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Trust, Owner Rights, Employees and Firm Performance

Finance Working Paper N° 336/2012
July 2012

Chris Brewster
University of Reading, Vaasa University, Radboud University, ISCTE-Instituto Universitário de Lisboa

Salim Chahine
American University of Beirut and ECGI

Marc Goergen
IE Business School and ECGI

Geoffrey Wood
University of Sheffield

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Keywords: Corporate governance, trust, investor protection, employment protection legislation, institutions and economic growth

JEL Classifications: G34, K20, O16

Chris Brewster
Professor of Human Resources Management
University of Reading, Henley Managment College
Henley-on-Thames
Oxfordshire RG9 3AU, United Kingdom
e-mail: chris.brewster@henleymc.ac.uk

Salim Chahine
Associate Professor of Finance
American University of Beirut, Olayan School of Business
Bliss Street
Beirut 1107 2020, Lebanon
phone: +961 1374 374
e-mail: sc09@aub.edu.lb

Marc Goergen*
Professor of Finance
IE Business School, Department of Finance
María de Molina 11
28006 Madrid, Spain
e-mail: marc.goergen@ie.edu

Geoffrey Wood
Professor of International Business
University of Sheffield, School of Managment
9 Mappin Street
Sheffield, S1 4DT, United Kingdom
phone: +44 0114 22 23346
e-mail: g.t.wood@shef.ac.uk

*Corresponding Author

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Marc Goergen[*]
Cardiff University and European Corporate Governance Institute

Salim Chahine
American University in Beirut

Chris Brewster
University of Reading Business School

Geoffrey Wood
University of Sheffield Management School

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[*] **Corresponding author:** Marc Goergen, Cardiff Business School, Aberconway Building, Colum Drive, Cardiff CF10 3EU; tel: +44 (0)2920 876450; email: goergenm@cf.ac.uk

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1. INTRODUCTION

It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence.

(Arrow, 1975)

This is a study of variations in trust relations according to institutional setting. Corporate governance concerns the systems, processes and procedures that seek to regulate the relationship between owners, managers, employees and all stakeholders generally (Baker and Anderson, 2010). Persistent variations in such relationships and, indeed in relative firm and national performance have led to a proliferation of literature on the effect of institutions on the governance of firms, and the nature of social ties that emerge in different settings (see La Porta et al., 1998; Hall and Soskice, 2001; Hancke et al., 2007). Within economics and finance, much of the focus has been on the institutional foundations of formal individual rights (North, 1990; La Porta et al., 1998), and on the relationship between specific societal features, associational trust, and the choices made by rational actors (La Porta et al., 1997a; Knack and Keefer, 1997). However, this literature tends to neglect intra-firm trust. This paper seeks to redress this lacuna through bringing together the literature on systemic trust and the socio-economic literature on intra-firm trust. Hence, it aims to complement economics and finance based theorizing with recent theoretical developments in socio-economics. More specifically, first we attempt to explain cross-country differences in the institutional setting, in particular employment protection legislation and investor rights, by the level of trust prevailing in each country. Second, we investigate the impact of the institutional framework and country trust as well as firm trust on economic performance at the firm level.

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Trust deals with situations under asymmetric information; that is situations where the actions of an agent cannot be directly observed. '[...] trust or social capital[1] [is the] propensity of people in a society to cooperate to produce socially efficient outcomes and to avoid inefficient non-cooperative traps such as that in the prisoner's dilemma' (La Porta et al., 1997a, p. 333). Similarly, Knack and Keefer (1997, p. 1252) argue that: '[e]conomic activities that require some agents to rely on the future actions of others are accomplished at lower cost in higher-trust environments.' They provide examples of such activities, which are the provision of goods and services in return for future payments, tasks carried out by an employee which are difficult to monitor by a manager and investments that may be expropriated by the investee or the government. In other words, in higher-trust environments, economic agents tend to spend less time protecting themselves from getting expropriated, which suggests that trust is linked to security in private property rights.

While game theory suggests that cooperation, induced by trust, is not a rational strategy in repeated games (e.g. the prisoner's dilemma), leading to outcomes that are not socially optimal, results from experimental studies suggest that people trust complete strangers and expect a certain degree of cooperative behaviour from them, even if they may never see them again (La Porta et al., 1997a). As Marsden (1999) argues, contractual relations embody both specific and diffuse obligations, the relative extent of each varying from context to context. Diffuse obligations impart a greater degree of flexibility, but are contingent on trust, as they lack the 'safety net' of clearly specified rules. No contract can ever be complete: a greater reliance on formal rules may reduce, but never replace the need for trust relations. Hence, trust tends to be more important when interacting with complete strangers or with those dealt

[1] While La Porta et al. (1997a) do not explicitly make a difference between trust and social capital, most of the literature considers the latter to be a much more wide-ranging concept than the former. For example, Putnam defines social capital as 'features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions' (Putnam, 1993, p.167).

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with on an infrequent basis. This implies that trust tends to be more of an issue in large organizations, where people only interact infrequently with each other and reputations cannot be built up and penalties enforced. There is general agreement in the extant literature that trust has a positive effect on economic growth, investment and institutional performance (see Section 2). A number of studies have also investigated the determinants of trust. While the evidence is not as consistent as that on the link between trust and performance, the literature suggests that trust is determined by factors such as income inequality, ethnolinguistic and ethnic diversity as well as hierarchical religions. While the existing literature has analysed the effects and determinants of trust, we propose to investigate the relationship between trust and institutional setting. In particular, we are interested in the distribution of power and rights across the two corporate stakeholder categories of investors and employees.

Related to this is the wide body of comparative institutional literature focusing on variations in institutions, corporate governance and firm-level performance. However, the overwhelming majority of this literature is based on macro-level data and/or stylistic ideal types (sometimes supplemented by limited panels of case studies). In contrast, this study brings to bear both macro-level data, and comparative firm-level evidence. To our knowledge, this is the first paper that explains the relationship between institutional setting, defined in the broader sense of encompassing both investor and employment rights, the level of trust which exists within a given country, *and* the nature of trust within the firm, linking both to firm performance. The extant literature has focused on the impact of formal rights and relations on practice, and deals only with the indirect consequences of variations in trust relations, rather than how they are acted out within the firm. We find strong evidence of a positive impact of firm-level trust on firm performance. In addition, we find that firm-level trust may substitute for a lack of trust at societal level.

The remainder of this paper is organised as follows. The next section reviews the relevant bodies of the literature, and develops the hypotheses. Section 3 discusses the methodology and data sources. The next section then presents the empirical results, followed by the conclusions in Section 5.

2. LITERATURE REVIEW

The literature review is organised as follows. We start by reviewing the literature on both country and firm trust and their effect on economic performance. We then proceed by summarising the literature on the effects of both investor rights and employment protection legislation on the one side and economic efficiency on the other side. Finally, we flesh out the hypothesized relationships among all of the above as well as their effects on firm performance.

(i) Trust and Economic Performance

Country trust and economic performance

From a rational hierarchical starting point, there have been several attempts to explore the relationship between societal features and trust relations and, hence, economic performance within the economics and finance literature. Putnam (1993) studies the effects of the 1970 constitutional reform in Italy which created local governments for each of its regions. He investigates why the Northern governments have been fairly efficient whereas those in the South have failed. Putnam argues that the new governments in the North have succeeded because this part of Italy has had a long tradition of what he calls civic engagement, that is, 'active participation in public affairs' (p. 87). Members of a civic community are not just active, but they also trust each other, even when they do not share the same opinions on key issues. Putnam considers participation in horizontal associations to be a proxy for civic engagement. While horizontal ties between individuals encourage trust, strong vertical

associations within a country, in the form of a strongly hierarchical religion such as Catholicism, discourage trust.

Zak and Knack (2001) investigate the link between country trust and economic performance. They argue that low-trust environments result in a lack of investment. Their theoretical model is based on transactions within a social structure. The social structure determines the rewards for cooperation and the penalties for non-cooperation. In the model, trust is defined as the aggregate amount of time economic agents spend on production rather than on monitoring each other. Zak and Knack's model predicts the following. First, higher trust at the country level increases investment and economic growth. Second, homogeneous societies are more trusting and have therefore higher levels of investment and economic growth. Third, reducing income inequalities increases trust and consequently investment and growth; and vice versa.

Zak and Knack (2001) test their model on 44 countries. Their data source for country trust is the World Values Survey (WVS) database.[2] Trust is measured by the percentage of respondents in each country replying that 'most people can be trusted'.[3] They find evidence in favour of their three predictions. Knack and Keefer (1997) argue that trust between citizens can be a substitute for property rights and law enforcement in countries where the latter are weak. They also predict that high-trust societies will have longer investment horizons than societies where trust is low[4].

[2] The WVS covers 41 countries. Zak and Knack (2001) obtain another two country observations from the Eurobarometer surveys (Greece and Luxembourg) and another country observation from a government-funded survey in New Zealand.

[3] The alternative is that 'you can't be too careful in dealing with people'.

[4] Further, Knack and Keefer (1997) argue that norms of civic cooperation would also prevent citizens from opportunistic behaviour, and offer economic agents more time to spend on producing rather than on monitoring other economic agents. They find that economic growth and investment are positively related to the strength of civic norms.

