

The Interaction between Country-Level and Firm-Level Corporate Governance

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Abstract

In this exploratory study, we analyse the relationship between country-level corporate governance and firm-level corporate governance. Although prior research has shown that corporate governance at both levels impacts firm performance, findings have been inconsistent as to whether these levels are complements to or substitutes for each other. By using two extensive datasets this study is able to bring knowledge of the interaction between the levels. The findings reveal that there exists a positive relationship between the two levels of corporate governance. However, there are several dimensions to consider when analyzing the interaction. First of all, different categories of protection within the different level have different importance for the relationship and in what direction this aims. Second, this also depends on the legal context where the common law countries target protection against management abuse and the civil law countries target protection against blockholding shareholder abuse. The main conclusion from this study is that corporate governance at the country level and corporate governance at the firm level are complementary but the analysis of corporate governance should gain of analysing the concept considering both level and especially nuances of the levels.

Keywords:Corporate governance, country-level governance, firm-level governance.

1. Introduction

Corporate governance on the country level has been extensively examined in prior research (see, for example, Levine, 2005, or Shleifer and Vishny, 1997, for reviews). In particular, a stream of comparative corporate governance literature (initiated by the work of La Porta et al., 1998, 1999) has focused on how economies, capital markets and firms perform under different legal regimes. In general, these studies demonstrate that country-level corporate governance has a positive impact. A large body of literature has also explored corporate governance at the firm level (see, for example, Becht et al., 2003, or Brown et al., 2011, for reviews). Several studies in this area have examined the value relevance of firm-level corporate governance; these studies typically find a positive relation between firm-level corporate governance and firm value, decreased costs of capital, greater access to external financing, and other beneficial aspects of firm value (Bebchuk et al., 2004; Bebchuk and Cohen, 2005; Brown and Caylor, 2006; Chhaochharia and Grinstein, 2007; Core et al., 2006; Dittmar and Mahrt-Smith, 2007; Doidge et al., 2007; Durnev and Kim, 2005; Francis et al., 2005; Gompers et al., 2003). To sum up, corporate governance at both the country level and the firm level has been shown to impact firms' performance profoundly.

It therefore seems reasonable that an analysis of corporate governance should address both levels and pay particular attention to how the levels interact. Although the literature offers some examples of research analysing both levels of corporate governance, surprisingly few studies have examined the interaction between the levels. To our knowledge, this analytical approach has just been adopted by Klapper and Love (2003), Aggarwal et al. (2009), Chhaochharia and Laeven (2009), and Bruno and Claessens (2010). However, these works are far from agreeing on how to measure corporate governance at either level. The studies use different variables as their baseline, making it hard to explain how the levels interact, and this difficulty is reflected in the inconsistency of their results. The main focus of these four studies is the effects of firm-level corporate governance on a company's value. Each one, however, integrates country-level corporate governance into the analysis, allowing the researchers to assess whether this level of governance impacts a company's corporate governance in a manner that affects the firm's value. Although all four studies emphasise the importance of both levels of governance and discuss the interactions between the levels, they produce very different conceptions of the relationship.

Klapper and Love (2003) argue that the relationship between country and firm levels is far from obvious. Firms in countries with weak corporate governance may want to adopt stronger firm-level rules to counterbalance the weaknesses at the national level. On the other hand, the positive correlation between the strength of country-level and firm-level corporate governance suggests that the opposite could be the case, as a firm's governance may be highly depending of national law. To study firm-level governance, Klapper and Love use data from a questionnaire conducted by analysts at Credit Lyonnais (CLSA report), which covers 495 companies in 25 countries. To examine country-level corporate governance they use three measures: judicial efficiency (International Country Risk Guide, 2000), anti-director rights (La Porta et al., 1998), and legality (Berkowitz et al., 2003). Overall, they find a positive correlation between firm-level and country-level corporate governance.

Aggarwal et al. (2009) also undertake their study on the basis that the relationship between the governance levels is unclear and could be regarded as either substitutes for or complements to each other. They adopt the premise that a firm (or the firm's controlling shareholder) has a relatively free choice 'to invest in' a selected level of firm-level governance, independent of country-level standards. Thus, they do not assume that a causal relationship between country-level and firm-level corporate governance necessarily exists. To examine the relationship between the levels, they use the Corporate Governance Quotient (CGQ) dataset provided by Institutional Shareholder Services (ISS). Aggarwal et al. analyses U.S. firms in relation to foreign firms, and uses U.S. firms as a benchmark for foreign firms. Their findings reveal that firms invest in firm-level governance if investor protections on country-level are strong, indicating that country-level governance and firm-level governance are complements.

Chhaochharia and Laeven (2009) use the same dataset to construct a proxy for both firm-level and country-level corporate governance. By sorting the data, which are based on firm-level variables, according to the minimal criteria that is mandatory for and adopted by all firms in a given country, they arrive at a set of firm-level and country-level corporate governance metrics. Using the CGQ dataset time-series information, they then examine changes over time in a specific company at both levels of governance. They find that many firms choose to adopt governance mechanisms that extend beyond the mechanisms that are mandatory. They also check for correlations between their proxy for country-level corporate governance and the laws that have been promulgated by Spamann (2006), who has updated the shareholder rights index of La Porta et al. (1998). They conclude from this assessment that their country-level index for corporate governance does not correlate with investor protection laws which is a well-known proxy for corporate governance on country-level.

