162

Employee-Friendly Practices and Financial Performance: Tests of the Monitoring and Institutional Theories

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Abstract

This study examines whether employee-friendly practices are associated with firms' financial performance in an international setting. We find a significantly positive association between employee relations and firms' financial performance, and, consistent with the monitoring theory, this positive effect is more substantial when there is greater external and internal monitoring. Moreover, consistent with the institutional theory, the association between employee relations and financial performance varies across institutions in countries with different levels of human capital development, different cultures, and different levels of labour regulation. Furthermore, after subjecting our results to various endogeneity tests, we still find a robust positive association between employee relations and firms' financial performance.

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I. Introduction

In recent years, researchers have paid much attention to the importance of human capital in firm performance and corporate decision-making. One of the most debated issues is whether employee-friendly practices are beneficial for financial performance. This paper investigates the effect of employee-friendly practices on firms' financial performance in a global setting. There are two competing explanations, stakeholder value maximisation theory and agency theory, for the wealth effect of employee-friendly practices. Under the stakeholder value maximisation theory, human capital is a crucial organisational asset and employees are one of the most important factors for a firm's competitiveness and success (Pfeffer, 1994; Zingales, 2000). [5] Proponents of stakeholder theory believe that employee-friendly programmes improve a firm's ability to recruit, retain, and motivate its employees. Such programmes also attract socially responsible consumers and enhance a firm's overall reputation. The stakeholder theory thus predicts that employee-friendly practices will positively affect future financial performance and increase shareholder wealth. In support of this theory, several finance scholars have documented evidence of a positive relation between employee-friendly initiatives and financial performance for US companies (e.g. Faleye and Trahan, 2011; Bae *et al.*, 2011; Edmans, 2011; Ertugrul, 2013; Kang and Kim, 2020).

In contrast, under the agency theory, employee-friendly programmes may deviate from profit maximisation and result in adverse long-term effects on firms' financial performance (e.g. Friedman, 1970). Managers may use labour-friendly practices to further their interests without proper incentives and monitoring (Jensen and Meckling, 1976). Barnea and Rubin (2010) argue that managers are interested in overinvesting in employees for the private benefits of building a reputation as model managers. Consistent with the agency theory, Faleye *et al.* (2006) find evidence that an entrenched workforce with corporate governance power can pursue strategies to maximise its utility that differ markedly from strategies to maximise shareholder value. Atanassov and Kim (2009) find that poorly performing managers and workers form alliances wherein managers sell assets to prevent large-scale layoffs, garnering worker support to retain management, even when such sales hurt future performance.

This paper examines how employee-friendly practices are associated with firms' financial performance in an international setting. We first investigate the role of monitoring in the relation between employee treatment and financial performance to examine the validity of the monitoring theory. We measure external and internal monitoring strength by analyst following, auditor quality, cross-listing status, and external boards. Our employee treatment measure is based on the employee relations rating data provided by the Thomson Reuters

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[5] Pfeffer (1994) contends that creating a high-performance work force is crucial in competitive industries because traditional sources of competitive advantage—production technology, access to capital, and economies of scale—are increasingly available to all firms in today's global market.

ASSET4 database.[6] Using a large sample of international firms, we find a significantly positive association between employee relations and firms' financial performance. We find that the positive impact of employee relations on firm performance is more substantial when there is more analyst following, when the firm is audited by a Big 4 auditor, when the firm cross-lists its stocks, and when the firm has a more significant proportion of external members on the board. To put it differently, the effect of employee relations on firm performance is stronger when there is greater monitoring. The result is consistent with the monitoring theory that external and internal monitoring effects improve the quality of employee-friendly programmes and reduces the likelihood of overinvestment in employees for managers' private benefits, which leads to a greater positive impact of employee treatment on firm performance.

In addition, we examine the validity of the institutional theory regarding whether the positive relation between employee-friendly practices and financial performance varies across institutions in countries with different levels of human capital development, different cultures, and different levels of labour regulation. Human capital might be more crucial to a firm's success in countries with more developed human capital relative to countries with less developed human capital because other traditional sources of competitive advantage, such as production technology, access to capital, and economies of scale, are more readily available to companies in countries with more developed human capital. Moreover, employees in countries with more developed human capital are likely to place more importance on employee-friendly programmes than employees in countries with less developed human capital. If so, employee relations will have a greater positive impact on financial performance in countries with more developed human capital relative to countries with less developed human capital. Consistent with the institutional theory implication, we find a significantly positive relation between employee relations and financial performance in countries with higher human capital development.

The next conditioning institutional theory variable we investigate is culture. We find that the relation between employee relations and financial performance is more profound in individualistic cultures relative to collectivistic cultures, suggesting that employees in societies with high individualism place more importance on how they are treated in work environments, leading to a greater positive impact of employee treatment on firm performance.

We also examine whether the relation between employee relations and financial performance is affected by a country's regulation of labour, our third institutional theory conditioning variable. We measure the level of labour regulation using the common-law and non-common-law classifications because Botero *et al.* (2004) suggest that common-law countries have a significantly lower level of labour regulation than non-common-law countries. We find that the impact of employee relations on financial performance is stronger

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[6] In this paper, we use employee treatment, employee relations, and employee-friendly practices interchangeably.

for common-law countries than for non-common-law countries, suggesting that companies' employee-friendly initiatives are particularly important for firm performance when the labour protections provided by laws and regulations are relatively weak. In sum, our results based on international differences are consistent with the predictions of institutional theory. Furthermore, we show that the positive employee treatment-firm performance relation holds after we examine a battery of endogeneity tests using a difference-in-differences (DID) analysis based on cross-country labour regulation reforms as exogenous shocks to employee treatment, the instrumental variables approach, the Granger causality test, and alternative long-run stock return measures of firm performance.

Our paper makes several contributions to the literature. Our study contributes to the growing literature on the impact of employee relations on firm performance. The evidence provided by the extant research is growing, but still limited. Notable exceptions include Fauver *et al.* (2018) and Chang and Jo (2019). Fauver *et al.* (2018) examine the impact of a similar measure of employee-treatment on firm value and performance across countries. Furthermore, they explore additional channels through which such treatment affects performance. They find results indicating that firms with more employee-friendly relations have a higher valuation measured by Tobin's q and better accounting performance measured by ROE and ROA. However, they neither examine the implication of institutional theory nor directly test the monitoring theory. They measure agency cost on the basis of the accounting measures cash-to-assets, dividend payout, and pay-for-performance. We instead empirically examine the monitoring theory on the basis of the monitoring function provided by the number of analysts following, Big 4 auditors, cross-listing, and external boards that are well known to provide internal and external monitoring. Chang and Jo (2019) find positive relations between employee friendliness and product market competition and between firm value and employee friendliness when product market competition is high, but they also do not focus on institutional theory and monitoring theory implications.

Our paper investigates the validity of the monitoring theory by focusing on external and internal monitoring in the relation between employee relations and financial performance. We provide new evidence that monitoring enhances the effectiveness of employee-friendly practices and increases the positive effect of employee relations on firm performance. This finding is important because it suggests that monitoring can mitigate the potential agency problem of overinvestment in employee relations for managers' private benefits. Our results support the contention of monitoring theory that monitoring has a critical influence on employee-friendly practices and their impact on a firm's financial performance.

Furthermore, the international setting of our study enables us to investigate the validity of the institutional theory regarding whether cross-country differences in human capital development, culture, and regulation of labour affect the relation between employee relations and financial performance. Investigating the country factors that matter in the relation

between employee relations and financial performance provides new insight from institutional theory into why employee relations can positively impact firm performance. Specifically, we show that employee relations and financial performance vary across countries with different levels of human capital development, different cultures, and different levels of labour regulation. In particular, the positive effect of employee relations on financial performance is greater in countries with a higher Human Development Index, in countries with individualistic cultures relative to countries with collectivistic cultures, and in common-law countries than in non-common-law countries.

We review the related literature and present our hypotheses formulation in section II. Section III discusses the sample, variable measurements, and research design. Section IV presents the empirical results. Section V concludes the paper.

II. Literature Review and Hypotheses Formulation

2.1 Related Literature on Employee Relations

Management scholars suggest that companies invest in employee-friendly programmes because they expect these programmes to improve employee productivity.[7] The management and industrial relations literature has provided evidence supporting the association between employee-friendly programmes and employee productivity (e.g. Huselid, 1995). Katz *et al.* (1983), for example, find that work practices that improve the quality of work life in a company's plants improve worker productivity. Katz *et al.* (1987) find that quality of work-life innovations and the use of cooperative labour-management teams are associated with increased productivity. Gelade and Ivery (2003) suggest that an improved work climate is associated with higher employee productivity.

Focusing on the individual level, Mohr and Zoghi (2008) show that job enrichment practices increase job satisfaction. Judge *et al.* (2001) conduct a meta-analysis of studies on the relationship between an individual's job satisfaction and job performance and find a positive correlation. Two meta-analyses of firm-level studies, Harter *et al.* (2002) and Harter *et al.* (2010), also show positive correlations between employee satisfaction and firm-level performance. Programmes that facilitate work-life integration have also been linked to firm productivity (Konrad and Mangel, 2000), as have programmes that aim to improve work–family relationships (Perry-Smith and Blum, 2000).