La Porta et al. (1997a) use the same proxy for trust as Zak and Knack (2001) and Knack and Keefer (1997). They explain the efficiency of government,[5] participation,[6] the performance of large firms (measured by the aggregate sales of the top 20 firms as a percentage of gross national product (GNP)) and social efficiency by trust.[7] They find that trust has a significant impact on all of their four measures of performance. They also test the validity of Putnam's (1993) hypothesis on the negative effect of strong hierarchical religions on performance. They consider the Catholic, Eastern Orthodox and Muslim religions to be such religions. They find that countries where these religions are strongly represented have a less efficient judiciary system, greater degrees of corruption, inferior bureaucracies, lower tax compliance, lower rates of participation, a lower share of GNP generated by the largest 20 firms, lower quality infrastructures and higher inflation. While La Porta et al. find evidence that strong hierarchical religions nurture distrust, they do not find that ethnic heterogeneity as measured by ethnolinguistic heterogeneity reduces trust. In contrast, Knack and Keefer (1997) find that ethnolinguistic diversity reduces country trust.

What all these accounts have in common is the notion that a limited range of demographic and institutional features directly or indirectly (in terms of moulding trust relations) shape the choices of rational actors (c.f. Boyer, 2006, p. 15; Goergen et al., 2009, p. 621-622). With this comes strong notions of path dependency; sub-optimal societal and institutional features will result in sub-optimal corporate governance, and inferior economic outcomes. Only through institutional substitution can such problems be resolved (Hansmann and Kraakman, 2003, p. 67). The alternative socio-economic approach to institutions, epitomized by the literature on

[5] They employ four different measures of the efficiency of government: judiciary efficiency, the level of corruption, bureaucratic quality and tax compliance.

[6] They distinguish between civic participation and participation in professional associations.

[7] They use seven different measures of social efficiency: the quality of infrastructure, its adequacy, infant mortality, the percentage of the population with a high school education, the adequacy of the educational system, inflation and GDP growth.

comparative capitalisms, takes a rather more firm-centred approach to corporate governance (Hall and Soskice, 2001; Whitley, 2010; Hancke et al., 1997). The firm is seen as enmeshed in a web of social relations, mediated and reconstituted by institutions. Whilst devoting only limited direct attention to systemic trust, the literature suggests that, in some contexts, social ties are denser than in others (Hall and Soskice, 2001; Hancke et al., 2007). In contexts with denser ties, epitomized by the coordinated markets of continental Europe (CMEs), exchange relations will become less 'arms length' (ibid.), suggesting that trust assumes greater importance. This categorization is somewhat at odds with the economics and finance literature which suggests the importance of hierarchical religions; for example, Catholic countries such as Belgium, France and Austria are located within the CME category (Hall and Soskice, 2001).[8] The literature on comparative capitalisms recognizes that embedded societal features such as culture and religion matter, but that they do not assume over-riding importance, and that they are mediated by other sets of relationships both within the firm, and between the firm and other players. This raises the question as to the specific nature of and variations in trust within the firm, an issue largely neglected in the economics and finance literature.

Firm trust and economic performance

In contrast to the literature on country trust, the literature on intra-firm level trust is largely rooted in the socio-economic tradition. Frisby (1992) argues that there is a fundamental tension between the formal codification of exchange relationships, making for predictability and continuity, and interpersonal trust, which inevitably incorporates a more informal and subjective dimension. The former will be more pronounced in the case of regular

[8] Another difference would be the use of the measure of large firm performance. The socio-economic literature suggests that different firm types assume prominence in different settings (Hall and Soskice, 2001). Hence, the relative strong performance of large firms in the United Kingdom (Hannah, 2006) would not be taken as either a reflection of better trust relations or systemic superiority.

interpersonal interactions. There might therefore be an argument that intra-firm trust, engendered by regular interaction, communication and reciprocity (Lane, 1998, p. 14; Sako, 1998, p. 102), is a substitute for country trust and weak institutions. Whilst low trust situations will be reflected in the more ready termination of contractual relations, and hence, permit greater flexibility, the costs will include a reduced willingness to share knowledge and ideas (see Cooter, 2000; Hancke et al., 2007). In addition, the lower transaction costs created by trust within the firm may be correlated with better firm performance.

Whilst there is a great deal in common between firm-level trust and that exhibited at societal level, there are some important differences. The firm results from the actions of individuals, but assumes independence from them (ibid.). Hence, control systems may reward trusting behaviour, with their functionality depending on self-interest without necessarily being contingent on everybody being trusting. However, informal interactions and formal organisational structures and procedures co-exist and support each other (Lane, 1998, p. 14). In his classic writings on inter-personal and societal relationships, Simmel (1981) noted that there was a major difference between exchange relationships involving close individuals and more objective exchange relationships involving those without the same degree of familiarity. Less personal, more objective exchange relationships have the advantage of more ready interchangeability, but make for a greater formality, and less flexibility and, as many contracts are not totally complete, considerable room for inefficiency and misunderstanding (Simmel, 1981). Of course, firms can and do interact with external individuals and associations on an ongoing basis, but this is unlikely to be vested with the depth of familiarity that exists between the organisation and its employees. In short, intra-firm relations entail a close coexistence and interaction between formal ways of doing things, and individual subjective choices. Trust relations are continuously reconstituted through individual actors and the choices they make (Giddens, 1990). In contrast, the literature on institutionally

generated trust primarily focuses on institutions as sources of trust. Whilst institutions are themselves reconstituted through the activities of agents, this process is very much more indirect and complex (Lane, 1998, p. 15; Giddens, 1990).

Quite simply, formal rules and procedures within the firm are, of course, more readily changed than wider institutional structures. This means that firms can and do adopt policies and processes that compensate for weaknesses at systemic level, without necessitating difficult and uncertain systemic reform (Crouch, 1995). Both high and low levels of country trust impose costs, the former in terms of rigidities and the latter in terms of unpredictability (see Simmel, 1981; Frisby, 1989 and 1992). Hence, high or low levels of country trust may be compensated for by firm level policies and practices that have converse effects (c.f. Giddens, 1990). Indeed, close cooperation in day-to-day tasks does not mean that parties may not be intrinsically antagonistic in their strategic dealings (Whitley, 2010, pp. 386-387). The latter is more affected by broader institutional constraints and 'legacy modes of exchange', and less through close inter-personal interactions (ibid.).

Much of the contemporary literature on institutions and trust focuses on macro-economic outcomes. However, the performance of individual firms is contingent on the quality and nature of both external and internal relationships, with trust being a key dimension (see Whitley, 1999; Hancke et al., 2007; Simmel, 1981). As noted earlier, internal relationships are more likely to be subjective, personal and malleable, and the external relationships impersonal and objective. The interaction between the two, and their specific strengths and weaknesses, forms the basis of relative competitive advantage and organizational performance (Hancke et al., 2007).

(ii) Institutions, Systemic Rights and Economic Performance

Central to the literature on country trust is the notion that trust relations flow from institutions (Lane, 1998). Institutions themselves represent embedded clusters of relationships, rules and norms, formal and informal; formal systemic rules may impact not only on the choices made by individuals, but on the relationships between them (Simmel, 1981). Institutional approaches within the economic and finance literature assume that there is a close relationship between formal owner and worker rights on the one hand and country trust relations on the other. Specific societies are associated both with particular institutional frameworks (and hence, variations in relative owner versus worker rights) and trust relations. Both formal rights and systemic trust will impact on the choices made by rational actors and, hence, firm and ultimately macro-economic, performance.

Investor rights and economic performance

While La Porta et al. (1997b; 2000a) have not focused on direct measures of economic performance such as GDP-per-capita growth, they have nevertheless provided a tentative answer to the question as to whether investor protection fosters economic growth. For example, La Porta et al. (1997b) find that countries with good investor protection have capital markets that are broader (with a larger number of listed firms) and deeper (more liquid) than countries with weak investor protection. Further, La Porta et al. (2000a) report that firms from countries with higher levels of shareholder protection have larger dividend payouts.

While La Porta et al. (2000b) claim that strong economic growth can only be achieved through well developed stock markets, the literature on comparative capitalisms or varieties of capitalism (VOC) (see Amable, 2003; Hall and Soskice, 2001) adopts a somewhat different approach. Indeed, contrary to the law and finance literature which argues strongly in favour of a hierarchy of institutional settings, the VOC literature is based on the concept of

complementarities (see Hall and Soskice, 2001; Hancke et al., 2007). In other words, there is no one optimal institutional framework. As the VOC literature sees institutions as being embedded within networks of relationships, countries with weak investor rights may still achieve economic outcomes that are comparable to those achieved by countries with strong shareholder protection via different sets of complementarities.

Employment protection and economic performance

Deelen et al. (2006) provide a review of the theoretical and empirical literature on the impact of employment protection legislation (EPL) on investment in human capital, employment and unemployment and economic performance. EPL is defined as the institutional features 'related to the dissolution of matches between firms and workers', encompassing 'administrative and legal procedures including notice periods, severance pay and firing taxes. These arrangements may be the result of government legislation, collective labour agreements and/or individual contracts' (p. 15). They argue that, from a theoretical point of view, EPL has both positive and negative effects. The positive effect of EPL stems from the fact that it provides insurance against income risk (see e.g. Fella, 2006; Pissarides, 2001 and 2004), mainly provided via severance pay and notice periods. Although this may make it more likely that the worker in question is less productive, the gains from this insurance may be sufficiently high to outweigh the negative effects. However, better capital markets reduce the costs for workers to save and borrow in order to protect themselves against the risk of unemployment. In other words, this suggests a negative link between EPL and the role of capital markets, in particular the protection of small investors.