Bruno and Claessens (2010) also use the CGQ dataset, but only for the firmlevel. For the country level they construct a corporate governance index by combining La Porta et al.'s (1998) anti-director rights index (the LLSV) and the Law and Order index of the International Country Risk Guide (ICRG). They find that their country-level index is not a significant determinant of firm-level corporate governance and firm value. Thus, their results imply that country-level and firm-level corporate governance are neither complements to nor substitutes for each other. They also conclude that country-level corporate governance has either a negligible or a negative impact on firm performance and that firm-level corporate governance is significant regardless of the country's legal tradition. In response to the literature stream that indicates that stronger legal protections at the country level improve a company's valuation, they note that their result could reflect the fact that they analysed only firms in advanced economies. Furthermore,

Our conclusions have to remain limited to the type of regulatory intervention captured in our indices of countries' legal strength. Better indicators of countries legal regimes may tell what legal requirements add value compared to companies' corporate governance practices, and shed light on the interaction between mandatory and voluntary corporate governance practices. (Bruno and Claessens, 2010: 31)

Thus, we perceive a gap that should be bridged with respect to acquiring knowledge of the interactions between country-level and firm-level corporate governance. The conclusions of Bruno and Claessens also reveal the need for a more refined tool for this kind of analysis compared to what have been used in prior research to reach more refined explanation. In this study, we neither examine the value relevance aspect of firm-level governance nor assess how country-level indices affect economic performance; instead, we focus solely on analysing the relationship between country-level and firm-level corporate governance.

We begin our analysis from the premise that a firm has its own choice of firm-level governance, but that this choice is restricted by national law, which, in turn, may be affected by legal tradition. Based on this assumption, we expect to observe a positive relationship between investor protections at the country level and corporate governance at the firm level. We also expect to see a difference between countries belonging to different legal origins when it comes to the strength of the relationship between the levels. Thus, we begin by anticipating the two levels of governance to complement each other rather than substitute for each other.

Our findings show that country-level corporate governance interacts positively with firm-level corporate governance. Stronger country-level corporate governance is associated with more extensive firm-level corporate governance, indicating that these two levels of governance are, as we assumed, complementary. However, this result should be seen as a more general expression. A more detailed analysis of the relationship shows that there are additional nuances to consider. The investor protection index that we use in this study allows us to disaggregate investor protections into shareholder protections from management abuse and shareholder protections from blockholders abuse. We are therefore able to analyse the types of agency conflicts that are most prevalent in common law countries (shareholder protections against management) and those more prevalent in civil law countries (shareholder protections against blockholders). The results show that both of these subcategories of country-level corporate governance are significantly related to firm-level corporate governance. When we divide our sample into common law and civil law countries, our results clearly indicate that common law countries prioritise shareholder protection against management at the national level, and firms in these countries prioritise investment in corporate governance attributes that also protect shareholders from management, civil law countries prioritise country-level shareholder protection against blockholders, and firms in these countries prioritise investment in corporate governance attributes that protect shareholders from blockholders. These results are rational because institutions and firms in the two different contexts would logically prioritise corporate governance measures that would mitigate the most prevalent types of agency conflict in the respective context.

Our analysis complements and extends the scarce literature regarding the associations between country-level and firm-level corporate governance. The novel contribution of this paper is that it deepens the understanding of these associations through the use of a combination of a time series of measurements of country-level investor protection and a time series of firm-level data; this approach facilitates an analysis of the relationships reported in the literature regarding the impacts of these two levels of corporate governance. More importantly, because the corporate governance measures we use at both levels can be categorised as protections from either management or blockholders, we offer new empirical insights into different corporate governance settings in the international context and show that this context influences how corporate governance is structured. Furthermore, even though we do not examine the relationships between our corporate governance variables and firm performance, our results are relevant to the body of literature addressing corporate governance and performance. We argue that the interaction between country-level and firm-level corporate governance should be a prerequisite for analysing the relationship between corporate governance and firm performance.

The paper is structured as follows: In Section 2 we discuss the firm-level and country-level corporate governance data that we use in our analyses. In Section 3 we describe the empirical methodology for this investigation and present the study results. In Section 4 we summarise our findings and offer concluding observations.

2. Data

2.1 A firm-level measure of corporate governance

To measure firm-level corporate governance, Klapper and Love (2003) use the CLSA dataset whereas Aggarwal et al. (2009), Bruno and Claessens (2010), and Chhaochharia and Laeven (2009) use the CGQ dataset. In accordance with the latter three we choose to employ CGQ data in our study because it is the most comprehensive of the two. ISS who provide CGQ, began collecting data for U.S. firms in 2002 and for non-U.S. firms in 2003; in total, ISS collects firm-level data for samples of firms from 30 countries. Accordingly it gives opportunity to make both time-series analysis as well as cross sectional analysis between countries. Several of the variables within this dataset are created from data gathered through other included variables, which could explain why prior studies have chosen to use only part of the dataset. The parts they use, however, differ.

Chhaochharia and Laeven use 17 of the dataset's attributes to create their governance index, Bruno and Claessens use 18 to create six different indices, and Aggarwal et al. use 44. As a starting point for our analysis, we choose the same 44 attributes selected by Aggarwal et al.. This gives us an opportunity to perform the most comprehensive firm-level analysis with respect to the problem of directly intercorrelated attributes. Following Aggarwal et al.'s methodology, we then construct four subcategories of firm-level governance metrics: (1) Board (25 attributes); (2) Audit (3 attributes); (3) Anti-takeover (6 attributes); and (4) Compensation and Ownership (10 attributes). Table 1 lists the 44 specific attributes that are used in this study, classified according to these four subgroups.

Table 1: Forty-four firm-level corporate governance attributes

BOARD

1. All of the directors attended 75% of the board meetings or had a valid excuse.
2. The CEO serves on the boards of two or fewer public companies.
3. The board is controlled by more than 50% independent outside directors.
4. The board size is greater than 5 but less than 16.
5. The CEO is not listed as having a related-party transaction.
6. No former CEO is on the board.
7. The compensation committee is composed solely of independent outsiders.
8. The chairman and CEO are separate, or there is a lead director.
9. The nominating committee is composed solely of independent outsiders.
10. A governance committee exists and met in the past year
11. Shareholders vote on directors that are selected to fill vacancies.
12. The governance guidelines are publicly disclosed.
13. The board is annually elected (no staggered board).
14. A policy exists regarding outside directorships (four or fewer boards is the limit).
15. Shareholders have cumulative voting rights.
16. Shareholder approval is required to increase/decrease board size.
17. There is a majority vote requirement to amend the charter/bylaws (not necessarily a supermajority).
18. The board has the express authority to hire its own advisors.
19. The performance of the board is reviewed regularly.
20. A board-approved succession plan is in place for the CEO.
21. The outside directors meet without the CEO and disclose the number of times that they meet.
22. The directors are required to submit their resignation upon a change in job.
23. The board cannot amend the bylaws without shareholder approval or can do so only under limited circumstances.
24. The board does not ignore shareholder proposals.
25. The board qualifies for combination points in proxy contest defences.

