Worker and shareholder protection in six countries: A longitudinal analysis

Peter Gahan, Ian Ramsay and Michelle Welsh*

In this article the authors utilise leximetric analysis, which involves the numerical coding of the strength of formal legal protections, to document changes in the level of worker protection and shareholder protection in six countries (Australia, France, Germany, India, the United Kingdom and the United States) for the period 1970–2005. Both worker and shareholder protection increased in five of the six countries and in the sixth country (Australia) shareholder protection increased and the level of worker protection in 2005 was similar to the level of protection in 1970. The results of statistical tests show that increased formal legal protection for shareholders is not obtained at the expense of formal protection for workers. Implications of this finding are explored by the authors.

A Introduction

This article is part of a larger international study in which the authors, who are drawn from the disciplines of law, industrial relations and labour economics, have examined the evolution of shareholder protection in six countries — Australia, the United Kingdom, the United States, Germany, France and India1 and, separately, have examined the evolution of worker protection in these same six countries.2

In earlier research we presented the results for shareholder protection and worker protection for Australia.3 In this article, we draw together the results for worker and shareholder protection for the six countries and examine changes in the protections given to workers and shareholders for the period 1970 to 2005.

We are interested in whether there are trade-offs in protection between these two key groups of stakeholders who both have important interests in corporations. If there are increases in the formal legal protection given to shareholders, does this come at the expense of the formal protection given to workers? We employ what has become known as a leximetric methodology to document changes in the protection of these two groups.

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The structure of the article is as follows. In Part B we review some of the existing literature that identifies links between workers and shareholders. In Part C we explain leximetric research and its limitations. This is followed in Part D by details of our methodology, in particular what our worker and shareholder indices measure, and the results of our study. Part E concludes.

B The political economy of capitalism — links between workers and shareholders

An important field of scholarship explores links between workers and shareholders as part of corporate governance arrangements. Some of this research concerns the significance of matters such as a shareholder-oriented perspective of corporate performance,4 the impact of corporate takeovers and mergers on workers,5 and the rights of workers to be considered as ‘insiders’ rather than ‘outsiders’ when it comes to corporate decision-making.6

Research that examines links between workers and shareholders has been undertaken at both the level of the individual corporation and at the country level. This latter research is concerned, among other things, with the roles of workers and shareholders in different types of capitalism. Work carried out on the institutional bases of different types of capitalism has posited various styles of, and approaches to, economic organisation within states.7 It extends from examination of empirical patterns linking levels of worker and shareholder protection in legal rules to consideration of the economic

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consequences of different levels of protection. This literature draws on a diverse range of academic disciplines and scholarship.

The literature on comparative capitalisms explores the interaction between various institutions within larger production regimes. With respect to the interaction between workers and shareholders the literature examines the interplay of business strategy, workers’ interests and shareholders’ interests.

One formative work in this area has identified two separate and distinct sets of institutional arrangements, complemented by legal systems and ‘styles’ of regulation, which are identified either as ‘liberal market’ economies or ‘co-ordinated market’ economies.8

‘Liberal market’ economies (typified in the US and UK national systems, for example) are said to be characterised by an ‘outsider’ form of corporate governance and finance, a dispersed shareholder base grounded in extensive and deep equity markets, strong protective rights for shareholders, an active market for control by shareholders (particularly through takeovers and mergers) and a business strategy focussed upon short term financial benefits for shareholders. This ‘marketised’ style of corporate governance is, in turn, said to be allied to a complementary style of labour management which supports the interests of capital over workers. It is argued, for example, that under the ‘liberal market’ model, one typically finds a more partial, less protective set of labour institutions and rights. Under such a system there is less employment security, fewer minimum standards of employment for workers, and where such standards exist, they apply to a smaller cohort of workers than in the ‘co-ordinated’ style of economy.

By contrast, ‘co-ordinated market’ economies (typified in the systems of Germany and other European countries) are said to be characterised by different corporate ownership and governance arrangements. In these economies, shareholding is much less widely dispersed, share markets are less developed, and financing is facilitated more through banks and other large lenders. The argument here is that these arrangements engender an ‘insider’ form of governance where financiers develop longer term relations with corporate managers and there is much weaker ‘market’ discipline. With a longer term view of the business able to be exercised by management there is also a longer term view able to be taken of relations with workers. Accordingly, the ‘co-ordinated market’ style of economic organisation is marked by better protections for workers, greater employment security, more investment in skills and training, and a higher degree of employee involvement in workplace decision-making.