In terms of the impact of EPL on productivity, it has been argued that EPL has a positive effect as it encourages *specific* investments in human capital (e.g. Belot et al., 2007; Nagypál, 2002). The latter would include the acquisition of job-specific skills. However, this positive, welfare effect, of EPL is only realised if the economy starts in a situation of underinvestment,

prompted by concerns that the other party will expropriate any gains from investment via ex post bargaining. Again, EPL allows for clearer and more familiar rules governing the employment contract, making for more efficient and predictable exchange relations (Marsden, 1999).

In their review of the empirical literature of the impact of EPL on employment and economic productivity, Deelen et al. (2006) conclude the following. First, EPL decreases labour market flexibility and, in particular, the flows between employment and unemployment. Country-specific characteristics such as the rule of law and the economic situation mean that the impact of EPL (as measured by average elasticities) on employment, unemployment and labour supply is fairly limited. Second, EPL gives rise to equity concerns. It not only increases the duration of unemployment, but its benefits and costs are not shared equally across society. Indeed, EPL increases the employment rate among prime-age males, but it reduces the employment rate of first-time job seekers and women. Finally, there is as yet no consensus in the empirical literature as to the impact of EPL on productivity. For example, Nickell and Layard (1999), who study 20 OECD countries, do not find any relationship between EPL and productivity. They also report that employment protection and wage flexibility seem to act as substitutes. For example, in the USA, increased wage flexibility makes it possible to keep staff turnover to a minimum, despite the weak EPL. Conversely, Bartelsman and Hinloopen (2005) find a significantly negative effect of EPL on investment in information and communication technology (ICT) as a share of total investment. Based on their study of 13 OECD countries, they conclude that firms from countries with low EPL are more likely to make risky investments resulting in blue-skies innovation whereas those from countries with high EPL are more likely to favour incremental innovations. Finally, Belot et al. (2007) find an inverse U-shaped relationship between EPL and GDP growth for 17 OECD countries. At low levels of EPL, an increase in EPL has a positive impact on economic

performance, but beyond a certain threshold the effect of EPL becomes negative. Belot et al. argue that the optimal level of EPL varies across both countries and industrial sectors and is likely to be higher in industries where firm-specific skills are important.

(iii) Trust, Rights and Performance: The Testable Framework

While prior research focuses on the association between trust and macro-economic outcomes, this paper examines the effect of trust on firm performance across different institutional settings. Since the performance of individual firms depends on both external and internal relationships, we use both firm-level and country-level trust as explanatory variables, and we expect both of them positively to affect firm performance. We also added both employee and investor rights that are expected to influence firm performance positively.

Our testable framework is in line with Pagano and Volpin's (2005) model which explains the levels of investor and worker rights within a country. Their model distinguishes between three social classes: managers, workers and *rentiers*. The latter social class consists of individuals who are wealthy enough to live off their investment income and who hold stakes in the managers' firms. In Pagano and Volpin's model, the balance between worker and investor rights is the outcome of the distribution of power across the three social groups. Hence, we expect there to be a negative relationship between employee rights and shareholder protection.

In line with Knack and Keefer (1997), we expect country trust to be a substitute for weak institutions. Hence, we hypothesize a negative relationship between employment rights and investor rights on one side and country trust on the other side. To sum up, we predict that country trust is a substitute for both investor rights and employee rights, that the latter two are negatively linked and that firm performance is positively affected by all three.

Finally, we also expect that firm trust acts as a substitute for country trust. In other words, individual firms may be able to create high trust environments within their organisation which may substitute for the lack of trust at the country level. To reflect this substitution effect, later on in our regression analysis we add an interactive term between country trust and firm trust.

Figure 1 summarises the hypothesized relations (including their signs) between the main variables of interest, that are country trust, investor rights, employee rights, firm trust and their effects on firm performance. The figure also indicates any possible substitution effects via the use of bidirectional arrows. There are two such potential substitution effects in the figure. The first one concerns investor rights and employee rights, reflecting the premise of much of the law and finance literature that the two cannot jointly be strong. The second one is the substitution effect of firm trust which reflects the possibility that firms based in low-trust countries may be able to create high-trust environments substituting for the lack of trust at the national level.

[Figure 1 Near Here]

It is important to note here that, while we instrumentalise country trust by institutional and cultural factors such as religion, linguistic diversity, and law enforcement, these factors do not form part of our main variables of interest. In other words, the paper does not focus on the conditions behind the emergence of country trust nor does it explain the conditions under which firm-level trust prospers.

3. DATA AND METHODOLOGY

Our firm-level data consist of 3,053 observations for 19 OECD countries as well as Russia and South Africa from the 2009/10 wave of the Cranet survey on employment practices (full details of these surveys can be found at Brewster, Mayrhofer and Morley, 2004 and Parry, Stavrou-Costea and Morley, 2011). These surveys are conducted every four to five years and cover all major sectors within the target economies. The Cranet survey measures human resource directors' (or equivalents in non-quoted firms) perceptions of firm performance. 70% of respondents are at HR director level and the others are either CEO's or specialists.

Given the commercial and strategic sensitivity of the questions asked by the Cranet surveys, responses are anonymised. Hence, while the data from the Cranet surveys are much more granular and extensive than can be obtained from publicly available sources, they also suffer from the disadvantage that they cannot be matched with publicly available and audited accounting data.

(i) Our Testable Model

In line with our testable framework in Figure 1, we estimate the following equations to test our main hypotheses at the firm level. The equations also specify the hypothesised sign for each variable's coefficient. We shall further elaborate on the coefficients' signs below.

$$\begin{aligned} Employee\ Rights = {} & \delta_1 - \delta_2 Country\ Trust - \delta_3 Investor\ Rights + \delta_4 Ln\ GDP\ per\ Capita \\ & - \delta_5 Number\ of\ Lawyers + \delta_6 RuleofLaw - \delta_7\ Linguistic\ Diversity \\ & - \delta_8 Hierarchical\ Religion + \varepsilon_1 \end{aligned} \quad (1)$$

$$\begin{aligned} Investor\ Rights = {} & \phi_1 - \phi_2 Country\ Trust - \phi_3 Employee\ Rights + \phi_4 Ln\ GDP\ per\ Capita \\ & - \phi_5 Number\ of\ Lawyers + \phi_6 RuleofLaw \\ & - \phi_7\ Linguistic\ Diversity - \phi_8\ Hierarchical\ Religion + \varepsilon_2 \end{aligned} \quad (2)$$

$$\begin{aligned} CountryTrust = {} & \varphi_1 + \varphi_2 Ln\,GDP\ per\ Capita - \varphi_3 Number\ of\ Lawyers \\ & + \varphi_4\ RuleofLaw - \varphi_5\ Linguistic\ Diversity \\ & - \varphi_6\ Hierarchical\ Religion + \varepsilon_3 \end{aligned} \tag{3}$$

$$\begin{aligned} Firm\ Performance = {} & \beta_1 + \beta_2 Firm\,Trust + \beta_3 Country\,Trust + \beta_4 Investor\ Rights \\ & + \beta_5\ Employee\ Rights + \beta_6 Ln\,GDP\ per\ Capita \\ & + Industry\ dummies + \varepsilon 4 \end{aligned} \tag{4}$$

The variables in equations (1) to (4) are defined as follows.

Dependent variables

Employee Rights is identical to the measure used by Pagano and Volpin (2005). It is the OECD index of the strictness of employment protection legislation (EPL). This index is based on the year 2003 and is available for 28 of the currently 30 member countries of the OECD in addition to a list of selected non-OECD countries.[9] The index is on a scale of 0 to 6. The higher the index value, the stricter is the employment protection legislation in the given country (see OECD, 2008, for further details).[10]

We use Djankov et al.'s (2008) anti-self-dealing index to measure the level of protection enjoyed by minority shareholders and we refer to this measure as *Investor Rights*.[11] The anti-self-dealing index focuses on transactions of corporate self-dealing, i.e. self-dealing by the controlling shareholder, and counts the number of hurdles that the controlling shareholder will have to jump to engage in these transactions.

[9] The measure is not available for Iceland and Luxembourg.

[10] See also www.oecd.org/employment/protection.

[11] As a robustness check, we used the anti-directors-rights index from La Porta et al. (1997b, 1998), and the results remained consistent. Nevertheless, according to Djankov et al. (2008), the anti-self-dealing index has a stronger theoretical basis than the latter one which was constructed in a fairly 'ad hoc' way (see La Porta et al., 1997b, 1998, for further details).

Our measure for *Country Trust* is identical to that used in the previous literature (e.g. La Porta et al., 1997a; Knack and Keefer, 1997). It is sourced from the World Values Survey (WVS) from the late 1990s and consists of the percentage of respondents in each country who answer yes to the following question: 'Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?'

We use three different measures of firm performance. The first two are relative measures of performance, expressing firm performance relative to the industry. These measures are *Industry-adjusted Stock Performance* and *Industry-adjusted Profitability*. Both measures are based on the following question in the Cranet survey: 'Compared to other organisations in your sector, how would you rate the performance of your organisation?' Respondents are asked to rank the stock performance and the accounting profitability, respectively, of their firm on a Likert scale of 1 to 5 where 1 stands for 'poor or at the low end of the industry', 2 is 'below average', 3 is 'average or equal to the industry', 4 is 'better than average' and 5 is 'superior'. As an alternative, we use *Profitability* which is an absolute measure of performance. This measure is based on another question from the Cranet survey. That measure ranges from 1 to 5. Values of 5, 4, 3, 2, and 1 mean that gross revenue over the last three years has been well in excess of costs, sufficient to make a small profit, enough to break even, insufficient to cover costs, and so low as to produce large losses, respectively. So, while *Industry-adjusted Stock Performance and Industry-adjusted Performance* are net of differences in firm performance that are driven by higher national economic growth *Profitability* is not.