Several finance scholars have examined the relationship between companies' employee-

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[7] Some firms make significant investments in programmes that are favourable to their employees that go beyond the standard compensation and benefits packages most companies offer. For instance, Nike provides its employees with paid sabbaticals, tuition assistance, on-site fitness centres, and a 15% discount on company stock; ConEd offers its workers a stock purchase plan, an adoption benefit plan, and transportation reimbursement; and Intel offers its workers a yearly bonus equivalent to about six weeks of salary, on-campus childcare, and on-campus sports facilities. Many companies also offer profit-sharing plans, subsidies for eldercare, bereavement leave, and insurance coverage for domestic partners.

friendly initiatives and certain financial variables. Firms that are named in the Fortune list of "Best 100 Companies to Work For" have positive abnormal returns at the time of the announcement (Filbeck and Preece, 2003), and good employee practices are positively related to future stock returns (Bird *et al.*, 2007). Faleye and Trahan (2011) and Edmans (2011) find that stock markets respond positively to announcements of labour-friendly policies and that labour-friendly firms have superior performance in long-run stock returns and operating results. Bae *et al.* (2011) find that firms that adopt more employee-friendly policies maintain lower leverage. Ertugrul (2013) finds a positive relation between the employee-friendly practices of the acquirer and long-term post-acquisition performance.

While the studies discussed above have examined employee relations and employee productivity or financial performance, the evidence, except for Fauver *et al.* (2018), is largely based on US firms. We extend this research by employing a large sample of international firms to investigate how employee relations affect financial performance on the basis of the framework of monitoring and institutional theories.

2.2 The Monitoring Theory

To investigate the relationship between employee relations and financial performance in an international setting, we first examine whether this relation is affected by the extent of external and internal monitoring. Previous research on the monitoring theory has demonstrated that corporate decision-making is influenced by monitoring mechanisms. A number of studies document that monitoring has a disciplinary effect on managers and can ensure good corporate governance (Fama and Jensen, 1983; Shleifer and Vishny, 1986; Smith, 1996, among others). Thus, it is plausible that external and internal monitoring can affect the motives and the quality of employee-friendly programmes implemented by companies. We measure monitoring by analyst following, auditor quality, cross-listing status, and external boards, as discussed below.

First, it is well known that security analysts can act as external monitors. For instance, Chung and Jo (1996) suggest that security analysts can be both corporate monitors who help reduce agency costs and information intermediaries who help expand the breadth of investor attention, and therefore firm value is an increasing function of the number of financial analysts following the firm. Similarly, Yu (2008) suggests that analyst coverage imposes discipline on managers and helps align the interest of managers and shareholders, thus improving managerial incentives to undertake optimal policies. To the extent that security analysts provide effective monitoring, we expect the relationship between employee relations and financial performance will be more pronounced.

Second, accounting information facilitates external monitoring by reducing the information asymmetry between corporate insiders and outsiders and discouraging managerial self-dealings (Bushman *et al.*, 2004). Prior studies have shown that auditor quality is an essential determinant of the quality of accounting information. We measure accounting

transparency with auditor quality. For specifically, we examine whether the firm is audited by one of the Big 4 accounting firms (PricewaterhouseCoopers, Ernst & Young, KPMG, and Deloitte). To the extent that reputable auditors provide effective monitoring, we expect the relation between employee relations and financial performance will be more pertinent.

Third, cross-listing can function as an indirect external monitoring device. Firms domiciled in countries with weak legal institutions and corporate governance can subject themselves to stricter laws and better governance mechanisms by listing their stocks in countries that offer stronger rights to outside investors, such as the US and the UK. This notion of bonding has been supported by several studies that show cross-listing in the US makes it harder for controlling insiders to extract private benefits from outside investors (e.g. Coffee, 1999; Stulz, 1999; Doidge *et al.*, 2004). For example, Doidge *et al.* (2004) find that foreign firms cross-listed in the US are valued more than those from the same countries but not listed in the US because cross-listing in the US signals the company's commitment to shareholder rights and reduces the costs of external monitoring. To the extent that cross-listing provide effective monitoring, we expect the relation between employee relations and financial performance will be more evident.

Last, outside directors have been shown to play an important role in monitoring and disciplining top management. Fama and Jensen (1983) and many others find that external boards can be effective mechanisms to monitor management on behalf of dispersed shareholders by effectuating management appointments, dismissals, suspensions, and rewards. To the extent that an external board provides effective monitoring, we expect the relation between employee relations and financial performance will be more pronounced. Taken together, we expect the following:

H1: Under the monitoring theory, the relationship between employee relations and financial performance is more pronounced when there is an internal and external monitoring mechanism.

2.3 Institutional Theory

Institutional theory, like monitoring theory, is a theory that links group characteristics to the behaviours of agents embedded within the group. The institutional theory holds that institutions—the relatively enduring rules, conventions, and practices of groups that influence the actions of a group's members—are essential to explanations of organisational actions and organisational structures. While institutions have long been the object of study, contemporary interest in institutions as determinants of organisational actions and structures traces its origins to the seminal work during the last century of Meyer and Rowan (1977), DiMaggio and Powell (1983), and Friedland and Alford (1991). Meyer and Rowan (1977) argue that organisations exist in an institutionalised environment of professions, programmes, and technologies that embody rules that serve as powerful myths. Organiations align themselves

with these institutional rules, and by doing so they come to be seen as legitimate and worthy, strengthen their support and stability, increase their resources and survival capabilities, and secure their success. A few years later, DiMaggio and Powell (1983) argue that when organisations align themselves with their institutional environment, they tend to become similar or "isomorphic" to each other. DiMaggio and Powell identify three kinds of institutional pressures that lead to organisational isomorphism: coercive pressures exercised by other organisations and society's culture, mimetic pressures when organisations cope with uncertainty by imitating other successful organisations, and normative pressures when organisations hire professionals with similar training, socialisation, and professional norms.

Unlike DiMaggio and Powell, however, Friedland and Alford (1991) subsequently turn away from trying to explain how similar institutional pressures can lead to similar organisational responses and instead explore how institutional differences can impose conflicting pressures on organisations. Friedland and Alford argue that the main institutions of contemporary Western societies—capitalism, family, bureaucratic state, and democracy—each have a distinct "institutional logic". They suggest that different institutions with their distinct institutional logics could affect organisations in different, even contradictory ways by placing conflicting demands on them.

The work of Meyer and Rowan (1977), DeMaggio and Powell (1983), and Friedland and Alford (1991) has stimulated a good deal of research based on the view that the behaviours of individuals and organisations are influenced by the surrounding context of institutions and their institutional logics, which can, depending on the institutional context, produce isomorphic as well as heterogeneous responses (for reviews of this work, see DiMaggio and Powell, 1991; Lawrence and Suddaby, 2006; Schneiberg and Clemens, 2006).

The lesson of institutional theory, then, is that the institutions surrounding a company influence the corporate decisions it makes. We are therefore led to expect that what Friedland and Alford (1991) and Thornton (2004) identify as some of the five (or six in the case of Thornton) central institutions of Western societies—human capital (education), cultural disparity, and labour regulation—will also influence corporate decisions on employee relations. The institutional theory leads us to anticipate that the pressures exerted by a region's human capital (education), cultural disparity, and labour regulation will influence the corporate employee-relations decisions of companies surrounded by those institutions.

2.4 Application of Institutional Theory on International Differences

The international setting of our study provides an opportunity to examine the institutional theory regarding whether and how the relationship between employee relations and financial performance varies across countries and regions. We first investigate whether this relation differs between countries with more developed human capital and countries with less developed human capital. Employee relations might positively impact financial performance in countries with more developed human capital relative to countries with less developed

human capital for two reasons. First, human capital is the stock of knowledge, habits, leadership talent, and social and personality attributes, including creativity, embodied in the ability to perform labour so as to produce economic value (Becker, 1993; Crook *et al.*, 2011).[8] Thus, human capital might be more crucial to a firm's success in countries with more developed human capital relative to countries with less developed human capital because other traditional sources of competitive advantage, such as production technology, access to capital, and economies of scale, are more readily available to companies in countries with more developed human capital. Second, employees in countries with more developed human capital are likely to have greater expectations and place more importance on employee-friendly programmes than employees in countries with less developed human capital.[9] One contributing factor to this difference is the role played by non-governmental organisations (NGOs) and other civil society organisations in promoting stakeholder value, including employee benefits and protections. While these organisations have a long history and a substantial influence on corporate governance in countries with more developed human capital, there is relatively less advancement of NGOs in countries with less developed human capital. As a result, stakeholders, such as customers, employees, and investors, in countries with more developed human capital are more likely to prefer firms with better employee treatment.

One might argue, on the other hand, that the effect of employee relations on financial performance could be greater in countries with less developed human capital because many of the traditional sources of competitive advantage, such as access to capital, are lacking in these countries, leaving human capital the primary factor that determines a firm's competitiveness and success. Under this alternative scenario, one would expect employee relations to have a greater impact on firm performance in countries with less developed human capital than in countries with more developed human capital.

We next investigate our second conditioning variable of institutional theory regarding whether cultural differences across countries affect the relation between employee relations and financial performance. We focus on the difference between individualistic and collectivistic cultures, which is one of the most important dimensions in cultural variation. Hofstede (2001) defines individualism as "a preference for a loosely-knit social framework

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[8] In corporate finance, human capital is one of the primary components of intellectual capital (which in addition to tangible assets comprise the entire value of a firm) and is the value that the employees of a firm provide through the application of skills, know-how, and expertise (Maddocks and Beaney, 2002). It is the firm's combined human capability for solving business problems. Human capital, therefore, is inherent in employees and cannot be owned by the firm. Hence, human capital leaves the firm when employees leave. Human capital also encompasses how effectively the firm uses its employee resources, as measured by creativity and innovation (Sveiby, 1997; Magrassi, 2002).