Other comparative studies within the varieties of capitalism literature identify more than two groupings or ‘families’ of nations. For example, Boyer identifies four regime types; Amable identifies five; and Whitley proposes a typology of six ‘business systems’.9 To a large extent, these extended groupings open up the catch-all category of ‘co-ordinated market’ economies

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8 See Hall and Soskice, above n 7.
9 Amable, above n 7; Boyer, above n 7; Whitley, above n 7.
and differentiate those economies with greater precision.  

Two concepts that play a key role in the varieties of capitalism literature are the notion of ‘path dependency’ and of ‘complementarity’. As noted by Deeg, notions of path dependency and some sort of institutional coherence underpin most theories of national differences. Path dependency — that nations become ‘locked in’ to a certain form of economic organisation — accounts for the persistent diversity of national systems despite global pressures for systems to converge around a single economically efficient model. Yet while the persistence of cross-national diversity in forms of capitalism is explained by path dependency, path dependency itself can be explained by the complementarity or coherence of national systems.

Path dependency is often explained by reference to the cost of switching from an established (albeit, less than optimal) arrangement to a more efficient arrangement which might be outweighed by the welfare gain brought about by changing. While the existence of adjustment costs for an individual are often a matter of technical fact, as regards economic processes they also arise from the social aspects of institutional development: because of the sunk costs and entrenched interests of groups or coalitions of actors. As Jackson and Deeg explain further, the fact that there are ‘institutional linkages and complementarities’ within national systems makes it difficult to introduce changes which can have the effect of transforming ‘the overall institutional configuration from one type of capitalism to another’. That is, from an economic perspective, the marginal cost of continuing with an established regulatory ‘style’ is lower than radically recasting the system, principally because the fundamental rules are embedded across regulatory institutions and populations: any change to one aspect of the system may undo or unsettle the overall coherence of the system. Alternatively, deeply ingrained cultural and social mores, which are also expressed in legal culture, may lock in a certain way.

15 Schmidt and Spindler, above n 14.
regulatory style.\textsuperscript{17} Thus, for example, we might expect to see that institutions within one particular context (for example, the capital market) evolve in a ‘complementary’ way with those in another context (for example, the labour market).\textsuperscript{18}

In understanding how these sets of ‘institutional configurations’\textsuperscript{19} interrelate to produce national ‘styles’ of market regulation, it is necessary to have regard to both regulatory and empirical dimensions of a national political economy. These include the main source of finance of major companies within a particular national system; whether it is mainly equity or debt finance; whether markets for finance are deep or shallow; whether shareholdings are generally consolidated or diffusely held; whether the legal protections extended to minority shareholders are strong or weak; how secure companies are against takeover and merger activity in a particular national market; how shareholder-oriented decision-making is within particular companies; whether labour is strongly integrated into decision-making within the nation’s corporations; whether there is co-ordinated collective bargaining; whether employees are strongly protected against dismissal and so on.

Among these various factors, ‘law’, particularly corporate and labour regulation, is a crucial component (though by no means the only one) in both setting the ‘regulatory style’ of a particular national system and facilitating change in that regulatory style. Legal dimensions set a boundary between the ‘liberal market/outside governed’, and the ‘co-ordinated market/insider governed’ systems. However, the major works in the varieties of capitalism and comparative business systems literature do not deal with law and legal systems in specific detail, nor do they deal with questions of change through legal reform.\textsuperscript{20} More specific legal factors are explored and absorbed into the analysis by the ‘legal origins’ literature, which argues that law is at least a key determinant in the division of production regimes into two different types or styles. Our research for this article focuses on the law as it operates to protect workers and shareholders. The idea that ‘law matters’ when it comes to