The paper relies on the reporting of managers of the performance of their organisation. It can be argued that externally audited company reports may represent a more reliable measure. Although, as stated above, the data cannot be matched with accounting data, Dess and Robinson (1984) found a strong correlation between managerial reporting of return on assets

and external, independent measures, a finding echoed by later research (Geringer and Herbert, 1991; Powell, 1992). Further research has demonstrated that, provided subjects are at a senior enough level (which is the case for the Cranet respondents), subjective and objective measures of performance converge and their relationships with independent variables are equivalent (Wall et al., 2004; c.f. Delaney and Huselid. 1996). Nonetheless, we recognize the limitations of our approach, and the value of studies making usage of externally audited company data.

In order to measure *Firm Trust*, we base ourselves on a number of factual questions in the Cranet survey that focus directly on specific aspects of trust at the firm level. One is the degree to which managers are prepared to delegate decision making to employees and empower them (Fearfull and Dowling, 2011, p. 179; Collings and Wood, 2009; Tzafrir, 2005; Lane, 1998; Hancke et al. 2007). This would encompass collective bargaining and joint consultative committees (Brewster et al., 2007) and the provision of direct communication: do managers trust workers sufficiently to share information with them? Profit sharing improves trust within firms. Tzafrir (2005, p. 1602) argues that contingent pay is a risk on both sides, with managers embarking on a more administratively complex system that introduces inevitable uncertainty, trusting that employees will exert greater effort. From their side employees embark on extra effort, trusting that managers will pay more (Wood 2008). Another indicator may be the extent to which organizations promote their own staff. In other words, whether they rely on the external labour market to plug resource needs, or whether they trust their own employees sufficiently to promote them (Tzafrir, 2005; Collings and Wood, 2009). Security of tenure is also an indicator of trust. Dense inter-personal ties can only develop when there are strong continuities in relationships (see Lane, 1998; Hancke et al., 2007). Whitley (1999) argues that a key dimension of employer-employee interdependence is security of tenure (see also Lane, 1998). As such, we use staff turnover as

a proxy for security of tenure. A final indicator of trust relations is training and development. Tzafrir (2005) argues that managers are more likely to invest in their people when trust is high, given that they have to take the risk that employees will make proper advantage of the training opportunities afforded, and not use their new skills to seek better work elsewhere. However, as Goergen et al. (2009) note, training may assume many different forms. Firms with very high staff turnover rates may spend a great deal on basic induction training: even highly deskilled jobs require a basic degree of dexterity that involves some development (ibid.). Hence, in considering investment in training and development, it is not just the number of workers engaged in training, but also the average duration that matters. In other words, is more than a basic set of skills provided?

Primary explanatory variable

Firm Trust is calculated using the 64 questions in the survey that are relevant to the five indicators of firm trust noted above, i.e. (1) direct and indirect staff communication (31 questions), (2) profit sharing (26 questions), (3) internal promotion (1 question), (4) staff turnover (1 question), and (5) training (5 questions) (see Appendix 1 for further information on all of these questions).

For the first three indicators, we calculate the proportion of positive answers out of the total of 58 questions. In contrast, the fourth and fifth indicators cover questions referring to the percentage of staff turnover, the number of days of training for each of the four types of employees that Cranet distinguishes between[12] as well as a question referring to the percentage of annual payroll costs spent on training. Hence, these are not dichotomous questions in contrast to those for the previous three indicators. Therefore, we first turn these variables into discrete form as follows. For staff turnover, if the percentage of annual staff

[12] Cranet distinguishes between managers, professional employees, clerical employees, and manual employees.

turnover is lower than the median across all the firms from all the countries in the sample (the 'sample median'), then we assign the variable a value of one (high trust), and otherwise a value of zero. For the training and development indicator, if the answer for a given firm is higher than the sample median, we assign the variable a value of one (high trust), and otherwise a value of zero. We then add the number of the six questions with a one for indicators four and five to the number of positive questions from the first three indicators. Finally, we divide this sum by the total number of questions. Hence, firm trust potentially results in values ranging from zero to one.

Control variables

Our control variables include the logarithm of GDP per capita in 2008 as a measure for the country's wealth. This comes from the World Development Indicators by the World Bank, as used by Djankov et al. (2008). Finally, we include the following industry dummies based on the Cranet industrial sectors: Agriculture, Hunting, Forestry, Fishing; Energy and Water Industry; Chemical Products; Manufacturing; Building and Civil Engineering; Retail and Distribution; Transport and Communication; Banking and Finance; Personal and Recruitment Services; Health Services; Others (including education and other services).

(ii) Methodology

In order to perform our analysis, we need to improve the accuracy and efficiency of our predictions as to the effects of our primary country-level variables on firm performance. The methodological issue we face is that the three variables *Employee Rights*, *Investor Rights* and *Country Trust* in equation (4) are endogenous variables. Ordinary least squares (OLS) would thus produce biased and inconsistent estimates even in large samples (see, for example, Brooks, 2008).

To deal with this endogeneity, we use the instrumental variable (IV) method, where we estimate equations (1), (2) and (3) for our three main country-level variables as first-stage regressions. We then use the *fitted* or *predicted* values of each of these variables in equation (4). In addition to running these OLS regressions based on the fitted values, we also use 3-stage least squares (3SLS) regressions to estimate the system of equations (1) to (4). Possible efficiency gains may result from the existence of within and across equations correlations in the error terms of equations (1) to (4). Thus, 3SLS reduces the standard errors of our estimates and improves the accuracy of our predictions (Davidson and MacKinnon, 2009; Greene, 2012).

In line with the literature, it is suggested that *Employee Rights* is negatively correlated with both *Country Trust* and *Investor Rights* in equation (1), and *Investor Rights* is negatively correlated with both *Country Trust* and *Employee Rights* in equation (2). We use the following instruments. The first one is the *Rule of Law,* from Kaufmann et al. (2007). The index ranges from -2.5 (worst governance) to +2.5 (best governance). We predict that the extent to which a country benefits from adequate law enforcement improves the rights of investors as well as those of employees. Similarly, we use the logarithm of GDP per capita in 2008 as an instrument, and we expect the level of *Investor Rights* to depend on the former.

Although country trust does not vary substantially across time (see La Porta et al., 1997a, for a discussion), it has been shown to depend positively on the economic wealth per inhabitant, as measured by the logarithm of GDP per capita. Country trust has also been shown to depend negatively on the number of lawyers per population (in millions), the degree of ethnolinguistic diversity and the percentage of the population belonging to a hierarchical religion.

Number of Lawyers is the ratio of the number of lawyers in each country (which is obtained from various sources including the Council of Bars and Law Societies of Europe (CCBE) and

the American Bar Association) over that country's number of inhabitants (in millions) in 2004 (from the World Development Indicators). The number of lawyers per million of inhabitants measures the litigious nature of a country's culture. Murphy et al. (1991) argue that there is a relationship between the number of lawyers in a country and the amount of rent-seeking and litigation.

The index of ethnolinguistic diversity is from Gordon (2005). The index is defined as the probability that any two randomly chosen inhabitants of a given country will have different mother tongues (Lieberson, 1981). The maximum possible value of 1 corresponds to total diversity (i.e., no two inhabitants have the same mother tongue) while the minimum possible value of 0 corresponds to no diversity at all (i.e., everybody has the same mother tongue). The percentage of the population belonging to a hierarchical religion is from La Porta et al. (1997a). Both variables have been shown to reduce country trust. See Appendix 2 for the detailed definitions of all the variables used in this study.

4. EMPIRICAL RESULTS

Table 1 presents the descriptive statistics for the entire sample. Panel A of the table focuses on the firm-level variables. The panel shows that average *Industry-adjusted Stock Performance* is 3.028. This is in line with what one would expect: the average firm's stock performance is in line with its industry's stock performance (a value of 3 meaning that performance 'is average or equal to the industry'). As the median is close to the average, there is no evidence that this measure is skewed. The average for *Industry-adjusted Profitability*, i.e. accounting performance, is 3.464 whereas the median is 3.000. The average and median values for *Profitability* are roughly 4, suggesting that the average and median firms make a small profit. The sample observations for all three measures of firm

performance range from 1 to 5 which suggests that there is sufficient variation in these measures. *Firm Trust* ranges from 0 to 0.875, with an average value of 0.486 and a median of 0.484. This suggests that there is some variation in this variable. Hence, one can safely say that our sample includes low-trust as well as high-trust firms.

Panel B of Table 1 reports the descriptive statistics for each of the country-level variables for each of the 21 countries covered by this study. The two countries with the lowest level of trust are France and South Africa where only roughly 19% of respondents agreed that most people can be trusted. In contrast, trust is highest in Denmark and Norway with roughly 67% and 70% of respondents, respectively, agreeing that most people can be trusted. The USA has the lowest level (0.21) of employee rights across all the countries surveyed and France the highest level (3.05) whereas investor rights range from 0.20 for Hungary to 0.93 for the UK. Japan has the highest GDP per capita with US$37,549 whereas Russia has the lowest one with US$1,784. The number of lawyers per million inhabitants ranges from 172 in Japan to roughly 4,600 in Israel. The rule of law is weakest in Russia with -0.780 whereas Switzerland is close to best possible governance with 2.360. The countries surveyed also display substantial cultural differences. Linguistic diversity is lowest in Japan where the probability that two randomly selected inhabitants have different mother tongues is virtually nil and highest in South Africa where the equivalent probability is 86.9%. Finally, the percentage of the population following a hierarchical religion is lowest in Norway with about 3% and highest in Greece with roughly 100%. The table in Appendix 3 shows the correlation matrix for all the variables used in this study.