AUDIT

26. The consulting fees paid to auditors are less than the audit fees paid to auditors.
27. The audit committee is composed solely of independent outsiders.
28. Auditors are ratified at the most recent annual meeting.

ANTI-TAKEOVER

29. Single class, common
30. There is a majority vote requirement to approve mergers (not necessarily a supermajority).
31. Shareholders may call special meetings.
32. Shareholders may act by written consent.
33. The company either has no poison pill or has a pill that was shareholder approved.
34. The company is not authorised to issue blank check preferred stock.

COMPENSATION & OWNERSHIP

35. The directors are subject to stock ownership requirements.
36. The executives are subject to stock ownership guidelines.
37. There are no interlocks among compensation committee members.
38. The directors receive all or a portion of their fees in stock.
39. All stock incentive plans are adopted with shareholder approval.
40. Options grants align with company performance and demonstrate a reasonable burn rate.
41. The company expenses stock options.
42. All of the directors with more than one year of service own stock.
43. Officers' and directors' stock ownership is at least 1% but not over 30% of the total shares outstanding.
44. Repricing is prohibited.

Following the approach used by Aggarwal et al. (2009), we construct four subcategories of firm-level governance attributes: (1) Board (twenty-five attributes); (2) Audit (three attributes); (3) Anti-takeover (six attributes); and (4) Compensation and Ownership (ten attributes). The table presents the forty-four attributes that are considered in this study, divided into these four subgroups.

2.2 A country-level measure of corporate governance

To assess corporate governance at the country level, Klapper and Love use measures of judicial efficiency, anti-director rights, and legality, whereas Bruno and Claessens use country-specific corporate indices calculated on the basis of investor protection laws. As noted in the introduction, however, Bruno and Claessens acknowledge the weaknesses of their index for analytical purposes and call for a more refined tool. We respond by using a newly constructed investor protection index, the Shareholder Protection Index (SPI). This index was developed by the Corporate Governance Research Programme at the Centre for Business Research at the University of Cambridge in the UK (see Armour et al., 2009; Lele and Siems, 2007). It measures the strength of legal shareholder protection in a given country over several years, enabling us in the same way as with the CGQ dataset to investigate changes over time while simultaneously performing cross sectional analysis between countries. The dataset¹ includes 60 indicators to code for the law in France, Germany, India, the UK and the U.S. over 36 years (1970-2005) and 10 indicators that serve as metrics for shareholder protection law in a wider sample of 25 countries over 11 years (1995-2005).

In addition to permitting time-series analyses, the SPI is more refined than the well-known LLSV index with respect to the number of variables that can be considered. Moreover, the SPI variables are chosen and defined in a manner that seeks to remedy a number of shortcomings identified in the literature as being associated with the LLSV (Armour et al., 2009b). The differences between these indices relate primarily to the sources of information that are used to construct each one. To create the SPI, Armour et al. (2009b) considered not only positive laws but also binding rules that stem from self-regulation, e.g., corporate governance and takeover codes for (listed) companies. Unlike the LLSV, the SPI is not strictly based on binary variables, but instead allows for intermediate scores between 0 and 1 as needed. Moreover, unlike the LLSV, the SPI is sensitive to 'default rules', i.e. rules that apply in certain circumstances depending on the choices of the actors in a particular situation. Although these rules are not strictly binding, they are also not necessarily coded as 0. The SPI also explicitly acknowledges the importance of coding for functionally equivalent instruments in different countries. Finally, the SPI is constructed as a longitudinal measure that quantifies the legal SPI of a particular country for each examined year (for details see Armour et al. 2009b; Lele and Siems 2007). Table 2 presents the 10 indicators from the SPI that are used in the current study. (For further explanations of the variables, see Lele and Siems, 2007.)

The table presents the indicators that are included in the SPI index (for further explanations of the variables, see Lele and Siems, 2007) and used in the present study. A country's context could determine which type of protection for minority shareholders is effective at protecting their rights. In a country with concentrated ownership, the minority shareholder would prefer to be protected from the controlling shareholder(s), whereas in a country with dispersed ownership, the minority shareholder would prefer to be protected from the board and management of a firm. As presented in the table, the indicators capture important protections in terms of both investor protection against the board and management and investor protection against block holders. Indicators 1, 2, 3, 5, 6, and 7 are mechanisms for protection from board and management, whereas indicators 4, 8, 9 and 10 are protections from block holders.

Table 2: The Shareholder protection index

1. Powers of the general meeting	De facto changes: The decisive thresholds are the sale of substantial assets of the company. (E.g., if the sale of more than 50% requires the approval of the general meeting, the variable equals 1; if more than 80%, it equals 0.5; otherwise it equals 0).
2. Agenda-setting power	General topics: This variable equals 1 if shareholders who hold 1% or less of the capital can put an item on the agenda; it equals 0.5 if there is a hurdle of more than 1% but less than 10%; it equals 0 otherwise.
3. Anticipation of shareholder decision	Anticipation facilitated: This variable equals 1 if postal voting or proxy solicitation with a two-way voting proxy form must be provided by the company; it equals 0.5 if a two-way proxy form must be provided but not proxy solicitation; and equals 0 otherwise.
4. One share – one vote	The prohibition of multiple voting rights (super voting rights): This variable equals 1 if there is a prohibition; equals 2/3 if only companies that already have multiple voting rights can keep those rights; equals 1/3 if state approval is necessary; and equals 0 otherwise.
5. Board composition	Independent board members: This variable equals 1 if at least half of the board members must be independent; equals 0.5 if at least 25 % of them must be independent or if the independence requirement is very low; it equals 0 otherwise.
6. Duration of director's appointment	Dismissal feasibility: This variable equals 1 if there are no special requirements; it equals 0 if an important reason is required; it equals 0.5 if there are no special requirements but directors can claim for compensation.
7. Director's duties	Private enforcement: This variable equals 0 if this possibility is typically excluded (e.g., a strict subsidiarity requirement; a hurdle of at least 10%; cost rules); it equals 0.5 if there are certain restrictions [e.g., a certain percentage of share capital (unless the hurdle is at least 10%); cost rules; demand requirement]; and it equals 1 otherwise.
8. Oppressed minority	Shareholder action: This variable equals 1 if every shareholder can file a claim against a resolution by the general meeting because he or she regards it as void or voidable; it equals 0.5 if there are hurdles such as a threshold of at least 10% voting rights or cost rules; and it equals 0 if this type of shareholder action does not exist.
9. Right to exit	Mandatory bid: This variable equals 1 if there is a mandatory bid for the entirety of shares in the case of the purchase of 30% or 1/3 of the shares; otherwise it equals 0.
10. Disclosure of major share ownership	This variable equals 1 if shareholders who acquire at least 3% of the company's capital must disclose this acquisition; it equals 0.75 if this rule applies for 5% of the capital; it equals 0.5 if this rule applies for 10%; it equals 0.25 if this rule applies for 25%; and it equals 0 otherwise.

