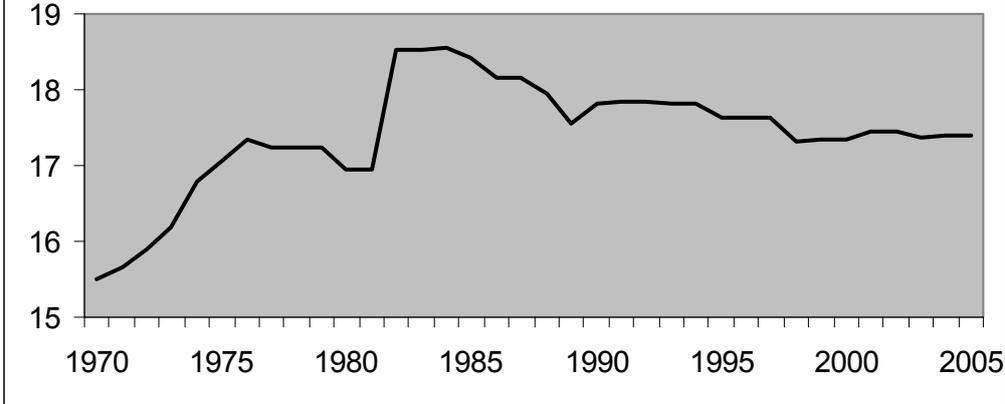


Figure 10: "Functional Convergence" in Labour Regulation

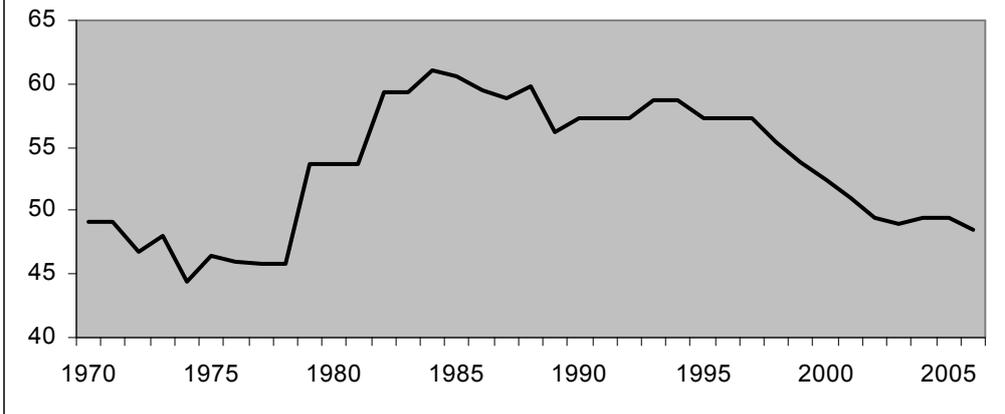
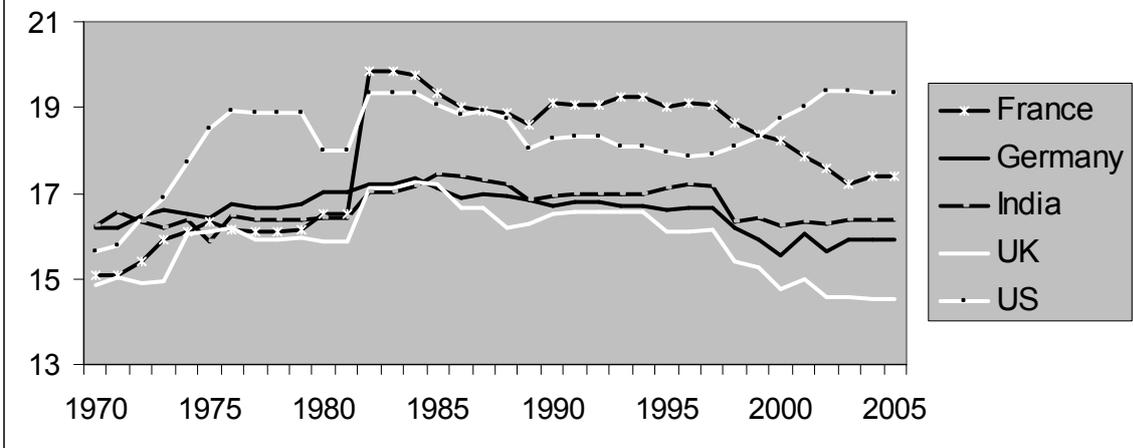