[Table 1 Near Here]

While Panel B of Table 1 suggests that countries with high levels of employee rights tend to have relatively low levels of investor rights (e.g. France) and vice-versa (e.g. the USA), there are nevertheless countries that manage to have relatively high levels of both (e.g. Belgium and Norway). There are clear limits to the conclusions that one can draw from such univariate analysis as the example of Russia suggests. While Russia has both relatively high levels of employee rights and investor rights, law enforcement is low.

Table 2 shows the results from the IV regressions. The results from estimating the first-stage OLS regressions are reported in columns (1), (2) and (3). The coefficients on the instruments are all highly significant (all at the 1% level), suggesting that the instruments are appropriate and the signs are as expected. The regression on country trust in column (3) generally confirms the results from the existing literature. In detail, as per our expectations and in line with previous empirical evidence, country trust in the regression in column (3) is positively correlated with GDP per capita and negatively related to both linguistic diversity and the proportion of the population following a hierarchical religion. The instruments are also strongly correlated with employee rights in column (1) and investor rights in column (2). It is worthwhile noting that the proportion of the population following a hierarchical religion has a significantly positive impact on employee rights, but a negative effect on investor rights. This may reflect the focus on employee rights rather than on investor rights of Christian socialist governments in the social democracies of Continental Europe. The strong correlation between the two variables (0.539; see Appendix 3) gives credence to this argument.

[Table 2 Near Here]

More importantly and also in line with our expectations, the results suggest that both employee rights and investor rights are negatively correlated with country trust (at the 1% significance level). Hence, country trust seems to act as a substitute for strong institutions. This result is also in line with La Porta et al. (1997a).

The estimation results for equation (4) are reported in columns (4a) to (4f). The results suggest that firm trust has a highly significant (at the 1% level) and positive impact on firm performance: this is the case for all three measures of firm performance. Surprisingly, country trust has a significantly negative impact on firm performance in column (4a). However, when an interactive term between firm trust and country trust is included in the regression (see column (4b)), the sign on the country trust coefficient changes from negative to positive while the coefficient on the interactive term is negative and highly significant. This suggests that firm trust and country trust act as substitutes. In other words, a high trust environment at firm level may substitute for strong trust at country level. Similar to regression (4a), regression (4d) based on *Industry-adjusted Stock Performance* and regression (4f) based on *Profitability* suggest a positive effect of firm trust on performance and a negative effect of country trust. However, in contrast to regression (4b), the interactive term between firm trust and country trust is not significant in regressions (4d) and (4f). The question arises as to the sign and magnitude of the overall effect on performance of firm trust and country trust. The overall effect of firm trust and country trust on firm performance is always positive for the range of values that firm trust and country trust take on in our sample. This is the case for all of the regressions, independent of whether they include an interactive term or not. Figure 2 illustrates this based on two of the regressions from Table 2. Panel A of Figure 2 shows the overall effect of firm trust and country trust on *Industry-adjusted Stock Performance*, based on the coefficient estimates from regression (4b) from Table 2. The overall effect on performance is measured at the 25^{th} percentile and the 75^{th} percentile for

Firm Trust and *Country Trust*. The top part of Panel A shows the overall effect on performance for *Country Trust* measured at the 25th percentile (0.250), and *Firm Trust* measured at the 25th percentile (0.406) and the 75th percentile (0.578), respectively. The bottom of Panel A shows the equivalent effect for *Country Trust* measured at the 75th percentile (0.440) and, again, *Firm Trust* measured at the 25th percentile and the 75th percentile, respectively. The results are as follows. First, stock performance increases with *Firm Trust*. Second, the overall effect on performance of the two types of trust is highest for low levels of *Country Trust* combined with high levels of *Firm Trust*, suggesting that the latter is particularly important when there is very little trust at the country level. Similar conclusions can be drawn from Panel B of Figure 2 which is based on the coefficient estimates from regression (4c) from Table 2. In contrast to the regression which formed the basis for Panel A, this regression does not include an interactive term between *Country Trust* and *Firm Trust*. Nevertheless, the above two conclusions remain valid.

Finally, investor rights has a significantly positive impact on *Industry-adjusted Stock Performance,* which is consistent with La Porta et al. (1997b, 1998). However, the absence of a significant association between investor rights on the one side and *Industry-adjusted Profitability* and *Profitability* on the other side may be due to differences in ownership concentration across firms. This is consistent with Boonlert-U-Thai et al. (2006) who find no association between investor protection and earnings persistence, except for firms from countries with low ownership concentration which appear to have high earnings persistence. Similarly, Bruno and Claessens (2010) report that the effect of country-level investor protection on firm performance and valuation is not uniform across companies as it also depends on firm-level governance practices. They find that in some cases more stringent corporate governance regulation reduces firm valuation by reducing managerial discretion. Hence, the effect of investor protection on firm profitability is not necessarily uniform. In

addition, the level of employee rights has a significantly negative impact on *Profitability*. This suggests that firms operating in countries where employee rights are well protected may find it difficult to downsize and hence to avoid hefty losses when demand is down. However, the level of employee rights does not have any impact on the two industry-adjusted measures of firm performance. This makes sense as the level of employee rights would affect all firms from a given industry (and from the same country) in similar ways.

Table 3 reports the results for the robustness tests based on the alternative 3SLS estimation. The table reports the regression results for the three systems of regressions, each of which is based on one of the three different measures of firm performance. The results largely confirm those from Table 2. Indeed, in line with our expectations we find that both employee rights and investor rights depend negatively on country trust (both significant at the 1% level). This is the case for all three 3SLS estimations. We also find a consistently significant and positive effect of firm trust on all three measures of firm performance (at the 1% level in all regressions, bar regression (4f) where the significance level is 5%). Also in line with the results from Table 2, country trust has a significantly negative impact on performance.

Just as for the case of Table 2, the question arises as to the overall effect on firm performance of firm trust and country trust. This effect needs to be considered in the context of the significant and highly positive intercept. In contrast, the intercept in the performance regressions in Table 2 is not significantly different from zero. The answer to the above question is an overall positive effect of both types of trust on firm performance. For all three measures of performance, firm performance is highest for high-trust firms from low-trust countries. In turn, firms from low-trust countries with low intra-firm trust have the second highest performance, followed by high-trust firms from high-trust countries. Finally, low-trust firms from high-trust countries have the lowest performance. Overall, the results suggest that firm trust is a substitute for country trust (see also Figure 1). Bearing in mind that firms

from low-trust countries are likely to suffer from weak national institutions, such as low investor rights, the positive effect of firm trust on firm performance is likely to be particularly high for such firms.

In line with the regression results from Table 2, we find that the level of investor rights has a significantly positive impact on *Industry-adjusted Stock Performance*. This confirms the results from Table 2. In addition, the level of employee rights also has a significantly positive effect. This suggests that there is not necessarily a zero-sum game between increasing the rights of investors and increasing those of employees. This is contrary to what most of the law and finance literature argues. However and in line with Table 2, neither investor rights nor employee rights have a significantly positive effect on firm performance when the measure for firm performance is *Industry-adjusted Profitability*. When firm performance is measured by *Profitability* both investor rights and employee rights have a negative effect on firm performance. Again, the reason for the negative effect of employee rights on absolute firm performance may be the difficulty loss-making firms have in downsizing their workforce when employee rights are strong. The negative effect of investor rights is somewhat more difficult to explain. It might be the case that firms from countries with strong investor rights are less likely to over-report accounting profits, or that a focus on short-term investor returns weakens organisational capabilities, ultimately leading to sub-optimal performance by large numbers of firms (Aoki, 2010). In addition, firms from countries with strong investor rights, and hence well developed capital markets (see La Porta et al., 1997b and 1998), are more likely to face stiff intra-country industry competition than those from countries with weak investor protection (see Hall and Soskice, 2001). Note that the negative effect of investor rights on *Profitability* is only found for the 3SLS regressions and there is no such effect for the IV regressions. More importantly, our key results – that firm trust has a positive effect on

firm performance and acts as a substitute for country trust – are observed across all 12 performance regressions we run.

[Table 3 Near Here]

5. CONCLUSIONS

First, we found that country trust was negatively associated with hierarchical religion and linguistic diversity. Second, both investor rights and employee rights are weaker when country trust is stronger and vice versa. Third, we found that firm-level trust has a consistently positive effect on firm performance. This is the case for all three measures of firm performance employed in this study. Fourth, firm-level trust relations are more easily modified than the institutional foundations of country trust, and the former may be reconstituted to compensate for problems elsewhere in the system (c.f. Giddens, 1990; Crouch, 2005). However, the relationship is a two way one and, whilst institutional features may result in specific firm-level practices, the choices made by firms will eventually impact back on the wider systemic environment. For example, should country trust be weak, actors may be impelled to develop their more subjective and immediate trust relationships with each other, affecting how they interact with external institutions and players (Marsden, 1999).