\textsuperscript{20} See, eg, Gospel and Pendleton, above n 4. Two contributions to Hall and Soskice (above n 7) examine the role of legal regulation in some detail (see S Casper, ‘The Legal Framework for Corporate Governance: The Influence of Contract Law on Company Strategies in Germany and the United States’, p 387; and S Vittols, ‘Varieties of Corporate Governance: Comparing Germany and the UK’, p 337). However, as Stryker has noted, law occupies a peripheral status in most institutionalist scholarship: ‘Law is there but not there — mentioned in passing yet not a sustained object of inquiry in its own right’: R Stryker, ‘Mind the Gap: Law, Institutional Analysis and Socioeconomics’ (2003) 1 \textit{Socio-Economic Review} 335 at 340. It should be noted that the absence of detailed discussion of the influence of the law in the major works in the varieties of capitalism literature is not the only criticism of this literature. Other criticisms include that it is too static and misses important dynamic elements of economic change, that it neglects the role of the state, and that it ignores political struggles and conflict in generating change. For further discussion, see B Hancke, M Rhodes and M Thatcher, \textit{Beyond Varieties of Capitalism: Conflict, Contradictions, and Complementarities in the European Economy}, Oxford University Press, Oxford, 2007.
explaining patterns of corporate governance and share ownership, has been extensively explored.\textsuperscript{21} The ‘law matters’ argument has been extended in a more particular direction by the ‘legal origins’ literature which argues that law is a key determinant in the division of production regimes into different types or styles (ie, that law is crucial to the way that capital and labour are brought together and used for productive purposes in particular states). This idea owes itself to the work of Rafael La Porta and his colleagues.\textsuperscript{22} Through a series of publications dealing with cross-national legal indicators on matters to do with corporate governance and finance,\textsuperscript{23} but subsequently extending to the regulation of labour markets,\textsuperscript{24} the authors have argued that different national economic ‘styles’ can be explained by reference to the ‘legal origin’ of the country concerned. Others have questioned the importance of legal origins and have, instead, emphasised the importance of politics, culture and geography.\textsuperscript{25}

The argument just outlined suggests that regulatory ‘style’ in corporate governance is complemented by national style in the regulation of labour. Ahlering and Deakin have noted that the institutions of labour regulation intersect with the mechanisms of corporate governance at two levels: the level of the company (the constitution and governance of the company and the influence of workers in decision-making), and the level of the market (the degree to which employment conditions are centrally regulated across the market generally or are left for self-regulation between employers, unions and workers in particular industries, occupations, sectors or enterprises).\textsuperscript{26}

In liberal market systems the predominant form of worker representation within the corporation, and thus the key instrument of worker influence in business management (corporate governance), is ‘voluntarist’ in the shape of one or more forms of bargaining. Although there is great diversity in the legal


\textsuperscript{22} Described as ‘[arguably the most important social science research of the past decade’; see D Pozen, ‘The Regulation of Labor and the Relevance of Legal Origin’ (2007) 27 Comparative Labor Law & Policy Int’l 43.


form of these bargaining systems, and in the extent to which employers are obliged to recognise and to bargain with unions and workers, these forms of bargaining have a relatively limited role in relation to key areas of managerial prerogative. Further, this voluntarism tends to be associated with only a partial regulation of the labour market generally. That is to say that outside of the reach of the bargaining systems, the extent of regulation over minimum terms and conditions tends to be uneven and partial among and between groups and classes of workers.

The co-ordinated market economies on the other hand tend to feature the integration of worker voice into the decision-making structures of business through legally supported mechanisms. These include worker representation on company boards in some European countries, works councils, and laws requiring workers and their representatives to be informed and consulted about business matters. In addition, the regulation of the employment contract through legislation and/or bargained agreements also tends to be more comprehensive in coverage. As a result many of these minimum employment standards take effect as a form of social rights.27

The Ahlering and Deakin schema refers to minority shareholder protection. Minority shareholder protection serves different purposes depending upon whether one is talking about public companies with dispersed shareholdings or other companies, private or public, with concentrated block holdings. In the former case, minority shareholders require protections against management; in the latter they require protection against potential abuse by the majority of shareholders. In those cases where the protections work to protect shareholders in listed companies from over-powerful boards, they will correlate with a more general notion of shareholder protection.28 That is, in these instances the practices associated with minority shareholder protection will work to ensure the company is operated to maximise the value of shareholders’ investment, rather than spent or wasted on something else.29

Overall, then, dispersed shareholding is thought to go hand-in-hand with a system in which shareholders occupy a privileged position within corporate governance compared with other stakeholders. Thus, the liberal market version of corporate governance is often said to be characterised by a ‘shareholder primacy’ or ‘shareholder value’ norm, with shareholder value being defined with reference to financial metrics such as share price and dividends.30

The research question explored in this article, which is derived from this review of the literature, is whether increased legal protection of shareholders