Figure 11: Formal Differences in Labour Regulation from Other Countries' Laws



5. Conclusion

This paper has considered the legal origins hypothesis in the context of labour law regulation. This hypothesis claims, firstly, that the quality of legal regulation matters to economic growth and development, and, secondly, that common law systems are more likely to produce efficient rules than their civil law counterparts. Empirical support for the claim exists in the form of indices which purport to measure the strength and weakness of legal protection for various groups with an interest in and affected by the business enterprise, including shareholders, creditors and employees. Two linked explanations have been offered for the findings of this body of work: an ‘adaptability channel’ according to which the common law, as it is largely the product of case law, can adapt itself incrementally to a changing economic context, whereas the civil law, being the product of codes, can only adjust periodically; and a ‘political channel’ according to which the common law, because of the priority it gives to judicial independence and the protection of property rights against the legislature and the executive, is better placed to reduce rent-seeking than the civil law, with its emphasis on centralised regulation.

The legal origins hypothesis has potentially important implications for policy in the areas of labour law and industrial relations, as it does for company law and financial law, not least because of the high standing it currently enjoys in certain official circles. Its working methods are being used as part of the World Bank’s research and policy-making processes. The findings on which it rests are generally thought to be robust and are even achieving the status of a conventional wisdom in parts of the social sciences. However, rather than being closed, the debate over the methodological basis and the empirical foundations of the legal origins approach is only just beginning.

We have seen in this paper that the explanations given for the empirical findings on which the legal origins effect is based are not particularly secure. They rest on conceptions of the common law/civil law divide which are not simply excessively *reductive*; they are capable of being *misleading* in the way they ascribe particular characteristics of law making and regulatory style to the different legal families. This is not to say that the issues of adaptiveness and politics are not the right issues to address; they most likely are. However, the straightforward association of respect for contract and property rights with the common law, and centralised state direction and redistribution with the civil law, cannot be maintained in the face of historical and comparative legal evidence indicating the contrary. What is needed is a more specific analysis of the institutional factors at country level which have shaped national legal

systems historically, and which inform their capacity today to produce efficient rules (Siems, 2006).

When we look at the empirical basis of the legal origins claim, the most significant shortcoming is its inability to say anything about legal change over time. The findings which, it is claimed, verify the legal origins hypothesis are all based on cross-sectional data. Yet, a historical claim, concerning the path dependence of systems, is at the heart of the legal origin approach.

In this paper, first results from a newly constructed set of longitudinal datasets have been reported. These indices cover the period from 1970 to 2006 for five countries which represent significant cases: three ‘parent’ systems (Britain, France and Germany), the world’s largest economy (the USA) and its largest democracy (India). The analysis presented here has basically been a descriptive one, setting out the method used to construct the longitudinal indices, and giving a first account of the some of the properties of the datasets.

We have seen that there is little evidence of a legal origins effect in relation to shareholder or creditor protection, but that there is such evidence at the aggregate level of labour regulation in this small but important set of cases. The level of regulation in France and Germany has been consistently higher over the 37-year period covered than it has in Britain and the USA, although India represents an intermediate case, closer to Germany in aggregate terms than to its ‘parent system’, Britain. When we decompose the index into its component parts, however, the picture becomes more complex. It is hard to identify a specific legal origins effect at work in the British and American cases; there is little evidence of the two systems influencing each other. A much stronger influence in Britain has been the centralising tendency of EU-level regulation, in particular after 1997 when the UK opted into the EU Social Chapter. France and Germany, notwithstanding their shared civil law heritage, reach a high level of aggregate protection by different routes: in France, strong protection for labour interests on dismissal law, industrial action and working time; in Germany, the emphasis is on worker representation, with both strike law and dismissal law weaker than in France.

The results are compatible with what we have called a ‘weak legal origins’ effect, in contrast to the ‘strong’ effect posited by LLSV. Whereas the ‘strong’ legal origins effect is time-invariant and is resistant to forces of convergence in the form of regulatory competition and transnational harmonisation, the ‘weak’ effect varies over time, depending on the strength of pressures for convergence and for the ‘endogenisation’ of law to local conditions. To understand how

these processes work, detailed empirical studies of the evolution of labour law at national level will be needed.