To sum up, in looking for the first time at both macro and firm-level evidence we found persistent differences between countries in terms of trust relations exhibited at country and firm level. Moreover, we are able to provide unique evidence that the relationship between the latter two was a negative one. This could reflect the extent to which rules, relationships and practices may operate at one level to compensate for weaknesses elsewhere in the system (Crouch, 2005). This highlights the limitations of hierarchical approaches to institutions and

trust, and the need to take account of both external realities and ties and existing firm-level dynamics and relations in understanding trust. A lacuna in much of the comparative institutional literature has been a lack of attention to firm-level evidence, other than stylistic ideal types, sometimes supplemented by limited panels of case studies. In contrast, in bringing together firm-level and societal evidence, this paper provides much more detailed insights into variations in the nature of trust relationships. At the same time, this paper has clear limitations both in terms of temporal and spatial scope, and also in terms of the measurement of firm performance. This would point to the need for future comparative studies based on firm evidence taking account of changes, over a longer time frame, encompassing a wider range of economies and using audited performance data rather than self-reported measures of performance.

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Figure 1 – Hypothesized Linkages

Figure 1 summarises the hypothesized relations (including their signs) between the main variables of interest, that are country trust, investor rights, employee rights, firm trust and their effects on firm performance. The arrows state the direction of causality between a pair of variables; bidirectional arrows state interactive effects between two variables.

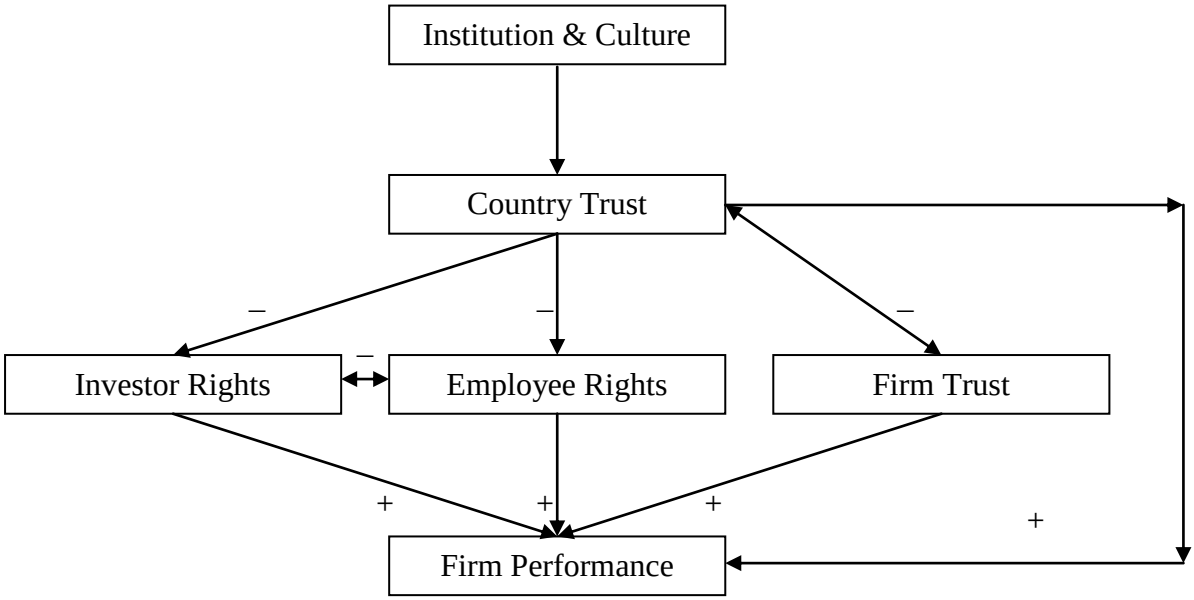
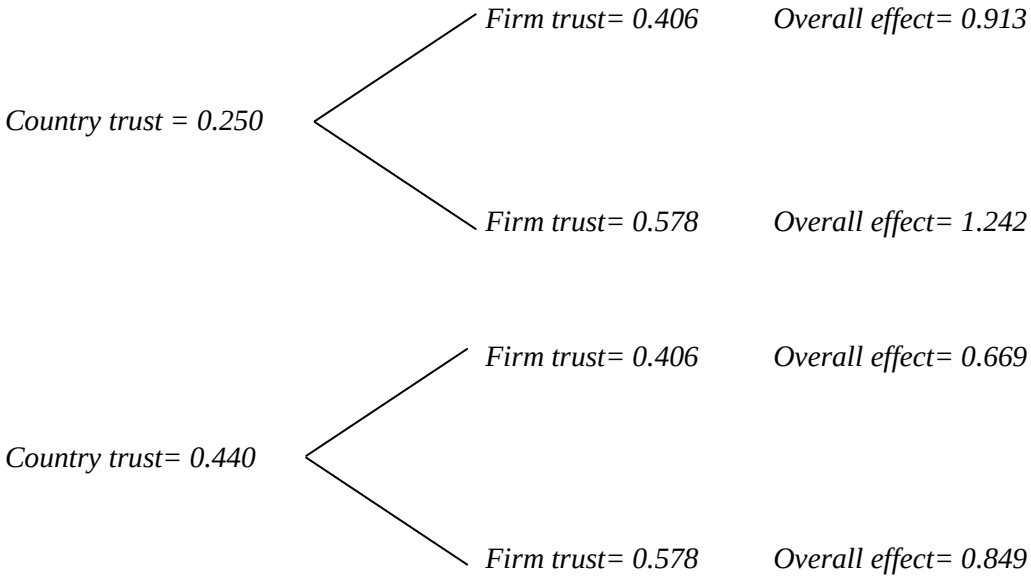


Figure 2 – Substitution Effect between Firm Trust and Country Trust

Figure 2 evaluates the overall effect of firm trust and country trust on firm performance. Panel A is based on the coefficient estimates from regression (4b) from Table 2 whereas Panel B is based on the coefficient estimates from regression (4c) from Table 2. The overall effect is obtained by evaluating the formula 3.041 x *Firm Trust* + 0.550 x *Country Trust – 4.523 Firm Trust* x *Country Trust* based on regression (4b) from Table 2 (Panel A) and the formula 2.574 + 1.097 x *Firm Trust* – 1.988 x *Country Trust* based on regression (4c) in Table 2 (Panel B). The lower and higher value for country trust and firm trust correspond to the 25th percentile and the 75th percentile, respectively (see Table 1).

Panel A: Overall Effect of Firm Trust and Country Trust on Industry-adjusted Stock Performance



Panel B: Overall Effect of Firm Trust and Country Trust on Industry-adjusted Profitability

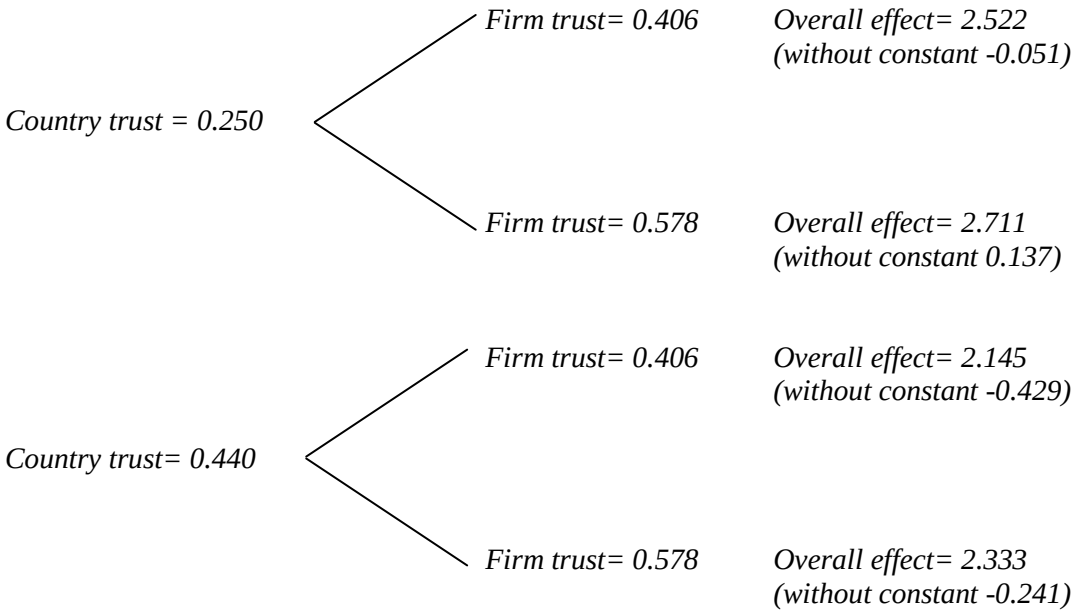


Table 1 – Descriptive Statistics

Table 1 presents the descriptive statistics for the entire sample consisting of 3,053 firm-level observations for 21 countries. Panel A reports the descriptive statistics for the firm-level variables and these are defined as follows. *Industry-adjusted Stock Performance* is equal to stock performance and ranges from 1 to 5. 1 stands for 'poor or at the low end of the industry', 2 is 'below average', 3 is 'average or equal to the competition', 4 is 'better than average' and 5 is 'superior'. *Industry-adjusted Profitability* is the equivalent measure for accounting performance. *Profitability* ranges from 1 to 5. It equals 1 if gross revenue over the last three years has been so low as to produce large losses, 2 if they have been insufficient to cover costs, 3 if revenues have been enough to break even, 4 if they have been sufficient to make a small profit and 5 if they have been well in excess of costs. *Firm Trust Percentage Index* includes five categories relevant to firm-level trust in the Cranet survey (1) staff communication, (2) profit sharing, (3) internal promotion, (4) staff turnover, and (5) training. It is equal to the percentage of positive answers out of the total of 64 collected questions. Staff turnover is equal to one (i.e., a positive answer) if the percentage of staff turnover is lower than the median value of turnover across all companies in all countries in the studied sample. Continuous questions for the training component are equal to one (i.e., a positive answer) if the number given in the answer is higher than the median value across all companies in all countries in the studied sample. Panel B reports the descriptive statistics for the country-level variables which are defined as follows. *Country Trust* is the percentage of respondents in each country who answer yes to the following question: 'Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?' *Investor Rights* is calculated based on Djankov et al.'s (2007) anti-self-dealing index. *Employee Rights* is the OECD index of the strictness of employment protection legislation (EPL). *LnGDP per Capita* is the logarithm of GDP per capita which comes from the World Development Indicators. *Number of Lawyers* is the ratio of the number of lawyers in each country divided by that country's number of inhabitants (in millions). *Rule of Law*, is the rule of law index (law enforcement) from Kaufmann et al. (2007). It ranges from -2.5 (worst governance) to +2.5 (best governance). *Linguistic Diversity*, the index of ethnolinguistic diversity, is defined as the probability that any two randomly chosen inhabitants of a given country will have different mother tongues. *Hierarchical Religions* is the percentage of the population belonging to a hierarchical religion.