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27 Ibid. For another perspective on how the ‘style’ of labour law may vary as between liberal market and co-ordinated market economies, see M Freedland and N Kountouris, ‘Towards a Comparative Theory of the Contractual Construction of Personal Work Relations in Europe’ (2008) 37 ILJ 49.
necessarily involves a lesser level of legal protection for workers.\textsuperscript{31} It is important to emphasise that this question does not seek to address the closely related issue as to whether such patterns of worker and shareholder protection have any consequences for economic or social outcomes, such as earning inequality\textsuperscript{32}, labour’s share of national income,\textsuperscript{33} productivity and unemployment\textsuperscript{34} or stock market development.\textsuperscript{35} Here, our focus is on the extent to which the data reveal patterns or regularities in terms of the extent to which levels of protection in one domain (say, worker protection) are associated with levels of protection in the other (shareholder protection).

\section*{C Leximetric research}

There are a number of ways legal change can be identified and analysed. For the purpose of this research, we employ what has been termed a ‘leximetric’ methodology to measure changes in the level of worker and shareholder protection. This methodology has been adapted from the pioneering work of La Porta, Lopez-de-Silanes, Shleifer and Vishny in a series of articles dealing with corporate finance and ownership\textsuperscript{36} and then subsequently with labour law.\textsuperscript{37} Leximetric methodology is a quantitative approach to measuring law and legal evolution. It was developed, in part, to enable scholars to compare the laws of different countries in order to answer important questions. These include whether the legal origins of countries play a role in the subsequent development of their laws, and their economic institutions, and if so, how.\textsuperscript{38}

\textsuperscript{31} Another research question is whether the link that some scholars have posited between the increasing pursuit of ‘shareholder value’ and deteriorating outcomes for labour does in fact exist: see, eg, the country studies in Gospel and Pendleton, above n 4 and G Jackson, ‘Toward a Comparative Perspective on Corporate Governance and Labour Management’, RIETI Discussion Paper Series 04-E-023, Tokyo, 2004.


\textsuperscript{37} Botero et al, above n 24.

\textsuperscript{38} Legal origins theory posits that the underlying style of regulation that is associated with the originating country will persist over time, despite any changes that may be made. A certain ‘path dependency’ occurs as a result of the complementarity that exists between legal and economic institutions. This ensures that distinct differences that are associated with the
From this analysis may come normative conclusions as to whether certain legal systems are ‘better’ for economic development and growth than others, and why this might be the case.\footnote{39}

Leximetric methodology can assist in answering other types of research questions. It reveals trends over time in legal changes and allows insights into the type of regulatory style adopted. Leximetric methodology has been employed by researchers in a growing number of legal areas including corporate law,\footnote{40} and labour law.\footnote{41} It has also been used by researchers to examine issues to do with law and financial development,\footnote{42} and the provision of private credit.\footnote{43}

The sophistication of leximetric methodology has advanced significantly in the 15 years since the first studies were published. For example, many studies utilise longitudinal data rather than examining cross-sectional data collected at one point in time. Researchers have also deployed a broader range of variables to measure legal protections. There are nonetheless limitations to leximetric methodology. Siems observes that quantitative legal research can usefully reduce the complexity of legal systems and more readily allows for different types of legal systems remain, despite alterations made to take account of local conditions. See further Hansmann and Kraakman, above n 13; Bebchuk and Roe, above n 16; Schmidt and Spindler, above n 14.

\footnote{39} R La Porta, F Lopez-de-Silanes and A Shleifer, ‘The Economic Consequences of Legal Origins’ (2008) 46 Jnl of Economic Literature 285.


comparison between countries and over time.\textsuperscript{44} However, condensing complex laws to a number necessarily involves the exercise of subjective judgment and may result in an arbitrary simplification which can distort reality. Compounding this problem of subjectivity is the concern that coding done by different people in different countries may introduce problems of reliability. The original choice of the items to measure the law is also a subjective matter that may result in some aspects of the system being overlooked or an incorrect judgment being made of the relative strength or weakness of an item.\textsuperscript{45} Moreover, the items and coding process may fail to capture the impact of the ‘law in practice’ or fail to account for the fact that some other mechanism may compensate for a missing piece of legal protection.\textsuperscript{46}

\textbf{D The evolution of worker and shareholder legal protection}

\textit{1 Methodology}

\textbf{(a) Worker protection}

The worker protection index we use is derived from the index developed by Deakin, Lele and Siems.\textsuperscript{47} It contains 40 items and covers five areas of labour law as follows. First, the regulation of forms of labour contracting other than the standard employment relationship (including matters such as the extent to which the law, as opposed to the contracting parties, determines the legal status of the worker; the extent to which part-time and casual workers have the right to equal treatment with full-time workers; and the extent to which the law constrains the conclusion of a fixed term contract).