2.3 Sample – descriptive data for each level

Combining the indices for both levels of governance creates limitations around two dimensions in particular: countries and years. First, 11 countries are represented in both the CGQ and SPI datasets: Canada, France, Germany, Italy, the UK, the U.S., Japan, Sweden, Spain, the Netherlands and Switzerland. Second, the SPI contains data for all of these countries from 1995 to 2005 and the CGQ from 2003 to 2009. This means that it is possible to combine the datasets for the period 2003–2005. However, it is probable that changes in country-level corporate governance (SPI) influence firm-level governance (CGQ) through a delayed effect, i.e. it likely takes some time for firms to incorporate country-level changes into their own corporate governance structure. To analyse this we expand the time period by adding 2002 SPI data and 2006 CGQ data. The study therefore examines the aforementioned 11 countries using data from 2002 through 2006.

Firm-level sample. The sample at the firm level contains data for 9,860 firms from 2003 through 2006. In Table 3 we provide the data for each of the 44 governance attributes (see Table 1) for each year, reporting the firm-level index as a percentage, in accordance with the approach used by Aggarwal et al. (2009). If a firm possesses all of the attributes, its index is recorded as 100 per cent. Panel A of the table presents summary statistics. (Explanations of the attributes are omitted due to space limitations, but the numerical designations are consistent with the designations shown in Table 1.) Changes to a number of individual attributes during the time period can be observed. For instance, the percentage of firms demonstrating attributes 5, 7, 9, 10, 12, 18, 19, 20, 21, 26, 29, 40 and 41 increased noticeably during the course of the sample period, whereas the percentage with attributes 16 and 34 decreased. In 2003, 68 per cent of the firms reported 'The CEO is not listed as having a related-party transaction' (attribute 5), but by 2006, the number had increased to 84 per cent. On the other hand, in 2003, 27 per cent of the sample firms required shareholder approval to increase/decrease their board size (attribute 16), but by 2006, only 17 per cent had this requirement. Thus, in summary, an examination of the individual attributes shows no uniform development of firm-level corporate governance practices over time.

This table presents our firm-level index of corporate governance as a percentage, in accordance with the approach of Aggarwal et al (2009). If a firm fulfils all forty-four attributes, its index would equal 100 per cent. Panel A presents statistics for the forty-four attributes that are described earlier in Table 2 for the firms over the 2003 to 2006 time period. The attribute explanations are omitted in panel A due to space limitations. In panel B, we aggregate the forty-four attributes (CG) and we divide the sample into countries and over time. Panel C of the table displays our new constructed variables of BOARD, AUDIT, TAKEOVER, OWNERSHIP and CG over time.

Table 3: Descriptive statistics**Panel A**

Year	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
2003	80%	84%	29%	81%	68%	78%	14%	63%	19%	24%	53%	23%	42%	3%	7%
2004	82%	87%	36%	82%	81%	75%	57%	75%	2%	41%	58%	45%	44%	7%	6%
2005	78%	96%	35%	83%	82%	76%	65%	55%	50%	41%	65%	50%	43%	8%	6%
2006	77%	97%	32%	83%	84%	77%	68%	57%	53%	52%	61%	50%	50%	10%	6%
	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
2003	27%	36%	19%	17%	13%	4%	8%	22%	100%	1%	55%	51%	59%	27%	52%
2004	20%	36%	77%	49%	31%	28%	16%	21%	99%	1%	62%	7%	61%	27%	53%
2005	19%	35%	81%	55%	35%	37%	17%	26%	100%	8%	94%	68%	64%	93%	49%
2006	17%	34%	82%	64%	45%	40%	18%	27%	100%	8%	95%	69%	67%	93%	51%
	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	
2003	53%	18%	71%	71%	8%	9%	83%	73%	87%	19%	5%	76%	60%	23%	
2004	54%	19%	71%	71%	14%	12%	84%	72%	83%	24%	10%	82%	70%	33%	
2005	57%	19%	74%	35%	15%	14%	88%	67%	88%	77%	22%	80%	68%	78%	
2006	60%	19%	78%	35%	18%	18%	83%	69%	89%	77%	24%	82%	70%	74%	

Panel B

Country	2003				2004				2005				2006			
	Mean CG	Max CG	Min CG	N	Mean CG	Max CG	Min CG	N	Mean CG	Max CG	Min CG	N	Mean CG	Max CG	Min CG	N
Canada	52%	68%	36%	199	58%	70%	39%	186	61%	73%	43%	168	62%	73%	45%	192
France	36%	50%	23%	90	40%	59%	23%	76	44%	59%	23%	83	45%	61%	25%	87
Germany	31%	43%	25%	90	34%	52%	25%	85	43%	57%	32%	85	48%	59%	36%	92
Italy	27%	36%	23%	69	33%	43%	23%	45	42%	50%	30%	71	44%	55%	32%	75
Japan	31%	50%	27%	501	37%	52%	27%	510	41%	52%	32%	589	44%	52%	32%	600
Netherlands	34%	45%	23%	55	35%	57%	20%	50	44%	61%	25%	47	46%	59%	27%	48
Spain	26%	43%	18%	56	30%	43%	23%	37	41%	55%	27%	54	43%	61%	27%	58
Sweden	34%	41%	25%	46	30%	41%	23%	47	40%	50%	27%	43	46%	55%	34%	50
Switzerland	33%	52%	25%	61	40%	61%	25%	56	51%	64%	30%	58	51%	66%	34%	63
UK	39%	68%	34%	205	42%	59%	25%	209	50%	68%	30%	530	52%	66%	30%	525
USA	42%	84%	18%	550	47%	82%	23%	525	56%	86%	30%	529	57%	86%	27%	524