A fuller consideration of the economic consequences of labour law lies beyond the scope of this paper. As we have seen, economic arguments can, in principle, be invoked both for and against labour regulation, and it is not obvious, *a priori*, that a score of 0 is 'better' for employers, or for society, than a higher score, nor that a score of 1 would always be in employees' interests. The account of labour regulation given by Botero *et al.* (2004) does not claim that legal protection of employees is necessarily negative. By contrast, the World Bank's *Doing Business* report ranks countries in order, with the USA appearing first in the list for the rules on 'employing workers' and France 134th (World Bank, 2007: Country Tables). The clear implication is that countries 'lower down' the list would improve their economic performance if they abolished some or all of their labour laws. Such a conclusion, we would suggest, cannot validly be drawn from the present state of knowledge on the workings of labour law systems.

The results we have reported here are preliminary; the next stage will be to extend our analysis, so as to see whether there are links between patterns of legal change, economic outcomes, and political structures. Only then will a more complete assessment of the legal origins hypothesis be possible.

Notes

¹ Ralph Gibson LJ in *Calder v. H. Kitson Vickers & Sons (Engineers) Ltd.* [1988] ICR 232, 251.

² Soc., 19. décembre 2000; noted by A. Jeammaud, [2001] *Droit Social* 227.

³ Crim., 20 octobre 1985, *Bull. crim.* No. 335.

⁴ BAG of 8.6.1967, BAGE 19, 324, 330.

⁵ See, for the UK, France and Germany respective, Deakin and Morris, 2005: 142-3; Pelissier, Supiot and Jeammaud, 2006: 330-1; and the decision of the Bundesarbeitsgericht referred to in fn. 4, above.

⁶ See <http://www.cbr.cam.ac.uk/research/programme2/project2-20.htm>. The shareholder protection index was prepared by Mathias Siems and Priya Lele; the creditor rights index by John Armour, Priya Lele and Mathias Siems; and the labour regulation index by Simon Deakin, Priya Lele and Mathias Siems. See Lele and Siems (2007), Fagernäs, Sarkar and Singh (2007) and Armour, Deakin, Lele and Siems (2007) for further details.

⁷ Botero *et al.* also code for social security law but the theoretical basis for the operation of social security law is arguably distinct from that of labour law and it is not apparent that they should be combined in a single index. Social security laws impose a charge on employers, in the form of social security contributions, but they do not otherwise limit the scope for the exercise of managerial prerogative; on the contrary, they may free up management to restructure firms in a way which may be more costly where there is no general social security safety net. On the other hand, laws inserting mandatory (or near-mandatory) terms into employment contracts, limiting the power to dismiss, mandating employee voice in the workplace, and empowering workers to take industrial action, may all be expected to alter the balance of power between labour and management, as indeed they are intended to do. They may also have a wider impact on the governance of the firm, by providing a countervailing force against the expression of shareholder interests within the rules of company law and corporate governance.

⁸ The other significant index in use today is that prepared by the OECD on employment protection law (see OECD, 2004). This has a longitudinal dimension: it covers the period since the late 1980s, building on work begun in the early 1990s (Grubb and Wells, 1993). The current version of the index contains 18 variables covering dismissal of regular workers, regulation of temporary work contracts, and collective dismissals. Wider issues within the field of labour law which are contained in the Botero *et al.* index, including

working time, employee representation and industrial action law, are not covered, and its range is confined to OECD countries.

⁹ Botero *et al.* (2004) simply refer to the ‘laws of each country’ as their primacy source and refer to a number of ‘cross-country secondary sources’. See Ahlering and Deakin (2007) for a critique of their approach and that of some other indices of regulation which are in current use.

¹⁰ See <http://www.cbr.cam.ac.uk/research/programme2/project2-20.htm> (the home page of the ESRC-funded project on ‘Law, Finance and Development’).

¹¹ That wider analysis is being carried out as part of the research project referred to in the previous footnote and will be reported separately. For results of this analysis with regard to shareholder protection and stock market development, see Armour, Deakin, Sarkar, Siems and Singh, 2007.

¹² The results for the shareholder and creditor protection indices are more fully reported in Armour, Deakin, Lele and Siems, 2007.

¹³ The indexing method which we have used here can be used to address the question of the economic effects of labour law in a country such as India, but at point the question of the variable application of labour laws becomes crucial; it would be necessary to supplement data on the state of the formal law with information on enforcement, such as data on the efficiency of the court system and the effectiveness of legal sanctions. For such an approach, see Fagernäs, 2007.