[9] Several studies present similar arguments in the area of corporate environmental responsibility and find supporting empirical evidence (Hart and Ahuja, 1996; Konar and Cohen, 2001; Makni *et al.*, 2009; Busch and Hoffmann, 2011). Jo *et al.* (2015) also find that reducing environmental costs in well-developed financial markets (i.e. Europe and North America) has a more immediate and substantial positive effect on firm performance than it does in less-developed financial markets.

in which individuals are expected to take care of only themselves and their immediate families." In contrast, collectivism stands for "a preference for a tightly-knit social framework in which individuals can expect their relatives, clan, or other in-group to look after them in exchange for unquestioning loyalty." We expect employees in individualistic cultures to care more about how they are treated in work environments than people in collectivistic cultures, who are more likely to emphasise work group goals above individual needs or desires.

We also examine whether the positive impact of employee relations on financial performance is affected by a country's labour regulation. Botero *et al.* (2004) examine the regulation of labour through three bodies of law—employment law, collective relations law, and social security laws—in 85 countries. They find that common-law countries have significantly lower levels of labour regulation than non-common-law countries. We thus investigate whether the relation between employee relations and financial performance is more distinct in common-law countries than in non-common-law countries. In addition, company-initiated employee-friendly programmes may be more important for financial performance when other means of labour protection, such as the government's regulation of labour, are weak. Under this scenario, we expect employee relations to have a greater impact on financial performance in common-law countries than in non-common-law countries.

On the other hand, more labour regulation can ensure that companies implement high-quality employee-friendly practices rather than engaging in programmes for executives' private benefits. If this is the case, we expect employee relations to have a more significant effect on financial performance in non-common-law countries than in common-law countries. Taken together, we expect the following:

Hypothesis 2: The impact of employee relations on firm performance would be stronger in (1) countries with more developed human capital, (2) societies with high individualism relative to societies with high collectivism, and (3) common-law countries than in non-common-law countries.

III. Research Design

3.1 The Sample

We obtain data for our empirical analysis from two databases: (1) Thomson Reuters ASSET4, which reports firm-level ratings on employee relations and (2) S&P Capital IQ (CIQ), which provides financial statement and corporate governance data. Our sample reflects the intersection of these two databases with necessary data for the variables used in our tests.[10] The final sample comprises 14,254 firm-year observations from 2003 to 2010. Panel A of Table 1 presents the sample distribution by country, and Panel B presents the sample distribution by year. Our sample represents firms from 60 countries and regions, with 5,507

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[10] One exception is the number of analysts following a firm, which is obtained from I/B/E/S.

observations from North America, 4,808 from Europe, and 3,930 from the rest of the world. The US supplies the largest number of observations (4,390, or 31% of the sample), followed by Japan (2,458, 17%) and the UK (1,607, 11%). The majority (92.8%) of the observations come from developed countries, while 7.2% come from the developing world.

3.2 Employee Relations Measure

Our measure of employee relations is an aggregate measure of corporate resources dedicated to employee relations and is calculated as the average score across four factors: employee relations policy, employee relations implementation, employee relations monitoring, and employee relations improvement. Each of the four factors (i.e. policy, implementation, monitoring, and improvement) is evaluated on the basis of four dimensions: employment quality, health and safety, training and development, and diversity and opportunities. Each of these four dimensions has rankings that range from zero to one. A higher value indicates better employee relations. The Appendix provides a more detailed discussion of the employee relations measure. As shown in Table 1, Panel A, the average employee relations measure is 0.487, ranging from 0.282 (Egypt) to 0.635 (Hungary). The employee relations measure is 0.489 and 0.465 in developed and developing countries, respectively, and the difference is statistically significant at the 1% level. Panel B shows an increasing trend of employee relations over time, from 0.474 in 2003 to 0.522 in 2010.

Table 1   Sample distribution

Panel A: By country

Country	No. of obs.	Percentage	Employee Relations
Australia	566	3.97%	0.513
Austria	104	0.73%	0.495
Belgium	141	0.99%	0.476
Bermuda	196	1.38%	0.406
Brazil	55	0.39%	0.604
Canada	820	5.75%	0.461
Cayman Islands	63	0.44%	0.331
Chile	14	0.10%	0.517
China	63	0.44%	0.442
Curacao	8	0.06%	0.592
Cyprus	9	0.06%	0.557
Czech Republic	7	0.05%	0.531
Denmark	148	1.04%	0.462
Egypt	2	0.01%	0.282
Finland	164	1.15%	0.556
France	506	3.55%	0.593
Germany	426	2.99%	0.545
Gibraltar	5	0.04%	0.457
Greece	110	0.77%	0.501
Hong Kong	217	1.52%	0.450
Hungary	4	0.03%	0.635
India	64	0.45%	0.523
Indonesia	12	0.08%	0.544

Ireland	110	0.77%	0.475
Israel	4	0.03%	0.310
Italy	264	1.85%	0.532
Japan	2,458	17.24%	0.426
Jordan	3	0.02%	0.443
Kuwait	9	0.06%	0.348
Liberia	7	0.05%	0.353
Luxembourg	37	0.26%	0.524
Malaysia	25	0.18%	0.507
Marshall Islands	2	0.01%	0.581
Mauritius	3	0.02%	0.291
Mexico	28	0.20%	0.409
Morocco	2	0.01%	0.604
Netherlands	196	1.38%	0.581
New Zealand	67	0.47%	0.474
Norway	111	0.78%	0.572
Panama	13	0.09%	0.468
Papua New Guinea	2	0.01%	0.478
Peru	2	0.01%	0.518
Philippines	2	0.01%	0.376
Poland	11	0.08%	0.445
Portugal	73	0.51%	0.552
Puerto Rico	2	0.01%	0.391
Qatar	6	0.04%	0.439
Russia	43	0.30%	0.494
Saudi Arabia	14	0.10%	0.340
Singapore	207	1.45%	0.417
South Africa	34	0.24%	0.626
South Korea	73	0.51%	0.529
Spain	4	0.03%	0.564
Sweden	313	2.20%	0.534
Switzerland	383	2.69%	0.505
Thailand	14	0.10%	0.529
Turkey	28	0.20%	0.446
United Arab Emirates	3	0.02%	0.386
United Kingdom	1,607	11.27%	0.563
United States	4,390	30.80%	0.470
Total	14,254	100.00%	0.487
Developed Countries	13,226	92.79%	0.489
Developing Countries	1,028	7.21%	0.465

Panel B: By year

Year	No. of obs.	Percentage	Employee Relations
2003	738	5.18%	0.474
2004	1,428	10.02%	0.466
2005	1,808	12.68%	0.468
2006	1,844	12.94%	0.473
2007	2,061	14.46%	0.487
2008	2,522	17.69%	0.492
2009	2,610	18.31%	0.504
2010	1,243	8.72%	0.522
Total	14,254	100.00%	0.487

Panels A and B present the sample distribution by country and year, respectively. Numbers of observations are presented first, followed by the percentage of the full sample. The average employee relations measure is reported in the last column.

3.3 Empirical Models

To investigate the relationship between employee relations and firm performance, we estimate the following model:

$$ROA_{it+1} = \beta_0 + \beta_1 Employee\ Relation_{it} + \gamma X_{it} + \beta_m DIndustry$$
$$+ \beta_n DYear + \beta_s DCountry + \varepsilon_{it}, \tag{1}$$

where *ROA*, or return on assets, is the dependent variable measuring a firm's one-year-ahead financial performance. Our primary independent variable is *Employee Relation,* as discussed above. X_{it} is a vector of time-variant firm-specific control variables that may affect ROA, as shown in the literature (e.g. Faleye and Trahan, 2011; Jo and Harjoto, 2011, 2012). These factors include firm size, firm age, growth opportunities (measured by Tobin's Q), financial leverage, profitability (ROA) at previous year, sales growth, number of geographic segments, product market competition based on the Herfindahl index, the proportion of board members who are external, CEO stock ownership, and high-tech industry membership. *DIndustry*, *DYear*, and *DCountry* are industry, year, and country dummies, respectively. Detailed definitions of the variables are provided in the Appendix.

IV. Results

4.1 The Effect of Employee Relations on Financial Performance

Table 2, Panel A provides descriptive statistics for the variables used in our analysis. The mean and median values of *Employee Relation* are 0.49 with a standard deviation of 0.14. The sample firms have an average ROA of 6%. The firms in our sample are relatively large firms with average total assets of $7,942 million (*Firm Size*). The large firm size is due to the coverage of large firms by the ASSET4 database and is comparable to that reported in Ioannou and Serafeim (2012). The average firm in our sample has a Tobin's Q of 1.66, a total liabilities to total assets ratio of 0.24 (*Leverage*), a sales growth rate of 11%, and about three geographic segments. For an average sample firm, 84% of board members are external and the CEO holds 0.69% of the company's common stock. Eleven per cent of the sample firms are in the high-tech industry.