Panel C

Year	BOARD	AUDIT	TAKEOVER	OWNERSHIP	CG
2003	37%	55%	48%	41%	41%
2004	46%	43%	49%	45%	46%
2005	50%	75%	54%	56%	54%
2006	52%	77%	56%	57%	55%

In panel B of Table 3 we aggregate all of the included attributes (CG) and sort the sample by country and year, allowing us to study changes in individual countries over time. We are also able to see if firm-level governance varies depending on the country's legal origin and over the examined time period. We observe a wide variation across countries, both between countries and over time. In 2003, for instance, the average firm in Canada had adopted 52 per cent of the 44 firm-level governance attributes, but the average firm in Spain had adopted only 26 per cent of these attributes. Moreover, the highest score for any Spanish firm in the sample was 43 per cent, whereas the lowest score for a Canadian firm was 36 per cent, indicating a significant degree of difference between the two countries.

The panel also reveals that firms in all of the countries increased their adoption of firm-level attributes between 2003 and 2006. The increases were substantial in some countries and more modest in others. For example, with respect to average firm-level governance, firms in Spain increased from 26 per cent in 2003 to 43 per cent in 2006, and firms in Italy increased from 27 per cent in 2003 to 44 per cent in 2006. In contrast, firms in Canada increased their average firm-level governance only from 52 per cent to 62 per cent over the same time period, and firms in the UK increased theirs from 39 per cent to 52 per cent. Because firms in Spain and Italy began the study period at a low level of governance and firms in Canada and the UK started off at a much higher level, the results indicate a convergence in firm-level governance during the four-year period. This finding raises the question of whether convergence at the firm level can be explained by convergence at country-level, an issue that we also address in the analysis.

It is important to consider a number of possible underlying explanations for the deviations we see in firm-level governance among the different countries, particularly with respect to findings of firm practices that differ from the country's legal requirements. It may be that a law permits firms to deviate from an official standard, that certain laws are not enforced, or that a time lag exists between the passage of a law and its full implementation among a nation's firms.

Based on the subcategories within the CGQ (Table 1), we compile the variables belonging to each category and construct five new variables: one each for the categories 'BOARD', 'AUDIT', 'TAKEOVER' and 'OWNERSHIP', and as noted above, one for all of the variables together, which we label 'CG'. These variables simply represent the ratio of the number of adopted governance attributes in each group to the total number of attributes in each group. For example, BOARD is the number of board governance attributes that have been adopted by a firm, divided by 25 (the number of attributes in the 'Board' subgroup). CG, the aggregate of the variables for the four subgroups, is thus calculated by dividing the total number of governance attributes that a firm has adopted by 44 (total).

Panel C in Table 3 shows how our five newly constructed variables vary over time. Column CG shows that the firms in our sample increased their overall adoption of governance attributes between 2003 and 2006, from an average of 41 per cent of the 44 attributes to 55 per cent. An examination of the adoption of attributes by attribute subgroup reveals the same tendency. All four subgroups (BOARD, AUDIT, TAKEOVER and OWNERSHIP) were increasingly adopted over the study period. These data suggest that a convergence among firms within different countries occurred during this time with respect to the adoption of governance attributes.

Country-level sample. At the country level, our sample consists of data for 10 variables in 11 countries from 2002 to 2005. Like the CGQ data, SPI data allow for categorization into subgroups. The SPI coding disaggregates two types of shareholder protection based on the notion that corporate laws are specifically aimed at protecting shareholders from two types of agency costs that could harm them: conflicts between management and shareholders, and conflicts between majority owners and minority shareholders. The SPI is therefore divided into two subsets: rules that protect shareholders from directors and managers' abuse, and rules that protect minority shareholders from other shareholders abuse (see Armour et al., 2009a). As depicted in Table 2, the indicators in this study capture important protections with respect to safeguarding investors not only from the actions of board and management, but also from large blockholders. Indicators 1, 2, 3, 5, 6 and 7, in particular, provide mechanisms for protection against a firm's board and management, whereas indicators 4, 8, 9 and 10 provide protections against blockholder abuse.

We use these two subcategories to construct three variables for our analysis. ANTIMANAG captures investor protections against a firm's management and board abuse. This can vary between 0 and 6, with higher values indicating stronger protection for shareholders.

ANTIBLOCK captures investor protection against other shareholders and can vary between 0 and 4, again with higher values representing stronger shareholder protection. The legal context of a country can be used to determine which type of minority shareholder protection is most effective. In a country with concentrated firm ownership, minority shareholders would wish to ensure that they are protected from a controlling shareholder; in a country with dispersed ownership, minority shareholders need protection from the actions of a firm's board and management rather than from a controlling shareholder. Finally, the variable SPI is simply the sum of ANTIMANAG and ANTIBLOCK.

3. Empirical Method and Results

We use Spearman's correlation to analyse the interaction between the two levels of corporate governance. Table 4 shows the pairwise correlations for the variables SPI, BOARD, AUDIT, TAKEOVER, OWNERSHIP, CG, ANTIBLOCK and ANTIMANAG for the full sample; the firm-level variables are lagged by one year². We find a positive correlation (p -value<0.001) between SPI and CG over time, clearly indicating that country-level and firm-level corporate governance are complements.