Panel A: Firm-level Variables – Descriptive Statistics

Variable	Mean	Median	s.d.	Min	25^{th} Perc.	75^{th} Perc.	Max
Industry-adjusted Stock Performance	3.028	3.000	1.075	1.000	3.000	4.000	5.000
Industry-adjusted Profitability	3.464	3.000	0.938	1.000	3.000	4.000	5.000
Profitability	4.042	4.000	1.090	1.000	4.000	5.000	5.000
Firm Trust	0.486	0.484	0.133	0.000	0.406	0.578	0.875

Panel B: Country-level Variables

N	Country	Country Trust	Employee Rights	Investor Rights	GDP per Capita	Number of Lawyers	Rule of Law	Linguistic Diversity	Hierar-chical Religions
60	Australia	0.400	1.150	0.760	20,229	1794.290	1.990	0.387	0.309
157	Austria	0.334	1.930	0.210	23,808	549.745	2.100	0.540	0.860
201	Belgium	0.292	2.180	0.540	22,240	1215.992	1.290	0.734	0.880
41	Czech Republic	0.245	1.960	0.330	5,007	875.582	0.620	0.069	0.422
268	Denmark	0.665	1.500	0.460	29,672	831.300	1.990	0.051	0.020
128	France	0.213	3.050	0.380	22,216	674.921	1.440	0.272	0.910
54	Finland	0.574	1.960	0.460	23,200	317.895	2.060	0.140	0.015
360	Germany	0.337	2.120	0.280	22,750	1471.468	1.900	0.189	0.400
183	Greece	0.237	2.730	0.220	10,265	3048.975	0.660	0.175	0.999
105	Hungary	0.223	1.650	0.180	4,657	870.675	0.780	0.158	0.675
32	Israel	0.235	1.370	0.730	18,257	4602.190	1.090	0.665	0.165
371	Japan	0.431	1.430	0.500	37,549	172.197	1.720	0.028	0.003
89	Netherlands	0.601	1.950	0.200	23,300	782.656	2.020	0.389	0.393
49	Norway	0.653	2.690	0.420	37,165	935.550	2.210	0.657	0.028
53	Russia	0.240	1.920	0.440	1,784	761.074	-0.780	0.283	0.980
184	Slovak Republic	0.159	1.440	0.290	3,750	711.758	0.130	0.307	0.750
124	South Africa	0.189	1.250	0.810	2,910	1986.636	0.210	0.869	0.097
175	Sweden	0.663	1.870	0.330	27,033	459.186	1.950	0.167	0.017
78	Switzerland	0.370	1.140	0.270	33,443	954.858	2.360	0.547	0.436
118	United Kingdom	0.289	0.750	0.950	24,422	1986.636	2.050	0.139	0.173
223	USA	0.363	0.210	0.650	34,590	3843.947	1.770	0.353	0.290
	Mean	0.379	1.726	0.432	20,392	1300.522	1.500	0.287	0.404
	Median	0.363	1.870	0.421	22,750	870.675	1.770	0.189	0.393
	S.d	0.160	0.664	0.196	11,521	1068.284	0.696	0.234	0.356
	25^{th} Perc.	0.240	1.370	0.280	10,265	674.921	1.290	0.139	0.020
	75^{th} Perc.	0.431	1.960	0.499	27,033	1471.468	1.990	0.387	0.750

Table 2 – Firm Trust and Firm Performance: IV Method

This table reports the results of the IV regressions. To deal with the potential endogeneity of *Employee Rights*, *Investor Rights* and *Country Trust*, we use the instrumental variable (IV) method, where we estimate OLS regressions on these three main country-level variables as first-stage regressions (columns (1), (2) and (3)). We then use the fitted or predicted values of each of these variables to estimate equation (4) (columns (4a), (4b), (4c) and (4d)). Columns (4a) and (4b) contain the regressions based on *Industry-adjusted Stock Performance*, columns (4c) and (4d) contain the regressions based on *Industry-adjusted Profitability* and columns (4e) and (4f) contain the regressions based on *Profitability*. The regressions in columns (4b), (4d) and (4f) are those in columns (4a), (4c) and (4e) augmented by the interaction term between *Firm Trust* and *Country Trust*.

	Employee Rights	Investor Rights	Country Trust	Industry-adjusted Stock Performance		Industry-adjusted Profitability		Profitability	
	OLS	OLS	OLS	IV	IV	IV	IV	IV	IV
	(1)	(2)	(3)	(4a)	(4b)	(4c)	(4d)	(4e)	(4f)
Constant	0.194	-0.247***	0.183***	0.113	-0.562	2.574***	2.419***	4.361***	4.350***
	0.222	*0.059*	*0.041*	*0.465*	*0.526*	*0.319*	*0.361*	*0.422*	*0.464*
Firm Trust				1.453***	3.041***	1.097***	1.478***	1.259***	1.288**
				0.183	*0.610*	*0.126*	*0.431*	*0.157*	*0.535*
Country Trust	-0.272***	-0.254***		-1.692***	0.550*	-1.988***	-1.457**	-1.505***	-1.464*
	0.100	*0.026*		*0.400*	*0.305*	*0.275*	*0.636*	*0.344*	*0.792*
Firm Trust x Country Trust					-4.523***		-1.099		-0.083
					1.660		*1.188*		*1.461*
Investor Rights	-1.355***			0.629**	0.593**	-0.147	-0.158	0.000	-0.001
	0.063			*0.281*	*0.281*	*0.194*	*0.194*	*0.242*	*0.243*
Employee Rights		-0.096***		0.048	0.042	-0.099	-0.100	-0.301***	-0.302***
		0.005		*0.097*	*0.096*	*0.066*	*0.066*	*0.083*	*0.083*
Ln GDP per Capita	0.234***	0.123***	0.023***	0.196***	0.188***	0.112***	0.110***	-0.017	-0.017
	0.027	*0.007*	*0.005*	*0.046*	*0.046*	*0.031*	*0.031*	*0.039*	*0.039*
Number of Lawyers	0.000***	0.000***	-0.000***						
	0.000	*0.000*	*0.000*						
Rule of Law	-0.174***	-0.160***	0.043***						
	0.033	*0.008*	*0.006*						
Linguistic Diversity	0.167***	0.286***	-0.036***						
	0.045	*0.011*	*0.008*						
Hierarchical Religions	0.693***	-0.321***	-0.163***						
	0.044	*0.011*	*0.005*						
Industry dummies				Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.492	0.574	0.564	0.052	0.056	0.044	0.044	0.053	0.053
F-statistic	423.380	587.720	791.180	8.970	8.890	11.760	10.980	12.190	11.310
Prob(F-statistic)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 3 – Robustness Tests Using Three Stage Least Squares Method