Panel B provides the correlations between ROA and *Employee Relation*, as well as the four component measures of employee relations: employment quality (*EQ*), health and safety (*HS*), training and development (*TD*), and diversity and opportunity (*DO*). ROA is significantly and positively associated with *Employee Relation* as well as with two component measures (*EQ* and *HS*). The evidence is consistent with employee relations having a positive impact on ROA.

Table 3 reports the results from regression analyses of the relation between employee relations and one-year-ahead ROA. All reported *p*-values are based on standard errors

Table 2   Summary Statistics

Panel A: Descriptive statistics

Variable	N	Mean	STD	Median	p25	p75
Employee relations measures						
Employee Relation	14,254	0.49	0.14	0.49	0.38	0.59
EQ	14,254	0.48	0.15	0.51	0.34	0.61
HS	14,254	0.49	0.22	0.50	0.32	0.68
TD	14,254	0.49	0.16	0.54	0.34	0.58
DO	14,254	0.49	0.17	0.45	0.32	0.59
Performance measures						
ROA	14,254	0.06	0.05	0.05	0.02	0.08
Firm characteristics						
Firm size	14,254	8.98	1.58	8.77	7.87	9.91
Firm age	14,254	70.16	47.21	60.00	33.00	100.00
Tobin's Q	14,254	1.66	1.02	1.30	1.05	1.85
Leverage	14,254	0.24	0.18	0.22	0.10	0.35
ROA	14,254	0.06	0.05	0.05	0.02	0.08
Sales growth	14,254	0.11	0.26	0.08	-0.02	0.20
No. of segments	14,254	2.80	2.25	2.00	1.00	4.00
Competition	14,254	-0.25	0.23	-0.15	-0.34	-0.07
External board	14,254	0.84	0.21	0.90	0.75	1.00
CEO holding (%)	14,254	0.69	3.18	0.00	0.00	0.08
Hi-tech	14,254	0.11	0.31	0.00	0.00	0.00
No. of analysts	14,254	15.41	10.83	14.00	8.00	22.00
Big4 auditor	14,254	0.89	0.31	1.00	1.00	1.00
Cross-listing	14,254	0.40	0.85	0.00	0.00	1.00
Country characteristics						
Developed countries	14,254	0.93	0.26	1.00	1.00	1.00
Individualism	13,904	72.78	21.17	80.00	48.00	91.00
Common law	13,888	0.59	0.49	1.00	0.00	1.00

Panel B: Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)
(1)	*Employee Relation*	1					
(2)	*EQ*	0.7679*	1				
(3)	*HS*	0.8228*	0.4654*	1			
(4)	*TD*	0.7830*	0.5439*	0.4871*	1		
(5)	*DO*	0.8057*	0.5225*	0.5409*	0.5220*	1	
(6)	*ROA*	0.0305*	0.0410*	0.0547*	0.0077	-0.0136	1

This table presents the summary statistics of 14,254 firm-year observations between 2003 and 2010. Panel A reports the descriptive statistics of the employee relations measures, performance and turnover measures, and firm characteristics. Panel B presents the Pearson correlation matrix. Variable definitions are provided in the Appendix.

adjusted for heteroskedasticity (White, 1980) and firm clustering. The results suggest that employee relations are positively associated with one-year-ahead ROA. The coefficients on *Employee Relation* are significantly positive in both models with different levels of control variables. The coefficients on the control variables are generally consistent with prior studies. Firms that are smaller, older, and have a higher Tobin's Q, a higher past ROA, and higher

sales growth achieve a higher ROA. In addition, ROA is higher when the firm faces less competition and has more external directors on the board and when CEO stock holding is lower.

Table 3   OLS Regressions of Employee Relations and ROA

	(1)	(2)
Employee Relation	0.011***	0.010***
	(0.000)	(0.000)
Firm size	-0.001***	-0.001***
	(0.000)	(0.000)
Firm age	0.000**	0.000**
	(0.010)	(0.026)
Tobin's Q	0.006***	0.006***
	(0.000)	(0.000)
Leverage	-0.001	-0.001
	(0.379)	(0.512)
ROA	0.733***	0.732***
	(0.000)	(0.000)
Sales growth	0.033***	0.033***
	(0.000)	(0.000)
No. of segments		0.000
		(0.354)
Competition		-0.003**
		(0.047)
External board		0.003**
		(0.010)
CEO holding		-0.000*
		(0.092)
Hi-tech		-0.000
		(0.891)
Constant	0.002	-0.000
	(0.432)	(0.871)
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes
Country Fixed Effect	Yes	Yes
Observations	14,254	14,254
Adjusted R-squared	0.784	0.784

This table presents the OLS regressions of employee relations and ROA. The dependent variable is ROA. Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are not reported for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

4.2 The Effect of Monitoring

In this section, we investigate whether the relation between employee relations and financial performance is affected by the strength of external and internal monitoring. If monitoring improves the quality of employee-friendly programmes and reduces the likelihood

that managers invest in these programmes for private benefits at the cost of shareholders, we would expect monitoring to enhance the positive impact of employee relations on firm performance. We measure the strength of external and internal monitoring by analyst following, auditor quality, cross-listing status, and external boards. We include these variables as well as their interactions with *Employee Relation* in the regression model and report the results in Table 4. We find that the coefficient on *Employee Relation* remains significantly positive. More importantly, the coefficients on the interaction terms between *Employee Relation* and the monitoring variables are also significantly positive. Thus, employee relations have a greater positive impact on financial performance when there is more analyst following, when the firm is audited by a Big 4 auditor, when the firm cross-lists its stocks, and when the firm has a greater proportion of external board members. In other words, the effect of employee relations on financial performance is stronger when there is greater external and internal monitoring. Because agency theory predicts that managers may use labour-friendly practices to further their own personal private benefits in the absence of proper monitoring mechanism, our evidence suggests that external and internal monitoring improves the effectiveness of employee-friendly practices, leading to a greater positive impact of employee relations on firm performance, supporting the monitoring-theory-based H1.

Table 4 Cross-sectional Analyses of Employee Relations and ROA: The Impact of Monitoring

	(1)	(2)	(3)	(4)
Employee Relation	0.006**	0.001	0.008***	-0.000
	(0.033)	(0.692)	(0.000)	(0.994)
*Employee Relation*No. of analysts*	0.003**			
	(0.030)			
No. of analysts	-0.001*			
	(0.071)			
*Employee relation*Big4 auditor*		0.010***		
		(0.010)		
Big4 auditor		-0.002		
		(0.184)		
*Employee relation*Cross-listing*			0.004**	
			(0.028)	
Cross-listing			-0.002	
			(0.160)	
*Employee relation*External board*				0.012*
				(0.071)
Firm size	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm age	0.000**	0.000**	0.000**	0.000**
	(0.023)	(0.031)	(0.020)	(0.024)
Tobin's Q	0.006***	0.006***	0.006***	0.006***
	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	-0.001	-0.001	-0.001	-0.001
	(0.516)	(0.468)	(0.538)	(0.526)

ROA	0.732***	0.732***	0.731***	0.732***
	(0.000)	(0.000)	(0.000)	(0.000)
Sales growth	0.033***	0.033***	0.033***	0.033***
	(0.000)	(0.000)	(0.000)	(0.000)
No. of segments	0.000	0.000	0.000	0.000
	(0.401)	(0.369)	(0.412)	(0.358)
Competition	-0.003*	-0.003**	-0.003*	-0.003*
	(0.054)	(0.039)	(0.070)	(0.054)
External board	0.003***	0.003***	0.003***	-0.002
	(0.002)	(0.003)	(0.003)	(0.516)
CEO holding	-0.000*	-0.000*	-0.000*	-0.000*
	(0.066)	(0.086)	(0.066)	(0.066)
Hi-tech	-0.000	-0.000	-0.000	-0.000
	(0.786)	(0.873)	(0.810)	(0.842)
Constant	0.002	0.002	0.003	0.005
	(0.439)	(0.468)	(0.319)	(0.222)
Year Fixed Effect	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes
Observations	14,254	14,254	14,254	14,254
Adjusted R-squared	0.784	0.784	0.784	0.784

This table presents the cross-sectional OLS regressions of employee relation and ROA. The dependent variable is ROA. Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are not reported for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

4.3 Analyses of Cross-Country Differences

Earlier results suggest that employee relations have a positive effect on firms' future financial performance and that monitoring strengthens the effect of employee relations on financial performance. We next investigate the implications of the institutional theory regarding whether this positive relation varies across countries with different levels of human development, different cultures, and different levels of labour regulation.

We first form two subsamples on the basis of a country's human development index (HDI). The HDI is a tool developed by the United Nations to measure and rank countries' levels of social and economic development on the basis of four criteria: life expectancy at birth, mean years of schooling, expected years of schooling, and gross national income per capita. We partition our sample into countries with a high HDI and countries with a low HDI on the basis of the median HDI value of our sample firms. We run the regression model separately for the two subsamples and report the results in columns (1) and (2) of Table 5. We find that the coefficients on *Employee Relation* are significantly positive for both high- and low-HDI countries. Moreover, the coefficient for high-HDI countries (0.016) is significantly higher than the coefficient for low-HDI countries (0.004) at the 1% significance level. The evidence is consistent with the notion that employee relations have a greater influence on financial performance in countries with better human capital development.