Table 4: Relationship between country-level and firm-level corporate governance

Variable	1	2	3	4	5	6	7
1. SPI	1.00						
2. BOARD	.43***						
3. AUDIT	.35***	.31***					
4. TAKEOVER	-.10***	-.04***	-.17***				
5. OWNERSHIP	.35***	.45***	.36***	-.08***			
6. CG	.47***	.91***	.49***	.16***	.67***		
7. ANTIBLOCK	-.16***	-.34***	-.34***	.27***	-.24***	-.33***	
8. ANTIMANAG	.75***	.48***	.47***	-.24***	.39***	.50***	-.60***

*** $p < 0.001$. ** $p < 0.01$. * $p < 0.05$.

The table shows the pairwise Spearman correlations between SPI, BOARD, AUDIT, TAKEOVER, OWNERSHIP, CG, ANTIBLOCK and ANTIMANAG for the full sample (N=27497).

A closer look at the disaggregated country-level variables ANTIBLOCK and ANTIMANAG sheds further light on the relationship. To begin with, the correlations between ANTIBLOCK and SPI and CG, respectively, are significant and negative, whereas those between ANTIMANAG and SPI and CG, respectively, are significant and positive. We also examine the correlations between ANTIBLOCK and ANTIMANAG, respectively, and each of the other firm-level constructed variables (BOARD, AUDIT, TAKEOVER and OWNERSHIP) and find all of the relationships to have a significance level of $p < 0.001$. The relationship between ANTIBLOCK and ANTIMANAG is both significant and negative, meaning that these two variables can be regarded as substitutes.

Our first interpretation of the results, based on this division of investor protections into protections against management and protections against blockholders, is that the improvement in firm-level governance over the study period is derived primarily from attributes that restrict managerial discretion. The negative relationship between ANTIBLOCK and CG is harder to explain. However, one possible rationale is that the raw data for the firm-level attributes in this study are obtained from a U.S. firm (ISS) and may reflect the U.S. context, wherein agency conflicts between blockholders and minority shareholders receive less attention than in many other countries.

In other words, we may be observing these directional relationships because the firm-level governance attributes in the dataset were chosen in a manner that predominantly considers the conflict between shareholders and management.

A look at the subgroups into which these attributes are divided seems to support this argument, as ANTIBLOCK is positively correlated with TAKEOVER but negatively correlated with BOARD, AUDIT and OWNERSHIP. The positive relationship between ANTIBLOCK and TAKEOVER may imply that the TAKEOVER subgroup largely reflects measures responsible for addressing the conflicts between shareholders and blockholders.

These relationships suggest that changes in investor protection at the country level to mitigate agency conflicts between minority shareholders and management are positively associated with changes in firm-level corporate governance.

On the other hand, country-level regulation to handle conflicts between minority shareholders and blockholders is negatively associated with firm-level governance. In other words, our more refined country-level investor protection variables show that corporate governance at the firm-level correlates positively with investor protection against management and negatively with protection against blockholders. Further, studying the subsets of CG (BOARD, AUDIT, TAKEOVER and OWNERSHIP), we find that ANTAMANAG correlates positively with BOARD, AUDIT and OWNERSHIP and negatively with TAKEOVER. Under the assumption that country-level corporate governance affects firm-level governance, these latter results thus suggest that the corporate governance attributes within BOARD, AUDIT and OWNERSHIP that were altered during this study period are related to minority shareholder rights vis-à-vis management and that the altered attributes within TAKEOVER are related to minority shareholder rights vis-à-vis blockholders. Additional correlation tests (not shown here) between both ANTIMANAG and ANTIBLOCK and each of the 44 individual attributes confirm that each attribute correlates positively and significantly with either ANTIMANAG or ANTIBLOCK.³

The analysis also helps to explain the contradictory results of earlier research wherein Klapper and Love (2003) and Aggarwal et al. (2009) found positive correlations between the two levels of corporate governance and Chhaochharia and Leaven (2009) and Bruno and Claessens (2010) found no statistically significant relationship. Our results show that it all comes down to how one measures the two levels and how deep the analysis goes. For example, if country-level corporate governance is measured with overweight at ANTIBLOCK attributes, the results will show a negative correlation with the 44 firm-level corporate governance attributes. If, on the other hand, country-level corporate governance is measured as total (SPI) or with overweight at ANTIMANAG attributes, a positive relationship will be found.

To sum up so far, we have shown that corporate governance at the country level have several dimensions, SPI, ANTIMANAG or ANTIBLOCK and, depending on how it is measured, it will correlate positively, negatively or not at all with firm-level corporate governance attributes. We find that a positive relationship exists between country-level and firm-level corporate governance for the full sample and a positive relationship between ANTIMANAG or ANTIBLOCK and firm-level attributes that could be related to either shareholder protection from management or protection from blockholders abuse. However, these results raise further questions because agency conflicts differ depending on the global setting. For instance, certain countries may prioritise shareholder protection from management at the expense of shareholder protection from blockholders, whereas others may emphasise shareholder protection from blockholders over shareholder protection from management; moreover, these priorities may shift over time. As well, enforcement of corporate regulations may differ from country to country. Thus, the relationship between country-level and firm-level corporate governance can differ depending on the national context.

Table 5 shows the results of pairwise Spearman correlations when we divide our sample into two subgroups based on legal origin in line with the legal origin hypothesis initiated by La Porta et al., (1997). Panel A in the table gives results for the common law countries and panel B the civil law countries.

Table 5: Relationship between country-level and firm-level corporate governance, by legal tradition

<i>PANEL A, COMMON LAW</i>							
Variable	1	2	3	4	5	6	7
1. SPI	1.00						
2. BOARD	.32***						
3. AUDIT	.18***	.19***					
4. TAKEOVER	.08***	.07***	-.05***				
5. OWNERSHIP	.25***	.42***	.28***	.00			
6. CG	.36***	.90***	.39***	.30***	.64***		
7. ANTIBLOCK	.38***	-.12***	-.09***	.11***	-.11***	-.11***	
8. ANTIMANAG	.63***	.34***	.28***	.07***	.29***	.37***	-.27***
<i>PANEL B, CIVIL LAW</i>							
Variable	1	2	3	4	5	6	7
1. SPI	1.00						
2. BOARD	-.16***						
3. AUDIT	.11***	.26***					
4. TAKEOVER	-.05**	.00	.05***				
5. OWNERSHIP	.32***	.37***	.29***	-.05***			
6. CG	.10***	.79***	.48***	.09***	.81***		
7. ANTIBLOCK	.15***	-.00	.00	.17***	-.10***	-.03*	
8. ANTIMANAG	.98***	-.15***	.12***	-.07***	.36***	.12***	-.03

*** $p < 0.001$. ** $p < 0.01$. * $p < 0.05$.

The table shows the pairwise Spearman correlations between SPI, BOARD, AUDIT, TAKEOVER, OWNERSHIP, CG, ANTIBLOCK and ANTIMANAG for common law countries (PANEL A, N=23,520) and for civil law countries (PANEL B, N=3,977). Common law countries are Canada, UK and U.S., while civil law countries are France, Germany, Italy, Japan, Netherlands, Spain, Sweden and Switzerland.