Second, the regulation of working time (including matters such as the normal length of paid annual leave guaranteed by law or collective agreement; the normal number of paid public holidays guaranteed by law or collective agreement; the normal premium for overtime work and weekend work set by law or by collective agreements that are generally applicable; and the maximum duration of the normal working week exclusive of overtime).

Third, the regulation of dismissals (including matters such as the extent to which the law imposes procedural and substantive constraints on dismissal; the length of notice, in weeks, that has to be given to a worker with 3 years’ employment; the amount of redundancy compensation payable to a worker made redundant after 3 years of employment, measured in weeks of pay; and the period of service required before a worker qualifies for general protection against unjust dismissal).

Fourth, the regulation of worker representation and participation at the


\textsuperscript{45} These limitations and others are noted by Armour et al, ‘How Do Legal Rules Evolve?’, above n 40; Deakin, Lele and Siems, above n 41.


\textsuperscript{47} Deakin, Lele and Siems, above n 41.
workplace (including matters such as the extent to which the employer has a legal duty to bargain with worker representatives and the extent to which the law provides workers with rights to information sharing, consultation or co-determination).

Fifth, the regulation of industrial action (including matters such as whether strikes are not unlawful merely by reason of being unofficial or ‘wildcat’ strikes; the extent to which secondary or sympathy strike action is constrained; whether lockouts of workers are prohibited; the extent to which there is protection for the right to industrial action (ie, strike, go-slow or work-to-rule); and whether there is a mandatory waiting period or notification requirement before strikes can occur).

Each variable in the worker protection index is coded according to its absence or presence with zero representing the absence of the protection described in the variable and 1 representing its presence. Where appropriate fractional scores such as 0.25, 0.5 and 0.75 are awarded. Each variable is given equal weight in the aggregate index measure. A list of the variables that make up the worker protection index and an explanation of their meaning is available in ‘The Labour Market Regulation Index, Australia 1970–2010: Variable Definitions and Description of the Data’ (the Australian Labour Market Index).48

The coding for worker protection in the United States, the United Kingdom, Germany, France and India that we draw upon has been undertaken by the Cambridge University research team.49 The coding of the variables for Australia and the reasons for that coding are outlined in the Australian Labour Market Index.50

(b) Shareholder protection

The shareholder protection index that we employ was devised by Lele and Siems.51 The index adopts a functional approach to shareholder rights rather than focusing on strict legal rights. Therefore the coding includes a broad range of rules affecting shareholders. The rules include not only statutes but also judgments of courts and stock exchange listing rules. This means that our focus is on companies whose securities are listed on a stock exchange.

The index of shareholder rights consists of 60 items in total. It has been divided into two sub-indices — the first measures shareholder protection against various forms of expropriation by boards of directors and management and the second measures the protection that shareholders have against other shareholders. Each item is coded by its absence or presence, with a score between 0 and 1 (including fractions such as 0.25, 0.5 and 0.75 where appropriate), to reflect the strength of the law. In addition, each item is given an equal weight in the aggregate index measure.

The first sub-index consists of 42 items that measure the power of

49 Deakin, Lele and Siems, above n 41.
50 Mitchell et al, above n 48.
51 Lele and Siems, ‘Shareholder Protection’, above n 40.
shareholders in the general meeting to amend the company constitution and approve or disapprove of mergers, divisions, increases or decreases in share capital, the sale of substantial assets of the company and the payment of dividends. The sub-index also measures whether shareholders have pre-emptive rights in relation to new share issues, whether they are required to approve directors’ remuneration, and whether they have the ability to appoint and remove directors, demand extraordinary general meetings, put items on the agenda for meetings of shareholders, appoint proxies, obtain information, and communicate with other shareholders. It also measures the division of power between the board and shareholders, the duration of directors’ appointments, the imposition of directors’ duties, the applicability of corporate governance codes, and the level of public enforcement of corporate law.