Table 5   OLS Regressions of Employee Relations and ROA – Subsample Analyses

	(1) High HDI	(2) Low HDI	(3) High Individualism	(4) Low Individualism	(5) Common Law	(6) Non-common Law
Employee Relation	0.016***	0.004*	0.014***	0.006**	0.013***	0.006**
	(0.000)	(0.072)	(0.000)	(0.014)	(0.000)	(0.028)
Firm size	-0.001***	-0.001***	-0.001***	-0.001**	-0.001***	-0.001**
	(0.002)	(0.000)	(0.000)	(0.014)	(0.000)	(0.022)
Firm age	0.000**	0.000	0.000*	0.000	0.000*	0.000
	(0.019)	(0.806)	(0.064)	(0.224)	(0.054)	(0.471)
Tobin's Q	0.004***	0.011***	0.005***	0.010***	0.005***	0.009***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	0.001	-0.002	-0.000	-0.003**	-0.002	-0.002
	(0.742)	(0.269)	(0.970)	(0.043)	(0.471)	(0.328)
ROA	0.760***	0.666***	0.757***	0.678***	0.751***	0.691***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sales growth	0.038***	0.028***	0.037***	0.027***	0.035***	0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. of segments	0.000	0.000*	-0.000	0.000	-0.000	0.000
	(0.861)	(0.083)	(0.996)	(0.192)	(0.760)	(0.111)
Competition	-0.002	-0.004*	-0.004*	-0.001	-0.004*	-0.002
	(0.460)	(0.062)	(0.072)	(0.451)	(0.081)	(0.360)
External board	0.002	0.004***	0.003	0.003*	0.002	0.004**
	(0.299)	(0.009)	(0.183)	(0.081)	(0.234)	(0.019)
CEO holding	-0.000**	0.000	-0.000	-0.000	-0.000	-0.000
	(0.012)	(0.971)	(0.303)	(0.187)	(0.274)	(0.264)
Hi-tech	0.001	-0.000	0.001	-0.001	0.001	-0.001
	(0.763)	(0.914)	(0.675)	(0.500)	(0.644)	(0.528)
Constant	-0.002	-0.026***	-0.002	-0.007**	-0.001	0.010**
	(0.680)	(0.000)	(0.571)	(0.048)	(0.703)	(0.026)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,217	6,761	7,583	6,321	8,125	5,763
Adjusted R-squared	0.776	0.802	0.770	0.805	0.773	0.801

Test of employee relations in (1) = employee relations in (2): F-stat=9.65, Prob>F=0.0019
Test of employee relations in (3) = employee relations in (4): F-stat=5.33, Prob>F=0.0209
Test of employee relations in (5) = employee relations in (6): F-stat=3.98, Prob>F=0.0460

This table presents the OLS regressions of employee relation and ROA in different subsamples. The dependent variable is ROA. Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Culture could also play an important role in the relation between employee relations and financial performance. To investigate this issue, we partition our sample into countries with individualistic cultures and countries with collectivistic cultures on the basis of the median value of individualism from Hofstede (2001). We run the regression model separately for

these two subsamples. As reported in columns (3) and (4) of Table 5, the coefficients on *Employee Relation* are significantly positive in both high- and low-individualism societies; however, the coefficient for high-individualism societies (0.014) is significantly higher than the coefficient for low-individualism societies (0.006) at the 5% significance level. The result suggests that employees in high-individualism societies care more about how they are treated in work environments, which results in a greater positive impact of employee relations on firm performance.

We next investigate whether the positive relation between employee relations and ROA is affected by a country's labour regulation. As discussed earlier, common-law countries have a significantly lower level of labour regulation than non-common-law countries (Botero *et al.*, 2004). We thus analyse the relation between employee relations and ROA separately for common-law and non-common-law countries. As reported in columns (5) and (6) of Table 5, the coefficient on *Employee Relation* is significantly positive for both groups. However, the coefficient for common-law countries (0.013) is significantly greater than the coefficient for non-common-law countries (0.006). The result suggests that the positive effect of employee relations on financial performance is greater in common-law countries relative to other countries and that companies' employee-friendly initiatives are particularly important for firm performance when other means of labour protection, such as government regulation of labour, are weak. Combined together, our cross-country results are supportive of our H2.

4.4 Addressing Endogeneity

The evidence generated by our analyses so far suggests a positive correlation between employee relations and firms' financial performance. However, our results could be driven by omitted variables and/or reverse causality. For instance, certain omitted variables may affect both employee relations and firm performance. Alternatively, better performing firms may have greater resources to invest in employee-friendly programmes and therefore receive better employee relations ratings.

To mitigate these endogeneity concerns and identify the causal impact of employee relations on firm performance, we first exploit inter-temporal variation in employee treatment in a DID research design (Bertrand and Mullainathan, 2003). We utilise cross-country labour market regulation reforms as our major shocks to employee treatment.

We follow Simintzi *et al.* (2015) and collect data on the major labour regulation reforms across all OECD countries. The OECD published its Employment Protection Legislation (EPL) indicator annually from 1985 to 2013, and we focus on laws protecting workers with regular contracts, laws affecting workers with fixed-term (temporary) contracts, and regulations applying to collective dismissals. We select the labour regulation reforms that had a significant effect on employment protection (at least a 10% change from the previous year's level of employment protection). Following Simintzi *et al.* (2015), we distinguish between significant reforms that increase and significant reforms that decrease employment protection and create an

indicator that takes the value of $R_{k,t} = +1$ if there is a significant increase in employment protection in country k in year t, $R_{k,t} = -1$ if there is a significant decrease in employment protection in country k in year t, and $R_{k,t} = 0$ otherwise. During our sample period, two significant labour regulation reforms led to an increase in employment protection (Australia 2010; Belgium 2010), whereas three led to a decrease in employment protection (Australia 2007; Ireland 2006; Japan 2007).

Our indicator, *EPL*, is defined recursively starting from $EPL_{k,2003} = 0$. It increases by one if there is a major labour legislation reform that increases employment protection in that country and year ($EPL_{k,t} = EPL_{k,t-1} + 1$). Similarly, it decreases by one if there is a major legislation reform that decreases employment protection in that country and year ($EPL_{k,t} = EPL_{k,t-1} - 1$). By construction, this index treats all employment protection reforms equally. It is designed to capture large, long-run changes in employment protection regulation over time and is not comparable across countries (Simintzi *et al.*, 2015).

Using firm-year-level data, we follow Simintzi *et al.* (2015) and estimate the following specification:

$$ROA_{it+1} = \beta_0 + \beta_1 EPL_{it} + \gamma X_{it} + \beta_m DIndustry + \beta_n DYear + \beta_s DCountry + \varepsilon_{it}. \qquad (2)$$

Table 6 reports the regression results. The coefficients on *EPL* are significantly positive in both models with different levels of control variables (columns 1 and 2). An increase in EPL is associated with an increase of 0.007 in ROA, or 12% relative the sample mean of ROA. The coefficients on other firm characteristic variables are consistent with what we find in Table 3.

The empirical identification in our DID approach comes from the comparison of the change in ROA in firms that are subject to a labour law reform (treated firms) with the change in ROA in firms that do not experience such a reform (control firms). One concern with this approach is that the estimated treatment effect could be due to pretreatment differences in the characteristics of treated and control firms. We address this concern by examining the dynamic effects of EPL on firm performance in the years prior to the enactment of the labour reform. We include one-year-lagged and two-year-lagged EPL into the regression model in column 3, and neither of the coefficients on lagged EPLs is significant. This suggests that no significant effect existed in the years prior to the labour legislation reforms, alleviating the concern of pretreatment trends.

To mitigate the omitted variables concern, we also adopt the instrumental variables method. We use the median value of employee relations in the same industry as the instrumental variable. We use the industry median as an instrument because a firm's employee relations policies and practices are likely affected by industry norms, but industry-wide employee relations practices should not affect the firm's individual financial performance directly except through the channel of influencing the firm's own employee relations practices.

Table 6   Difference-in-Differences Approach Using Exogenous Labour Legislation Reforms

	(1)	(2)	(3)
EPL	0.007***	0.007***	0.008***
	(0.000)	(0.000)	(0.000)
EPL_lag1			0.001
			(0.709)
EPL_lag2			-0.000
			(0.994)
Firm size	-0.000*	-0.001***	-0.000*
	(0.051)	(0.004)	(0.094)
Firm age	0.000***	0.000***	0.000***
	(0.003)	(0.009)	(0.008)
Tobin's Q	0.006***	0.006***	0.006***
	(0.000)	(0.000)	(0.000)
Leverage	-0.002	-0.001	-0.001
	(0.285)	(0.425)	(0.706)
ROA	0.738***	0.737***	0.732***
	(0.000)	(0.000)	(0.000)
Sales growth	0.034***	0.034***	0.036***
	(0.000)	(0.000)	(0.000)
No. of segments		0.000	0.000
		(0.398)	(0.623)
Competition		-0.003**	-0.003
		(0.015)	(0.104)
External board		0.003**	0.003**
		(0.013)	(0.015)
CEO holding		-0.000*	-0.000
		(0.069)	(0.146)
Hi-tech		0.000	-0.001
		(0.874)	(0.525)
Constant	-0.000	-0.003	-0.006*
	(0.914)	(0.303)	(0.063)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes
Observations	13,383	13,383	11,085
Adjusted R-squared	0.784	0.784	0.783

This table presents the results from the difference-in-differences approach using exogenous labour legislation reforms. The dependent variable is ROA. Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

To implement the instrumental variables method, we regress a firm's employee relations on its industry median and other control variables to obtain the fitted value of employee relations, which is then used in the second-stage regression. The results are reported in Panel A of Table 7. The coefficient on the fitted value of employee relations is significantly positive, suggesting

that the positive relation between employee relations and ROA holds after mitigating the endogeneity concern on the basis of the instrumental variables methodology. Another concern with our results is reverse causality: that is, better performing firms have greater resources to invest in employee-friendly programmes and therefore receive better employee relations ratings. Notice that to alleviate this concern, in our baseline model, we regress one-year-ahead ROA on employee relations and find that employee relations are positively associated with future performance. To address the reverse causality issue, we run a Granger causality test and report the result in Panel B of Table 7. We find that higher financial performance does not lead to better future employee relations, while better employee relations lead to better future firm performance.