As evident from the table 5, the relationship between SPI and CG is positive and significant both for the common law countries and the civil law countries, but the correlation is much weaker in the latter (0.10 versus 0.36). This indicates a weaker relationship between country-level and firm-level corporate governance in civil law countries than in code law countries. All firm-level subgroups for the common law countries are significantly positively correlated with SPI, whereas in civil law countries two are significantly positively correlated (AUDIT and OWNERSHIP) while two are significantly negatively correlated (BOARD and TAKEOVER). This indicates that a more extensive relationship exists between country-level and firm-level corporate governance in common law countries. More interestingly, we find that the disaggregated country-level variable ANTIMANAG correlates positively with all firm-level subgroups for the common law countries but not for the civil law countries. This suggests that changing national regulation concerning shareholder protection from management has a more profound effect at the firm level in common law countries than in civil law countries.

To better understand the interaction between country-level and firm-level corporate governance, we need to take a step back. We initially used Aggarwal et al.'s categorization of the 44 CGQ attributes into the subgroups AUDIT, OWNERSHIP, BOARD and TAKEOVER to define firm-level corporate governance. However, the attributes in CGQ could just as well be defined as either shareholder protection from management or shareholder protection from blockholders as in SPI. Table 6 shows a reclassification of the 44 attributes based on how the individual attribute correlate with either ANTIMANAG or ANTIBLOCK. We then ends up with 13 attributes counted into the category protecting shareholders from blockholders abuse and 31 to the category protecting shareholders from management abuse.

Table 6: Forty-four firm-level corporate governance attributes

Aggarwal et al.'s (2009) 44 attributes are now categorised into either shareholder protection against management or protection against blockholders using the same variable number as in Table 1. There are 13 attributes protecting shareholders from blockholders and 31 attributes protecting shareholders from management.

Protection against blockholders (FIRMANTIBLOCK)

8. The chairman and CEO are separate, or there is a lead director.
11. Shareholders vote on directors that are selected to fill vacancies.
16. Shareholder approval is required to increase/decrease board size.
23. The board cannot amend the bylaws without shareholder approval or can do so only under limited circumstances.
24. The board does not ignore shareholder proposals.
29. Single class, common.
31. Shareholders may call special meetings.
33. The company either has no poison pill or has a pill that was shareholder approved.
34. The company is not authorised to issue blank check preferred stock.
39. All stock-incentive plans are adopted with shareholder approval.
41. The company expenses stock options.
43. Officers' and directors' stock ownership is at least 1% but not over 30% of the total shares outstanding.
44. Repricing is prohibited.

Protection against management (FIRMANTIMAN)

1. All of the directors attended 75% of the board meetings or had a valid excuse.
2. The CEO serves on the boards of two or fewer public companies.
3. The board is controlled by more than 50% independent outside directors.
4. The board size is greater than 5 but less than 16.
5. The CEO is not listed as having a related-party transaction.
6. No former CEO is on the board.
7. The compensation committee is composed solely of independent outsiders.
9. The nominating committee is composed solely of independent outsiders.
10. A governance committee exists and met in the past year.
12. The governance guidelines are publicly disclosed.
13. The board is annually elected (no staggered board).
14. A policy exists regarding outside directorships (four or fewer boards is the limit).
15. Shareholders have cumulative voting rights.
17. There is a majority vote requirement to amend the charter/bylaws (not necessarily a supermajority).
18. The board has the express authority to hire its own advisors.
19. The performance of the board is reviewed regularly.
20. A board-approved succession plan is in place for the CEO.
21. The outside directors meet without the CEO and disclose the number of times that they meet.
22. The directors are required to submit their resignation upon a change in job.
25. The board qualifies for combination points in proxy contest defences.
26. The consulting fees paid to auditors are less than the audit fees paid to auditors.
27. The audit committee is composed solely of independent outsiders.
28. Auditors are ratified at the most recent annual meeting.
30. There is a majority vote requirement to approve mergers (not necessarily a supermajority).
32. Shareholders may act by written consent.
35. The directors are subject to stock ownership requirements.
36. The executives are subject to stock ownership guidelines.
37. There are no interlocks among compensation committee members.
38. The directors receive all or a portion of their fees in stock.
40. Options grants align with company performance and demonstrate a reasonable burn rate.
42. All of the directors with more than one year of service own stock.

Using these groupings we would expect to see, given the predominant types agency conflicts in the different legal regimes, a much higher (lower) level of protection from management in common (civil) law countries and a much lower (higher) level of protection from blockholders in common (civil) law countries.

In Table 7 we show the mean values (standard error within brackets) of the 31 attributes protecting shareholders from management (FIRMANTIMAN) and the 13 attributes protecting shareholders from blockholders (FIRMANTIBLOCK) for the years 2003 to 2006, separating the common law countries from the civil law countries. Also included in the table and separated on the basis of legal tradition are the country-level variables ANTIMANAG and ANTIBLOCK.