The second sub-index in the shareholder protection index measures the protection that shareholders have against other shareholders. It contains 18 items that measure a number of matters relating to meetings of shareholders including shareholder rights to vote, quorums, supermajority requirements, and cumulative voting rights. The items also measure whether shareholders are required to disclose major share ownership, whether minority shareholders are able to be squeezed out by majority shareholders, whether appraisal rights exist following mergers or alterations of the company constitution, and if there is a remedy available for oppressed minority shareholders. The index also measures whether shareholder protection is mandatory (for example, whether it is possible to exclude the duty of care owed by directors).

As is the case with the coding of worker protection, each variable in the shareholder protection index is coded according to its absence or presence in a range from zero to one with appropriate fractional scores awarded and equal weighting given to each variable. The coding of shareholder protection for the United States, the United Kingdom, Germany, France and India has been undertaken by the Cambridge University research team and we have drawn upon this data for our research. A list of the variables that make up the shareholder protection index and an explanation of their meaning is contained in ‘Shareholder and Creditor Protection Indices — Australia 1970–2010’ (the Australian Shareholder and Creditor Index). Like the Australian Labour Market Index this document is available online and it contains details of our coding for Australia and the reasons for our coding.

2 Results

Figure 1 graphs movements in the aggregate indices measuring worker and shareholder protection over the 35 year period 1970–2005 for each country, while Table 1 reports correlations between them for each country and the statistical significance between these two variables for each country. To enable comparison across each of these indices, fig 1 graphs the z-score for each country.
index, which measures the different indices in a standard (equivalent) way that enables comparison across the indices. The graphs for each country in figure 1 clearly evidence strong correlations between levels of worker and shareholder protection at the individual country level. There are a number of distinctive patterns relating to each of the indices we have used.

Examining first worker protection in each country, in all cases except Australia the relative strength of protection as measured by the index has increased over the period, although the extent to which that has occurred varies greatly from country to country. For example in the case of the United States and the United Kingdom — both common law countries — the increase is significantly less than for France and Germany — two civil law countries — and India. In the case of Australia, the level of protection in 2005 is similar to the level of protection in 1970.

The graphs also reveal distinctive periods in which levels of protection alter in an abrupt manner. For example, the early years of the Thatcher conservative government were associated with a dramatic fall in worker protection in the United Kingdom. In Australia (c1993–1996), a major legislative reform, which included the extension of protections for bargaining and against unfair dismissal, was associated with a dramatic increase in the level of protection as measured by the index — an increase that was subsequently reversed following the change of government and a reversal of aspects of these reforms. Similar events appear in the cases of France (c1982), the United States (c1987/8) and, more generally as a trend, in the case of Germany after 1996. These events may have consequences for both the nature of the observed relationship between worker and shareholder protection and the strength of this relationship. For example, the labour law reforms that occurred in Australia between 1993 and 1996 have clearly altered the observed relationship between worker and shareholder protection. This is evident in the correlations reported in Table 1. Over the entire period, the pairwise correlation between our indices for worker and shareholder protection is just 0.089 for Australia, and not statistically significant. However, where we examined the relationship between these two indices for the period prior to 1993, the correlation between them is 0.475 and statistically significant (p<0.05), suggesting a much stronger positive relationship between shareholder and worker protection over most years since 1970. Nonetheless, this observation strengthens, rather than undermines, the general conclusions we have drawn from this analysis.

In the case of shareholder protection, the results show that in all countries there have been significant increases in the level of protection as measured by the index of shareholder protection. By the end of the period for which we have data, shareholder protection in all countries had experienced increases albeit through different evolutionary trajectories.

This visual assessment is confirmed by the statistical correlations between

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54 The z-score represents the distance between the raw score and the population mean in units of the standard deviation and is calculated as \( z = \frac{x - \mu}{\sigma} \), where \( x \) is the raw index value for an individual year, \( \mu \) is the mean value of the index number of all years, and \( \sigma \) is the standard deviation of the index number over all years for which data are observed. A negative z-score means the raw score is below the mean, positive when above.
The relationship between worker and shareholder protection is a positive one with the exception of the United Kingdom where we report a statistically insignificant negative relationship between these two indices. For the remaining five countries, the relationship between the worker and shareholder protection indices is statistically significant for four countries (with the strongest relationship being for Germany, France and India and the weakest being for the United States). The relationship is positive but statistically insignificant in the case of Australia, although as we note above, the correlation between worker and shareholder protection was positive and significant for the period prior to 1993.