	Employee Rights (1a)	Investor Rights (2a)	Country Trust (3a)	Industry-adjusted Stock Performance (4a)	(4b)	Employee Rights (1b)	Investor Rights (2b)	Country Trust (3b)	Industry-adjusted Profitability (4c)	(4d)	Employee Rights (1c)	Investor Rights (2c)	Country Trust (3c)	Profitability (4e)	(4f)
Constant	-0.113	-0.168	0.359***	-0.605	-1.175*	0.382	-0.246***	0.165***	2.446***	2.364***	-0.831**	-0.285***	0.254***	5.531***	5.475***
	0.439	*0.106*	*0.055*	*0.519*	*0.614*	*0.486*	*0.095*	*0.040*	*0.371*	*0.419*	*0.429*	*0.099*	*0.044*	*0.464*	*0.547*
Firm Trust				1.417***	2.301***				1.095***	1.286***				1.292***	1.416**
				0.182	*0.587*				*0.125*	*0.464*				*0.154*	*0.558*
Country Trust	-2.902***	-0.578***		-0.917*	0.866*	-4.540***	-0.033		-2.015***	-1.734**	-1.772**	-0.240		-2.673***	-2.506***
	0.708	*0.206*		*0.477*	*0.456*	*0.816*	*0.264*		*0.298*	*0.731*	*0.876*	*0.244*		*0.434*	*0.924*
Firm Trust x Country Trust					-2.585*					-0.554					-0.324
					1.550					*1.302*					*1.520*
Investor Rights	-3.161***			1.577***	1.762***	-2.875***			0.039	0.047	-3.685***			-0.860***	-0.855***
	0.584			*0.415*	*0.429*	*1.029*			*0.278*	*0.281*	*0.510*			*0.138*	*0.143*
Employee Rights		-0.257***		0.418**	0.485***		-0.155***		-0.069	-0.065		-0.265***		-1.476***	-1.459***
		0.048		*0.176*	*0.181*		*0.055*		*0.098*	*0.099*		*0.037*		*0.365*	*0.379*
Ln GDP per Capita	0.515***	0.154***	0.003	0.142***	0.136***	0.509***	0.122***	0.026***	0.114***	0.113***	0.574***	0.151***	0.015***	0.071	0.070
	0.077	*0.011*	*0.007*	*0.052*	*0.052*	*0.114*	*0.012*	*0.005*	*0.032*	*0.033*	*0.067*	*0.010*	*0.005*	*0.045*	*0.046*
Number of Lawyers	0.000***	0.000	-0.000***			0.000***	0.000	-0.000***			0.000**	0.000	-0.000***		
	0.000	*0.000*	*0.000*			*0.000*	*0.000*	*0.000*			*0.000*	*0.000*	*0.000*		
Rule of Law	-0.411***	-0.154***	0.070***			-0.269	-0.166***	0.040***			-0.558***	-0.163***	0.049***		
	0.127	*0.018*	*0.008*			*0.196*	*0.016*	*0.006*			*0.116*	*0.016*	*0.006*		
Linguistic Diversity	0.585***	0.223***	-0.077***			0.487	0.280***	-0.040***			0.868***	0.253***	-0.063***		
	0.193	*0.024*	*0.010*			*0.341*	*0.024*	*0.007*			*0.195*	*0.023*	*0.008*		
Hierarchical Religions	-0.548**	-0.189***	-0.164***			-0.616	-0.210***	-0.163***			-0.445*	-0.091*	-0.157***		
	0.271	*0.059*	*0.007*			*0.406*	*0.057*	*0.005*			*0.231*	*0.052*	*0.006*		
Industry dummies				Yes	Yes				Yes	Yes				Yes	Yes
R-squared	0.131	0.361	0.585	0.022	0.031	0.141	0.541	0.565	0.013	0.029	0.227	0.367	0.569	0.060	0.052
Chi 2	1336.080	2264.380	2642.230	137.320	137.250	2184.860	3460.110	3964.410	155.880	155.240	1841.850	2686.950	3429.810	184.660	184.340
Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

APPENDIX 1

The Five Firm Trust Index Components

I Staff Communication Component

1 Does your organisation have a communications policy?
2 Use representative staff bodies to communicate to employee
3 Communicate verbally to employees
4 Written communication direct to employees
5 Electronic communication to employees
6 Team briefings to employees
7 General communication to employees
8 Other communication to employees
9 Management formally briefed about business strategy
10 Management formally briefed about financial performance
11 Management formally briefed about organisation of work
12 Professional formally briefed about business strategy
13 Professional formally briefed about financial performance
14 Professional formally briefed about organisation of work
15 Clerical formally briefed about business strategy
16 Clerical formally briefed about financial performance
17 Clerical formally briefed about organisation of work
18 Manual formally briefed about business strategy
19 Manual formally briefed about financial performance
20 Manual formally briefed about organisation of work
21 Employees communicate direct to senior managers
22 Employees communicate through immediate supervisor
23 Employees communicate through TU representatives
24 Employees communicate through works council
25 Employees communicate through regular workforce meetings
26 Employees communicate through team briefings
27 Employees communicate through suggestion schemes
28 Employees communicate through attitude surveys
29 Employees communicate through electronic communication
30 Recognise trade unions for collective bargaining
31 Joint consultative committee or works council

II Profit Sharing Component

1 Pay level for manual
2 Other pay level for manual
3 Employee share schemes for management
4 Profit sharing for management
5 Flexible benefits for management
6 Performance related pay for management
7 Bonus based on individual goals for management
8 Bonus based on team goals for management
9 Employee share schemes for professional
10 Profit sharing for professional
11 Flexible benefits for professional
12 Performance related pay for professional

13 Bonus based on individual goals for professional
14 Bonus based on team goals for professional
15 Employee share schemes for clerical
16 Profit sharing for clerical
17 Flexible benefits for clerical
18 Performance related pay for clerical
19 Bonus based on individual goals for clerical
20 Bonus based on team goals for clerical
21 Employee share schemes for manual
22 Profit sharing for manual
23 Flexible benefits for manual
24 Performance related pay for manual
25 Bonus based on individual goals for manual
26 Bonus based on team goals for manual

III Internal Promotion Component

1 Use of internal recruitment for managers

IV Staff Turnover Component

1 Equals one if annual staff turnover is higher than the sample median (across all firms and countries, and zero otherwise

V Training Component

1 Set to one if the days per year training for management are higher than the sample median (across all firms and countries), and zero otherwise

2 Set to one if the days per year training for professional are higher than the sample median (across all firms and countries), and zero otherwise

3 Set to one if the days per year training for clerical are higher than the sample median (across all firms and countries), and zero otherwise

4 Set to one if the days per year training for manual are higher than the sample median (across all firms and countries), and zero otherwise

5 Set to one if the percentage of annual payroll costs spent on training are higher than the sample median (across all firms and countries), and zero otherwise

APPENDIX 2

Definition of variables and data sources

Variable	Definition	Source
Industry-adjusted Stock Performance	This measure of firm performance is based on stock performance. It equals 1 for "poor or at the low end of the industry", 2 for "below average", 3 for "average or equal to the competition", 4 for "better than average" and 5 for "superior".	Cranet Survey
Industry-adjusted Profitability	This measure of firm performance is the equivalent to the above for profitability, i.e. accounting performance.	Cranet Survey
Profitability	This is an absolute measure of firm performance, i.e. accounting performance. It equals 1 if gross revenue over the last three years has been so low as to produce large losses, 2 if they have been insufficient to cover costs, 3 if revenues have been enough to break even, 4 if they have been sufficient to make a small profit and 5 if they have been well in excess of costs.	Cranet Survey
Firm Trust	This is the sum of the number of indicators within each of the five components of firm trust that have been set to one, expressed as a proportion out of 64 (the total number of indicators across all five components). The five components are: (1) staff communication, (2) profit sharing, (3) internal promotion, (4) staff turnover and (5) training. For the first three components, the total number of positive answers is counted. For the staff turnover component, if the percentage of annual staff turnover is lower than the median value across all the firms from all the countries in the sample, then the index is augmented by one. Similarly, for the training component, the index is augmented by a value of one for each of the following that applies: the spend on training is higher than the sample median; the days per year training for management are higher than the sample median (across all firms and countries), and zero otherwise; the days per year training for professional are higher than the sample median (across all firms and countries), and zero otherwise; the days per year training for clerical are higher than the sample median (across all firms and countries), and zero otherwise; and the days per year training for manual	Cranet Survey

	are higher than the sample median (across all firms and countries), and zero otherwise.	
Employee Rights	Index measuring the strictness of employment protection legislation (index ranges from 0 to 6); measured in 2003.	OECD Employment Outlook (2004)
Investor Rights	This variable counts the number of hurdles that the controlling shareholder has to jump in order to engage in self-dealing; based on legal requirements in place in May 2003.	Djankov et al. (2007)
Country Trust	Percentage of respondents for each country stating that 'most people can be trusted' versus the alternative that 'you can't be too careful in dealing with people'; measured during one of the years during the 1997-2001 period except for Australia (1995), Ireland and Portugal (1990), Taiwan (1994) and Uruguay (1996).	World Values Surveys (WVS)
GDP per Capita	Measured in year 2008 US dollars.	World Development Indicators – World Bank (2008)
Number of Lawyers	Number of lawyers divided by the population in millions.	Population in millions in 2004 from World Development Indicators – World Bank (2008); number of lawyers is sourced from Council of Bars and Law Societies of Europe (CCBE) for the European countries (incl. Turkey), the American Bar Association for the USA, and various national and international organisations for the other countries
Rule of Law	Rule of Law measures 'the extent to which agents have confidence in and abide by the rules of society'. It ranges from -2.5 (worst governance) to +2.5 (best governance).	Kaufmann et al. (2007)
Linguistic Diversity	This is the probability that any two randomly chosen inhabitants of a country will have different mother tongues (Lieberson, 1981); the index ranges from 0 to 1.	Gordon (2005)
Hierarchical Religion	Percentage of population that are Roman Catholic, Eastern Orthodox or Muslim; measured during the early 1990s.	La Porta et al. (1997a)

APPENDIX 3

Correlation Matrix

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
1. Industry-adjusted Stock Performance	1.000											
2. Industry-adjusted Profitability	0.462	1.000										
3. Profitability	0.224	0.431	1.000									
4. Firm Trust	0.191	0.135	0.147	1.000								
5. Country Trust	0.002	-0.033	0.024	0.101	1.000							
6. Employee Rights	0.033	0.025	-0.143	-0.034	-0.210	1.000						
7. Investor Rights	0.055	-0.010	0.037	0.028	0.068	-0.594	1.000					
8. Ln GDP per Capita	0.055	-0.027	-0.072	0.125	0.539	-0.115	0.086	1.000				
9. Number of Lawyers	0.044	0.086	-0.072	0.130	-0.290	-0.259	0.251	0.022	1.000			
10. Rule of Law	0.026	-0.022	-0.030	0.148	0.569	-0.130	0.021	0.910	-0.025	1.000		
11. Linguistic Diversity	0.123	0.114	0.027	0.084	-0.339	0.027	0.207	-0.250	0.226	-0.199	1.000	
12. Religious Hierarchy	0.016	0.090	-0.112	0.007	-0.633	0.539	-0.472	-0.417	0.101	-0.450	0.334	1.000

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The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities.*

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