Table 7: Common versus Civil law

The table shows the mean value both country-level variables (ANTIMANAG and ANTIBLOCK) and firm-level variables (FIRMANTIMAN and FIRMANTIBLOCK). FIRMANTIMAN and FIRMANTIBLOCK are calculated using, respectively, the 13 and 31 attributes listed in Table 6. The maximum value for a firm is therefore 13 for FIRMANTIBLOCK and 31 for FIRMANTIMAN. The mean values are shown for all firms in common law and civil law countries, respectively, for each year, with standard errors indicated in brackets. Common law countries are Canada, UK and U.S., while civil law countries are France, Germany, Italy, Japan, Netherlands, Spain, Sweden and Switzerland. To test for significant value in mean values between common law and civil law countries, we use two-group mean-comparison tests.

Variable	Year	Common Law Mean	Civil Law Mean	Significant differences
FIRMANTIMAN	2003	11.97 (.041)	3.41 (.057)	Yes
	2004	14.23 (.048)	4.47 (.069)	Yes
	2005	16.82 (.052)	6.77 (.074)	Yes
	2006	17.53 (.053)	7.20 (.078)	Yes
FIRMANTIBLOCK	2003	5.65 (.025)	10.27 (.032)	Yes
	2004	5.88 (.027)	10.98 (.040)	Yes
	2005	6.82 (.025)	11.24 (.036)	Yes
	2006	6.70 (.025)	11.97 (.040)	Yes
ANTIMANAG	2002	4.71 (.002)	2.96 (.036)	Yes
	2003	4.94 (.003)	3.10 (.036)	Yes
	2004	4.94 (.002)	3.17 (.029)	Yes
	2005	4.94 (.002)	3.22 (.026)	Yes
ANTIBLOCK	2002	2.27 (.002)	3.15 (.015)	Yes
	2003	2.27 (.002)	3.14 (.015)	Yes
	2004	2.31 (.003)	3.21 (.14)	Yes
	2005	2.31 (.003)	3.23 (.013)	Yes

Overall, the mean values in Table 7 show that corporate governance at both levels and within both legal traditions got stronger between 2003 and 2006.

But more importantly, the table confirms what we expected: FIRMANTIMAN is significantly higher in common law countries than in civil law countries, FIRMANTIBLOCK is significantly higher in civil law countries than in common law countries, ANTIMANAG is significantly higher in common law countries than in civil law countries, and ANTIBLOCK is significantly higher in civil law countries than in common law countries.

These findings highlight the need to measure corporate governance at both the country and firm level in a more sophisticated way than was done in earlier studies (Klapper and Love, 2003; Aggarwal et al., 2009; Chhaochharia and Laeven, 2009; Bruno and Claessens, 2010) if we are to better analyse the interaction between the levels. Our initial focus was mainly on how our more sophisticated country-level variable can indeed improve such analysis, but from Table 7 we see that the way we use firm-level corporate governance variables is also important. Granted, we use the same ISS dataset as Chhaochharia and Laeven, Bruno and Claessens and Aggarwal et al., and we use the same 44 attributes as Aggarwal et al. because they represent a much more comprehensive application of the dataset. However, to fully understand the interaction between country-level and firm-level governance, we saw a need to reclassify the 44 attributes, reorganising them from four categories into two. We now know (from Table 7) that common law countries prioritise shareholder protection from management at the national level, and firms in these countries prioritise investment in corporate governance attributes that aim solving the same abuse. On the other hand, civil law countries clearly prioritise shareholder protection from blockholders at a national level, and firms in civil law countries prioritise investment in corporate governance attributes that protect shareholders from blockholders. This seems logical, as one would expect institutions and firms operating in different legal contexts to prioritise corporate governance measures aimed at mitigating the most serious type of agency conflict within the particular context.

4. Conclusions

Our starting point was the extensive literature on corporate governance and firm performance that addresses both country-level and firm-level corporate governance variables, but separately. Very few studies does however incorporate both levels of corporate governance when analysing firm performance. To our knowledge only Klapper and Love (2003), Aggarwal et al. (2009), Bruno and Claessens (2010), and Chhaochharia and Laeven (2009) have studied the interaction between country-level and firm-level corporate governance. In this study we extended and deepened the analysis of the interaction between these two levels of corporate governance. We employed a newly developed investor protection index (SPI) to measure corporate governance at the country level and the CGQ index to measure corporate governance at the firm level. Using these indices, we were able to analyse the interactions between the levels in both a cross-sectional manner and over the course of time. The SPI also allowed us to separate investor protection mechanisms into shareholder protections from management and shareholder protections from blockholders. The sample assessed in this study comprised 9,860 firms, and the data covered the period 2003–2006; in total, the panel contained 27,497 firm-year observations from 11 countries.

Our first results revealed a positive relationship between the two levels of corporate governance, indicating that the levels are complements. In other words, stronger investor protections at the country level were accompanied by stronger governance mechanisms at the firm level. These results support the findings of Aggarwal et al., but conflict with the results of Bruno and Claessens and Chhaochharia and Laeven. A possible explanation for this result is that we used the same ISS attributes as Aggarwal et al. to measure firm-level corporate governance. Bruno and Claessens and Chhaochharia and Laeven, on the other hand, used the same dataset but selected fewer attributes for their analyses. We interpret this discrepancy as indicative of the importance of using a comprehensive index of attributes. More importantly, our more advanced country-level corporate governance index allowed us to analyse the interaction between country-level and firm-level regulation in a relatively rigorous manner. These analyses revealed positive relationships between firm-level corporate governance and both country-level protections of shareholders from management and country-level protections of shareholders from blockholders. These results may enable governments to tailor their investor protection regulations in ways that are specifically applicable to their context.

Our conclusions are accompanied by certain caveats. First, we examined the firms over only a few years; both SPI data and ISS data are available for longer time periods, but the datasets overlap for only a short period of time. Second, our requirement for both SPI and ISS data limited us to an examination of only 11 countries. Our conclusions are therefore limited both by the length of time over which the data are examined and by the number of countries that are assessed.

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Notes

¹ The dataset is fully accessible via the homepage of the "Law, Finance and Development" project, at www.cbr.cam.ac.uk.

² We also ran our statistics using no lags as well as a two year lag. Both analyses confirmed our results.

³ For example, highly significant positive relationships exist between ANTIBLOCK and four of the six attributes in the sub-group TAKEOVER, indicating that the attributes in this subgroup serve mainly to mitigate conflicts between minority shareholders and blockholders.