Table 7   Robustness of Employee Relations and ROA

Panel A: Instrumental variables approach

	(1) First-stage	(2) Second-stage
Industry-median *Employee Relation*	0.616***	
	(0.000)	
Employee Relation (predicted)		0.017***
		(0.000)
Firm size	0.041***	-0.002***
	(0.000)	(0.000)
Firm age	0.000***	0.000*
	(0.001)	(0.083)
Tobin's Q	0.009***	0.006***
	(0.000)	(0.000)
Leverage	-0.004	-0.000
	(0.712)	(0.866)
ROA	0.081**	0.737***
	(0.030)	(0.000)
Sales growth	-0.015***	0.033***
	(0.000)	(0.000)
No. of segments	0.001	0.000**
	(0.249)	(0.023)
Competition	-0.009	-0.001
	(0.388)	(0.295)
External board	0.009	0.004***
	(0.326)	(0.001)
CEO holding	-0.002***	-0.000
	(0.000)	(0.113)
Hi-tech	0.041***	-0.000
	(0.001)	(0.850)
Constant	-0.259***	0.003
	(0.000)	(0.185)
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes
Country Fixed Effect	Yes	Yes
Observations	14,254	14,254
Adjusted R-squared	0.513	0.783

Panel B: Granger causality test

Variables	(1) ROA_t	(2) Employee Relation$_t$
Employee Relation$_{t-1}$	0.010***	0.839***
	(0.000)	(0.000)
ROA_{t-1}	0.738***	0.016
	(0.000)	(0.333)
Firm size	-0.001***	0.009***
	(0.003)	(0.000)
Firm age	0.000**	0.000**
	(0.021)	(0.012)
Tobin's Q	0.007***	0.003***
	(0.000)	(0.003)
Leverage	-0.001	-0.000
	(0.649)	(0.908)
Sales growth	0.034***	-0.010***
	(0.000)	(0.000)
No. of segments	0.000	-0.000
	(0.703)	(0.912)
Competition	-0.001	-0.010**
	(0.657)	(0.017)
External board	0.003**	0.005
	(0.014)	(0.146)
CEO holding	-0.000*	-0.001***
	(0.072)	(0.006)
Hi-tech	-0.002	0.013***
	(0.193)	(0.005)
Constant	-0.008***	-0.021**
	(0.007)	(0.016)
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes
Country Fixed Effect	Yes	Yes
Observations	11,622	9,010
Adjusted R-squared	0.794	0.822

To address the reverse causality issue, we run a change regression and present the results in Table 8. We regress change in ROA on lagged change in employee treatment in column 1 and regress change in employee treatment on lagged change in ROA in column 2. We find a positive and significant coefficient in column 1 but not in column 2, suggesting that an increase in employee treatment is associated with a future increase in firm performance, but not the other way around.

Taken together, the DID approach using labour market regulation reforms, the instrumental variable approach, the Granger causality test, and the change regressions alleviate the concern of endogeneity and suggest a causal positive link between employee treatment and firms' financial performance.

Table 8   Change Regression of Employee Relations and ROA

	(1) ΔROA_{t+1}	(2) $\Delta Employee\ Relation_{t+1}$
$\Delta Employee\ Relation$	0.010**	
	(0.026)	
ΔROA		0.024
		(0.269)
$\Delta Firm\ size$	-0.013***	0.009***
	(0.000)	(0.007)
$\Delta Tobin's\ Q$	0.003**	0.003***
	(0.016)	(0.003)
$\Delta Leverage$	0.003	0.006
	(0.829)	(0.359)
$\Delta Sales\ growth$	0.009***	-0.003***
	(0.000)	(0.002)
Firm age	-0.000	0.000
	(0.693)	(0.363)
No. of segments	0.000**	0.000
	(0.047)	(0.942)
Competition	0.000	-0.004
	(0.976)	(0.269)
External board	0.001	0.004
	(0.302)	(0.134)
CEO holding	-0.000	-0.000
	(0.345)	(0.121)
Hi-tech	-0.002	0.005
	(0.138)	(0.240)
Constant	0.000	-0.009
	(0.891)	(0.209)
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes
Country Fixed Effect	Yes	Yes
Observations	11,205	8,703
Adjusted R-squared	0.072	0.017

This table presents the results from the change regression of employee relation and ROA. The dependent variable in column 1 is ΔROA, and the dependent variable in column 2 is ΔEmployee relation. Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

4.5 Individual Components of Employee Relations

Our analysis so far relies on the aggregate measure of employee relations. As discussed earlier, the aggregate employee relations measure is calculated on the basis of four factors: employee relations policy, implementation, monitoring, and improvement. Each of these four factors is evaluated on the basis of four dimensions: employment quality (*EQ*), health and safety (*HS*), training and development (*TD*), and diversity and opportunities (*DO*). We next investigate the components of employee relations and how they affect firms' financial

performance. When we include each dimension individually in the regression, we find that all coefficients are significantly positive, as reported in Table 9, Panel A, columns (1) to (4). When all dimensions are included in the regression, as reported in column (5), *EQ* and *TD* continue to be positive and significant, suggesting that high-quality employment benefits and training and development programmes are the most important drivers that lead to a positive impact on firm performance. In Panel B, we study each factor of employee relations and find that when added individually into the regression, all four factors have a significantly positive coefficient, as reported in columns (1) to (4). When all four factors are included in the regression, as reported in column (5), only the employee relations improvement factor matters significantly to financial performance.

Table 9　Dimensions and Factors of Employee Relations and ROA

Panel A: Dimensions of employee relations

	(1)	(2)	(3)	(4)	(5)
EQ	0.007***				0.003*
	(0.000)				(0.051)
HS		0.005***			0.002
		(0.000)			(0.183)
TD			0.007***		0.004**
			(0.000)		(0.021)
DO				0.005***	0.001
				(0.000)	(0.391)
Firm size	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm age	0.000**	0.000**	0.000**	0.000**	0.000**
	(0.014)	(0.017)	(0.019)	(0.016)	(0.026)
Tobin's Q	0.006***	0.006***	0.006***	0.006***	0.006***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.488)	(0.453)	(0.566)	(0.512)	(0.529)
ROA	0.733***	0.732***	0.732***	0.733***	0.732***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sales growth	0.033***	0.033***	0.033***	0.033***	0.033***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. of segments	0.000	0.000	0.000	0.000	0.000
	(0.327)	(0.358)	(0.336)	(0.324)	(0.352)
Competition	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
	(0.042)	(0.037)	(0.032)	(0.032)	(0.048)
External board	0.003***	0.003***	0.003***	0.004***	0.003**
	(0.009)	(0.009)	(0.010)	(0.008)	(0.011)
CEO holding	-0.000*	-0.000*	-0.000*	-0.000*	-0.000*
	(0.066)	(0.066)	(0.074)	(0.066)	(0.094)
Hi-tech	0.000	-0.000	0.000	-0.000	-0.000
	(0.989)	(0.976)	(0.990)	(0.986)	(0.902)
Constant	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.790)	(0.742)	(0.746)	(0.857)	(0.854)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes
Observations	14,254	14,254	14,254	14,254	14,254
Adjusted R-squared	0.784	0.784	0.784	0.784	0.784

Panel B: Factors of employee relations

	(1)	(2)	(3)	(4)	(5)
ER_Policy	0.005***				0.002
	(0.000)				(0.117)
ER_Implementation		0.005***			0.002
		(0.000)			(0.139)
ER_Monitoring			0.005***		0.002
			(0.000)		(0.138)
ER_Improvement				0.011***	0.007**
				(0.000)	(0.033)
Firm size	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm age	0.000**	0.000**	0.000**	0.000**	0.000**
	(0.015)	(0.018)	(0.017)	(0.015)	(0.028)
Tobin's Q	0.006***	0.006***	0.006***	0.006***	0.006***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.508)	(0.480)	(0.509)	(0.493)	(0.511)
ROA	0.732***	0.732***	0.733***	0.733***	0.732***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sales growth	0.033***	0.033***	0.033***	0.033***	0.033***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. of segments	0.000	0.000	0.000	0.000	0.000
	(0.373)	(0.326)	(0.330)	(0.295)	(0.340)
Competition	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
	(0.036)	(0.038)	(0.035)	(0.033)	(0.049)
External board	0.003***	0.003***	0.003***	0.003***	0.003**
	(0.008)	(0.009)	(0.008)	(0.009)	(0.011)
CEO holding	-0.000*	-0.000*	-0.000*	-0.000*	-0.000*
	(0.079)	(0.078)	(0.056)	(0.051)	(0.091)
Hi-tech	-0.000	-0.000	0.000	0.000	-0.000
	(0.940)	(0.965)	(0.954)	(0.930)	(0.894)
Constant	0.000	0.000	-0.001	-0.004	-0.002
	(0.948)	(0.928)	(0.684)	(0.126)	(0.536)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes
Observations	14,254	14,254	14,254	14,254	14,254
Adjusted R-squared	0.784	0.784	0.784	0.784	0.784

This table presents the OLS regressions of dimensions and drivers of employee relation and ROA. The dependent variable is ROA. Variable definitions are presented in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

4.6 Alternative Measures of Firm Performance

We first examine ROE as an alternative measure of firms' financial performance. We also decompose ROE into four components: Net Income/EBIT, EBIT/Sales, Sales/Assets, and Assets/Equity. Table 10 presents the relation between employee treatment and ROE (and its

components). We continue to find a higher ROE in firms with better employee relations, and the improved financial performance is mostly coming from a higher asset turnover ratio. In other words, the positive relation between employee treatment and financial performance is an outcome of more sales rather than due to a higher profit margin or higher leverage.