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Appendix: Longitudinal Labour Regulation Index (template)

Variable	Description
A. Alternative employment contracts	
1. The law, as opposed to the contracting parties, determines the legal status of the worker	<p>Equals 0 if the parties are free to stipulate that the relationship is one of self-employment as opposed to employee 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.).</p> <p>Scope for scores between 0 and 1 to reflect changes in the strength of the law.</p>
2. Part-time workers have the right to equal treatment with full-time workers	<p>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.</p> <p>Equals 0.5 if the legal system recognises a more limited right to equal treatment for part-time workers (via, e.g., sex discrimination law or a more general right of workers not be treated arbitrarily in employment).</p> <p>Equals 0 if neither of the above.</p> <p>Scope for scores between 0 and 1 to reflect changes in the strength of the law.</p>
3. The cost of dismissing part-time workers is equal in proportionate terms to the cost of dismissing full-time workers	<p>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).</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradation 0 and 1 to reflect changes in the strength of the law.</p>

<p>4. Fixed-term contracts are allowed only for work of limited duration.</p>	<p>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.</p> <p>Equals 0 otherwise.</p> <p>Scope for gradation between 0 and 1 to reflect changes in the strength of the law.</p>
<p>5. Fixed-term workers have the right to equal treatment with permanent workers</p>	<p>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).</p> <p>Equals 0.5 if the legal system recognises a more limited right to equal treatment for fixed-term workers (via, e.g., more general right of workers not be treated arbitrarily in employment)</p> <p>Equals 0 if neither of the above.</p> <p>Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.</p>
<p>6. Maximum duration of fixed-term contracts</p>	<p>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 1 year or less and 0 if it is 10 years or more or if there is no legal limit.</p>
<p>7. Agency work is prohibited or strictly controlled</p>	<p>Equals 1 if the legal system prohibits the use of agency labour.</p> <p>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).</p> <p>Equals 0 if neither of the above.</p> <p>Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.</p>
<p>8. Agency workers have the right to equal treatment with permanent workers of the</p>	<p>Equals 1 if the legal system recognises a right to equal treatment for agency workers, in relation to</p>

user undertaking	<p>permanent workers of the user undertaking, in respect of terms and conditions of employment in general</p> <p>Equals 0.5 or another intermediate score if the legal system recognises a more limited right to equal treatment for agency workers workers (for example, in respect of anti-discrimination law)</p> <p>Equals 0 if neither of the above.</p> <p>Scope for further gradation between 0 and 1 to reflect changes in the strength of the law.</p>
<i>A. Alternative employment contracts</i>	<i>Measures the cost of using alternatives to the 'standard' employment contract, computed as an average of the variables 1-8.</i>
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 if 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 if there is no premium. Also equals 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; 0.5 if there is a limit but it may be averaged out over a reference period of longer than a week; and 0 if there is no limit on any kind.
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	<p>Equals 1 if a dismissal is necessarily unjust if the employer fails to follow procedural requirements prior to dismissal</p> <p>Equals 0.67 if failure to follow procedural requirements will normally lead to a finding of unjust dismissal.</p> <p>Equals 0.33 if failure to follow procedural requirement is just one factor taken into account in unjust dismissal cases.</p> <p>Equals 0 if there are no procedural requirements for dismissal.</p> <p>Scope for gradations between 0 and 1 to reflect changes in the strength of the law.</p>
20. Law imposes substantive constraints on dismissal	<p>Equals 1 if dismissal is only permissible for serious misconduct or fault of the employee.</p> <p>Equals 0.67 if dismissal is lawful according to a wider range of legitimate reasons (misconduct, lack of capability, redundancy, etc.).</p> <p>Equals 0.33 if dismissal is permissible if it is 'just' or 'fair' as defined by case law.</p> <p>Equals 0 if employment is at will (i.e., no cause dismissal is normally permissible).</p> <p>Scope for gradations between 0 and 1 to reflect changes in the strength of the law.</p>
21. Reinstatement normal remedy for unfair dismissal	<p>Equals 1 if reinstatement is the normal remedy for unjust dismissal and is regularly enforced.</p> <p>Equals 0.67 if reinstatement and compensation are, de iure and de facto, alternative remedies.</p> <p>Equals 0.33 if compensation is the normal remedy.</p> <p>Equals 0 if no remedy is available as of right.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
22. Notification of dismissal	Equals 1 if by law or binding collective