The question asked in this article is whether the heightened promotion or pursuit of legal protections for shareholders is necessarily, or likely to be, associated with a decrease in the level of legal protection for workers. Our data and statistical analysis provide no evidence of such an association. Our results show that increased protection for shareholders has not generally come at the expense of legal protection for workers. If there was in fact such a substitution of one form of protection for the other, we would expect to see statistically negative correlations between the index of worker protection and the index of shareholder protection. In fact, as noted, we generally observe statistically positive correlations, except in the case of Australia where there is a positive but statistically insignificant relationship and in the case of the United Kingdom where there is a negative but statistically insignificant relationship.

The abrupt increases and decreases in worker legal protection identified in fig 1 for Australia and the United Kingdom indicate the politically contested nature of worker protection reform in those countries. These are not matched in terms of political contestability where shareholder protection is concerned as shareholder protection increases over time with less abrupt increases and decreases in both of these countries.

There are nonetheless a number of important caveats that need to be emphasised. To begin with, we caution against making generalisations from these findings to other countries outside the scope of our analysis. As we have noted, even within jurisdictions discrete events and the inherently contested

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55 Table 1 reports the coefficient of correlation (r) between the two indices, which measures the strength of association between two variables and in what fashion (positive or negative). Because both variables are continuous variables we use the pearson product-moment coefficient of correlation, which estimates a line of best fit between the two variables. The correlation coefficient value r=0 indicates no correlation, while r=1 would indicate perfect correlation. See A N Evans, Using Basic Statistics in the Behavioural and Social Sciences, 5th ed, Sage, Los Angeles, 2014, pp 438–44.

56 A positive value indicates the two variables increase and decrease in the same direction while a negative value indicates that the value of the two variables moves in the opposite direction. The statistical significance of the associations is reported in Table 1.

57 For discussion of the politically contested nature of labour law in Australia, see Mitchell et al, above n 2.

58 For discussion of the changes to shareholder protection in Australia, see Anderson et al, above n 1, and for discussion of the changes to shareholder protection in the United Kingdom, see C Bruner, Corporate Governance in the Common Law World: The Political Foundations of Shareholder Power, Cambridge University Press, Cambridge, 2013.
nature of labour law in particular suggest that established relationships between worker and shareholder protection can be reversed, or substantially weakened, as the Australian experience indicates. For this reason it may be the case that should this form of analysis be revisited in a decade from now, different patterns may very well emerge in response to very different economic and institutional challenges.

The analysis is also inherently limited by the number of countries we have been able to include. These countries in part reflect a concern to ensure we have a selection of countries from different legal origins or different varieties of capitalism according to those theoretical traditions, and the feasibility of coding for a more extensive sample of countries. There are of course varieties of capitalism other than those examined by Hall and Soskice and legal traditions not included in our analysis; as well as hybrid systems that have evolved to reflect the particular country context in which they have been transplanted. This diversity inevitably makes it difficult to generalise to all countries, across different legal and institutional settings, and over all periods of time.

## E Conclusion

We have explored the relationship between formal legal worker and shareholder protection in six countries for the period 1970 to 2005 using leximetric analysis — a quantitative method of measuring changes in the law. For shareholder protection, we measured changes in 60 items and for worker protection we measured changes in 40 items.

Both worker and shareholder protection have increased in five countries — and in the case of Australia, shareholder protection has increased and the level of worker protection in 2005 is similar to the level in 1970. When we examine statistical correlations, we find that the relationship between worker and shareholder protection is a positive one with the exception of the United Kingdom where we report a statistically insignificant negative relationship between these two indices. The findings indicate that for the countries included in our study and over the time period we studied, increased formal legal protection for shareholders is not obtained at the expense of formal legal protection for workers.

Figure 1 Patterns of convergence in worker and shareholder protection indices, 1970–2005

Worker protection: ——  Shareholder protection: – –
Table 1 Correlations between worker and shareholder protection indices

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<tr>
<th>Country</th>
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<tbody>
<tr>
<td>Australia</td>
<td>0.089</td>
<td>India</td>
<td>0.591**</td>
</tr>
<tr>
<td>France</td>
<td>0.753**</td>
<td>United Kingdom</td>
<td>-0.165</td>
</tr>
<tr>
<td>Germany</td>
<td>0.822***</td>
<td>United States</td>
<td>0.384*</td>
</tr>
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Notes:
* Correlation is significant at the 0.1 level, ** 0.05 level and *** 0.01 level.