Table 10   OLS Regressions of Employee Relations and ROE

| | (1) | (2) | (3) | (4) SALES/ | (5) ASSETS/ |
	ROE	NI/EBIT	EBIT/SALES	ASSETS	EQUITY
Employee Relation	4.868***	0.021	-0.062***	0.602***	-361.117***
	(0.002)	(0.872)	(0.001)	(0.000)	(0.000)
Firm size	0.484**	-0.025**	0.010***	-0.085***	156.408***
	(0.015)	(0.046)	(0.000)	(0.000)	(0.000)
Firm age	0.027***	-0.000	-0.000	0.000	0.605***
	(0.000)	(0.857)	(0.118)	(0.114)	(0.009)
Tobin's Q	3.099***	-0.014	-0.009**	-0.032***	88.351***
	(0.000)	(0.784)	(0.020)	(0.009)	(0.000)
Leverage	8.991***	-0.377***	0.097***	-0.331***	385.451***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	173.499***	0.453	1.457***	2.016***	-1,284.467***
	(0.000)	(0.570)	(0.000)	(0.000)	(0.000)
Sales growth	10.366***	0.103	0.099***	0.001	26.612
	(0.000)	(0.146)	(0.000)	(0.933)	(0.174)
No. of segments	0.152	0.012	-0.004***	-0.000	14.307***
	(0.164)	(0.105)	(0.003)	(0.957)	(0.002)
Competition	-0.578	-0.089	0.079***	-0.259***	38.109
	(0.670)	(0.296)	(0.000)	(0.000)	(0.475)
External board	0.099	-0.047	-0.002	0.051	-111.884**
	(0.943)	(0.523)	(0.876)	(0.376)	(0.012)
CEO holding	-0.099	0.003	-0.001**	-0.002	-3.788*
	(0.180)	(0.475)	(0.026)	(0.486)	(0.076)
Hi-tech	-1.774	0.046	0.002	0.052	-59.677
	(0.379)	(0.567)	(0.860)	(0.309)	(0.263)
Constant	-12.114***	1.211***	0.173***	0.808***	-875.391***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes
Observations	13,571	13,719	13,675	13,716	13,522
Adjusted R-squared	0.370	0.019	0.409	0.493	0.419

This table presents the OLS regressions of employee relation and ROE (and its components). Variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

We further investigate long-run stock returns as an alternative measure of firm performance. Long-term stock returns are less subject to the reverse causality and endogeneity problems

Table 11 Regressions of Long-run Stock Returns on Employee Treatment

X=	(1) Employee Relation	(2) EQ	(3) HS	(4) TD	(5) DO	(6) ER Policy	(7) ER Implementation	(8) ER Monitoring	(9) ER Improvement
X	0.011**	0.012***	0.005**	0.011***	-0.004	0.007**	0.002	0.006**	0.006
	(0.013)	(0.001)	(0.022)	(0.004)	(0.211)	(0.035)	(0.414)	(0.028)	(0.115)
Firm size	-0.004***	-0.005***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.000)
BM	0.0004	0.0004	0.0002	0.001	0.0003	0.0003	0.0004	0.001	0.0003
	(0.667)	(0.583)	(0.737)	(0.489)	(0.716)	(0.677)	(0.662)	(0.612)	(0.687)
YIELD	-0.030***	-0.032***	-0.030***	-0.031***	-0.030***	-0.031***	-0.030***	-0.030***	-0.030***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RET2-3	-0.099***	-0.099***	-0.099***	-0.099***	-0.099***	-0.098***	-0.099***	-0.099***	-0.099***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RET4-6	0.018	0.018	0.018	0.019	0.019	0.018	0.018	0.018	0.018
	(0.271)	(0.264)	(0.264)	(0.251)	(0.251)	(0.266)	(0.279)	(0.263)	(0.272)
RET7-12	-0.192***	-0.192***	-0.192***	-0.191***	-0.193***	-0.192***	-0.192***	-0.192***	-0.192***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DVOL	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.152)	(0.163)	(0.158)	(0.149)	(0.153)	(0.139)	(0.147)	(0.153)	(0.143)
PRC	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.022**	0.021**	0.023***	0.021**	0.025***	0.022**	0.024***	0.024***	0.023***
	(0.018)	(0.022)	(0.012)	(0.019)	(0.008)	(0.015)	(0.009)	(0.008)	(0.014)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,654	20,654	20,654	20,654	20,654	20,654	20,654	20,654	20,654
Adjusted R-squared	0.186	0.186	0.186	0.186	0.186	0.186	0.186	0.186	0.186

This table presents the Fama-MacBeth (1973) long-run stock return results following Edmans (2011), where the dependent variable is the industry-adjusted return. *EQ* represents Employment Quality, *HS* is Health and Safety, *TD* is Training and Development, *DO* is Diversity and Opportunity, and *ER* stands for employee relations. The remaining variable definitions are provided in the Appendix. We control for year, industry, and country fixed effects, whose coefficients are suppressed for brevity. The *p*-values based on heteroskedasticity-consistent standard errors clustered at the firm level are reported in parentheses (Petersen, 2009; Gow *et al.*, 2010). ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

relative to other measures, such as ROA, since a well-performing firm should not exhibit superior future stock returns as profits should already be incorporated into current stock price (Edmans, 2011). We follow Edmans (2011) and run a Fama-MacBeth (1973) estimation of

$$R_{it} = \alpha_0 + \alpha_1 Employee\ Relation_{it} + \alpha_2 Z_{it} + \varepsilon_{it}, \tag{3}$$

where R_{it} is the industry-adjusted return on stock i in month t. We follow Edmans (2011) and Brennan *et al.* (1998) and control for a number of variables, including *SIZE* (log of market capitalisation at the end of month t-2), *BM* (log of firm's book-to-market ratio), *YIELD* (dividend yield), *RET2-3* (log of cumulative return over months t-3 through t-2), *RET4-6* (log of cumulative return over months t-6 through t-4), *RET7-12* (log of cumulative return over months t-12 through t-7), *DVOL* (log of dollar volume of trading in month t-2), and *PRC* (log of stock price at the end of month t-2). Table 11 presents the regression results. The coefficient on *Employee Relation* reported in column (1) is 0.011 and significant at the 5% level, suggesting that a firm with better employee relations also earns higher long-run stock returns. This result provides additional evidence that employee relations improvement matters significantly to firm performance. Long-run return regressions based on individual components of employee relations are reported in columns (2) to (9). The results suggest that employment quality (*EQ*), health and safety (*HS*), training and development (*TD*), *ER_Policy*, and, most interestingly, *ER_Monitoring* have a significantly positive impact on long-run stock returns, while the effects of diversity and opportunity (*DO*), *ER_Implementation*, and *ER_Improvement* are insignificant. We consider that the evidence of the positive coefficient on *ER_Monitoring* on long-run stock returns is a remarkable new finding that provides additional support for the monitoring theory.

V. Conclusions

In this study, we examine whether employee-friendly practices are associated with firms' financial performance in an international setting. Using a large sample of international firms, we find a significantly positive association between employee relations and firms' financial performance. We also provide new evidence that external and internal monitoring plays an important role in the relation between employee relations and financial performance, supporting the monitoring theory. Specifically, we find that employee relations have a stronger impact on firm performance when there is greater external and internal monitoring. This result suggests that monitoring improves the quality of employee-friendly programmes, causing a greater positive impact of employee relations on firm performance. Our results have implications for future research as they suggest that external and internal monitoring is an important factor to consider when studying the impact of employee relations on firm performance.

Furthermore, our study adds to the growing literature on the impact of employee relations

on firm performance by investigating this issue from the lens of institutional theories in an international setting that we consider provides insights on the linkage between employee relations and financial performance. We show that the relation between employee relations and financial performance varies across institutions in countries with different human capital development levels, cultures, and labour regulation levels. In particular, we find that the positive effect of employee relations on financial performance is greater (1) in countries with more developed human capital than in countries with less developed human capital, (2) in countries with individualistic cultures relative to countries with collectivistic cultures, and (3) in common-law countries than in non-common-law countries, where common-law counties have a lower level of labour regulation.

The positive relation between employee treatment and firm performance holds after we mitigate the potential endogeneity concern using several econometric methods and a different stock return measure of financial performance. Taken together, our results are consistent with the institutional theory that employee-friendly practices have a positive impact on firms' financial performance and create value for shareholders across institutions in countries with better human capital, countries with individualistic cultures, and common-law counties with lower labour regulations.