	<p>agreement the employer has to obtain the permission of a state body or third body prior to an individual dismissal.</p> <p>Equals 0.67 if a state body or third party has to be notified prior to the dismissal.</p> <p>Equals 0.33 if the employer has to give the worker written reasons for the dismissal.</p> <p>Equals 0 if an oral statement of dismissal to the worker suffices.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
23. Redundancy selection	<p>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.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
24. Priority in re-employment	<p>Equals 1 if by law or binding collective agreement the employer must follow priority rules relating to the re-employment of former workers.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
<i>C. Regulation of dismissal</i>	<i>Measures the regulation of dismissal, calculated as the average of variables 16-24</i>
D. Employee representation	
25. Right to unionisation	<p>Measures the protection of the right to form trade unions in the country's constitution (loosely interpreted in the case of system such as the UK without a codified constitution).</p> <p>Equals 1 if a right to form trade unions is expressly granted by the constitution.</p> <p>Equals 0.67 if trade unions are described in the constitution as a matter of public policy or public interest.</p>

	<p>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.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
26. Right to collective bargaining	<p>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).</p> <p>Equals 1 if a right to collective bargaining is expressly granted by the constitution.</p> <p>Equals 0.67 if collective bargaining is described as a matter of public policy or public interest (or mentioned within the chapter on rights).</p> <p>Equals 0.33 if collective bargaining is otherwise mentioned in the constitution.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
27. Duty to bargain	<p>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.</p> <p>Equals 0 if employers may lawfully refuse to bargain with workers.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
28. Extension of collective agreements	<p>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, or subject to a conciliation or arbitration procedure.</p> <p>Equals 0 if collective agreements may not be extended to non-signatory workers or unions, or if collective agreements may be extended only at</p>

	<p>the plant level. Mandatory administrative extensions of collective agreements are coded as equivalent to mandatory extensions by law.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
29. Closed shops	<p>Equals 1 if the law permits both pre-entry and post-entry closed shops.</p> <p>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).</p> <p>Equals 0 if neither pre-entry or post-entry closed shops are permitted to operate.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
30. Codetermination: board membership	<p>Equals 1 if the law gives unions and/or workers to right to nominate board-level directors in companies of a certain size.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
31. Codetermination and information/consultation of workers	<p>Equals 1 if works councils or enterprise committees have legal powers of co-decision making.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Equals 0 otherwise.</p>

	Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.
<i>D. Employee representation</i>	<i>Measures the strength of employee representation, calculated as the average of variables 25-31.</i>
E. Industrial action	
32. Unofficial industrial action	<p>Equals 1 if strikes are not unlawful merely by reason of being unofficial or ‘wildcat’ strikes.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
33. Political industrial action	<p>Equals 1 if strikes over political (i.e. non work-related) issues are permitted.</p> <p>Equals 0 otherwise.</p> <p>Scope for gradations between 0 and 1 to reflect changes in the strength of the law.</p>
34. Secondary industrial action	<p>Equals 1 if there are no constraints on secondary or sympathy strike action.</p> <p>Equals 0.5 if secondary or sympathy action is permitted under certain conditions.</p> <p>Equals 0 otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
35. Lockouts	<p>Equals 1 if lockouts are not permitted.</p> <p>Equals 0 if they are.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
36. Right to industrial action	<p>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</p> <p>Equals 1 if a right to industrial action is expressly granted by the constitution</p> <p>Equals 0.67 if strikes are described as a matter of public policy or public interest.</p>

	<p>Equals 0.33 if strikes are otherwise mentioned in the constitution.</p> <p>Equals zero otherwise.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
37. Waiting period prior to industrial action	<p>Equals 1 if by law there is no mandatory waiting period or notification requirement before strikes can occur.</p> <p>Equals 0 if there is such a requirement.</p> <p>Scope for gradations between 0 and 1 to reflect changes in the strength of the law.</p>
38. Peace obligation	<p>Equals 1 if a strike is not unlawful merely because there is a collective agreement in force.</p> <p>Equals 0 if such a strike is unlawful.</p> <p>Scope for gradations between 0 and 1 to reflect changes in the strength of the law.</p>
39. Compulsory conciliation or arbitration	<p>Equals 1 if laws do not mandate conciliation procedures or other alternative-dispute-resolution mechanisms (other than binding arbitration) before the strike.</p> <p>Equals 0 if such procedures are mandated.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
40. Replacement of striking workers	<p>Equals 1 if the law prohibits employers to fire striking workers or to hire replacement labor to maintain the plant in operation during a non-violent and non-political strike.</p> <p>Equals 0 if they are not so prohibited.</p> <p>Scope for further gradations between 0 and 1 to reflect changes in the strength of the law.</p>
<i>E. Industrial action</i>	<i>Measures the strength of protections for industrial action, measured as the average of variables 32-40.</i>