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Appendix: Variable Definitions

Variable	Definition

Panel A: Employee Relations variables

Employee Relation

An aggregate measure of corporate resources dedicated to employee relations, calculated as the average score of Employee Relations Policy (*ER_Policy*), Employee Relations Implementation (*ER_Implementation*), Employee Relations Monitoring (*ER_Monitoring*), and Employee Relations Improvement (*ER_Improvement*). All data are obtained from ASSET4 data.

ER_Policy

An aggregate measure of Employee Relations Policy, calculated as the average policy score of four dimensions: Employment Quality (*EQ)*, Health and Safety (*HS*), Training and Development (*TD*), and Diversity and Opportunity (*DO*).

    EQ_Policy

Does the company have a POLICY, code of conduct, procedure, programme, compliance mechanism, or management system for offering rewarding and fair employment benefits (salary, profit sharing, pension plan, health care, other insurances, and other benefits) AND maintaining long-term employment growth and stability (avoidance of lay-offs, turnover limitation, net employment creation, or maintenance of general relations with trade unions)? The original variable name in ASSET4 is So_Wo_EQ_D01.

    HS_Policy

Does the company have a POLICY, code of conduct, procedure, programme, compliance mechanism, or management system for integrating into its day-to-day operations a concern for workforce health and safety, including the physical and mental health, well-being, and stress level of all employees? The original variable name in ASSET4 is So_Wo_HS_D01.

    TD_Policy

Does the company have a POLICY, code of conduct, procedure, programme, compliance mechanism, or management system for training and educating its workforce through programmes to develop their skills and competences (occupational, human or social relations, and communications) or supporting their career development (promotion from within, job rotation, or career ending) and continued employability? The original variable name in ASSET4 is So_Wo_TD_D01.

    DO_Policy

Does the company have a POLICY, code of conduct, procedure, programme, compliance mechanism, or management system for the promotion of an effective life-work balance or of a family-friendly working environment (vacations, part-time, flex-time, career breaks, maternity leave, sabbaticals, etc.) AND the promotion of diversity and equal opportunities as well

as the exclusion of discrimination, harassment, or unfair treatment of people with disabilities, or because of gender, age, ethnicity, race, nationality, religion, or sexual orientation? The original variable name in ASSET4 is So_Wo_DO_D01.

ER_Implementation   An aggregate measure of Employee Relations Implementation, calculated as the average implementation score of four dimensions: Employment Quality (*EQ*), Health and Safety (*HS*), Training and Development (*TD*), and Diversity and Opportunity (*DO*).

EQ_Implementation   To guarantee better IMPLEMENTATION of the workforce/employment quality elements, does the company claim to have, describe, or show that the key employees have the necessary processes, codes of conduct, and tools (whistle blowing, ombudsman, hotline, suggestion box, etc.)? The original variable name in ASSET4 is So_Wo_EQ_D02.

HS_Implementation   To guarantee better IMPLEMENTATION of the workforce/health and safety elements, does the company claim (1) to have, describe, or show a commitment or public endorsement from a senior management or board member, or a dedicated specialised team/individual AND (2) that the key employees have the necessary training, processes, codes of conduct, and tools (whistle blowing, ombudsman, hotline, suggestion box, etc.)? The original variable name in ASSET4 is So_Wo_HS_D02.

TD_Implementation   To guarantee better IMPLEMENTATION of the workforce/training and development elements, does the company claim (1) to have, describe, or show a commitment or public endorsement from a senior management or board member AND (2) that the key employees have the necessary training, processes, codes of conduct, and tools (whistle blowing, ombudsman, hotline, suggestion box, etc.)? The original variable name in ASSET4 is So_Wo_TD_D02.

DO_Implementation   To guarantee better IMPLEMENTATION of the workforce/diversity and opportunity elements, does the company claim (1) to have, describe, or show a commitment or public endorsement from a senior management or board member AND (2) that the key employees have the necessary training, processes, codes of conduct, and tools (whistle blowing, ombudsman, hotline, suggestion box, etc.)? The original variable name in ASSET4 is So_Wo_DO_D02.

ER_Monitoring   An aggregate measure of Employee Relations Monitoring, calculated as the average monitoring score of four dimensions: Employment Quality (*EQ*), Health and Safety (*HS*), Training and Development (*TD*), and Diversity and Opportunity (*DO*).

    EQ_Monitorning   To guarantee better MONITORING of the workforce/employment quality elements, does the company publicly share the results of a monitoring process? The original variable name in ASSET4 is So_Wo_EQ_D03.

    HS_Monitoring   To guarantee better MONITORING of the workforce/health and safety elements, does the company publicly share the results of a monitoring process: for example, the key performance indicators used within a balanced scorecard programme? The original variable name in ASSET4 is So_Wo_HS_D03.

    TD_Monitoring   To guarantee better MONITORING of the workforce/training and development elements, does the company publicly share the results of a monitoring process? The original variable name in ASSET4 is So_Wo_TD_D03.

    DO_Monitoring   To guarantee better MONITORING of the workforce/diversity and opportunity elements, does the company publicly share the results of a monitoring process? The original variable name in ASSET4 is So_Wo_DO_D03.

ER_Improvement   An aggregate measure of Employee Relations Improvement, calculated as the average improvement score of four dimensions: Employment Quality (*EQ*), Health and Safety (*HS*), Training and Development (*TD*), and Diversity and Opportunity (*DO*).

    EQ_Improvement   To guarantee better IMPROVEMENTS of the workforce/employment quality elements, does the company set specific quantitative objectives to be achieved? The original variable name in ASSET4 is So_Wo_EQ_D04.

    HS_Improvement   To guarantee better IMPROVEMENTS of the workforce/health and safety elements, does the company set specific quantitative objectives to be achieved AND comment on the results of previously set objectives? The original variable name in ASSET4 is So_Wo_HS_D04.

    TD_Improvement   To guarantee better IMPROVEMENTS of the workforce/training and development elements, does the company set specific quantitative objectives to be achieved? The original variable name in ASSET4 is So_Wo_TD_D04.

DO_Improvement To guarantee better IMPROVEMENTS of the workforce/diversity and opportunity elements, does the company set specific quantitative objectives to be achieved? The original variable name in ASSET4 is So_Wo_DO_D04.

The Four Dimensions of Employee Relations

EQ The Employment Quality (*EQ*) category measures a company's management's commitment to and effectiveness in providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce's loyalty and productivity by distributing rewarding and fair employment benefits and by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs, and maintaining relations with trade unions.

HS The Health and Safety (*HS*) category measures a company's management's commitment to and effectiveness in providing a healthy and safe workplace. It reflects a company's capacity to increase its workforce's loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, well-being, and stress level of all employees.

TD The Training and Development (*TD*) category measures a company's management's commitment to and effectiveness in providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty, and productivity by developing the workforce's skills, competences, employability, and careers in an entrepreneurial environment.

DO The Diversity and Opportunity (*DO*) category measures a company's management's commitment to and effectiveness in maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce's loyalty and productivity by promoting an effective life-work balance, a family-friendly environment, and equal opportunities regardless of gender, age, ethnicity, religion, or sexual orientation.

Panel B: Firm Characteristics

Firm size The natural logarithm of a firm's total assets in US dollars at the end of the previous year.

Firm age The age of the firm, calculated as the difference between the current year and the year when the firm was established.

Tobin's Q Tobin's Q, measured as (market value of equity + long term debt + current liability − current assets) / total assets.

Leverage The leverage ratio, measured as total liabilities divided by total assets at the end of the previous year.

ROA The return on assets, measured as income before extraordinary items divided by common equity at the end of the previous year.

Sales growth The percentage of sales growth from year t-1 to year t, defined as the difference between current year sales minus last year's sales divided by

	last year's sales, multiplied by 100.
No. of segments	The total number of geographic segments reported by a firm.
Competition	The Herfindahl index multiplied by (-1), with the Herfindahl index calculated as the sum of the squares of fractional market shares of firms within each two-digit SIC industry of each country year. A larger value indicates lower industry concentration and hence higher industry competition.
CEO holding	The percentage of common stock owned by the CEO at the end of the year.
Hi-tech	An indicator variable which equals 1 if the firm is a firm in high-tech industries (i.e. with an SIC code of 2833-2836, 8731-8734, 7371-7379, 3570-3577, or 3600-3674) and 0 otherwise.
No. of analysts	The total number of analysts following the firm in the year.
Big4 auditor	An indicator variable which equals 1 if the auditor of the firm is a Big 4 auditor and 0 otherwise.
Cross-listing	The total number of unique stock exchanges on which the firm cross-lists its stock minus one.
External board	The ratio of number of external board members to total number of board members in the last year of our sample period.
High HDI	Indicator variable which equals 1 if the firm is in a high human development index (HDI) country and 0 otherwise. The HDI measure comes from United Nations Human Development Reports. If the HDI is higher than the sample median, high HDI is defined as 1; otherwise, it is defined as 0.
Common law	Indicator variable which equals 1 if the firm is in a common-law country and 0 otherwise.
High individualism	Indicator variable which equals 1 if the firm is in a high individualism country and 0 otherwise. The individualism measure is from Hofstede (2001). If the individualism measure is higher than the sample median, high individualism is defined as 1; otherwise, it is defined as 0.