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Abstract

This paper investigates whether differences in international corporate governance systems affect firm performance. We construct a firm-level panel database from three countries and perform regression analyses that controls for country-specific effects. Our study includes governance characteristics that are present in all of the three countries, but also characteristics that are unique to one of the three countries. For both sets of variables we find that the governance system has an important influence on the governance-performance relation. First, for the characteristics present in all three countries, we find significant differences between the countries. Second, the characteristics that are unique to a country also have significant influence on performance. These findings prove that empirical findings in one specific governance system cannot be generalized into other systems. Moreover, country-specific features appear to be highly relevant and should be taken into account in comparative studies.

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I. Introduction

Countries around the world are characterized by alternative corporate governance systems (Shleifer and Vishny (1997)). Considerable debate is going on illustrating how good, superior or effective these systems are. Prowse (1995) suggests that such judgments are inherently subjective because of the sparse evidence on the relative performance of different corporate governance systems. A question of major interest is therefore: do differences in these systems lead to differences in firm performance? While existing studies usually examine corporate governance characteristics of firms in one country, there is, to our knowledge, no study yet which thoroughly analyzes the influence of cross-country governance characteristics on company performance. In this study, we take a step towards filling this gap. We empirically analyze the effect of different corporate governance systems on firm performance by examining a sample of matched industrial companies listed on stock exchanges of three countries, namely Belgium, the Netherlands and the United Kingdom. In particular, we investigate whether differences in the two most widely used corporate governance mechanisms, namely the ownership and the board structure of firms of these countries affect their performance.

The three countries represent three different corporate governance systems. The United Kingdom - an example of the market-based model - falls under the Common Law family with the strongest protection of shareholders and creditors (La Porta et al. (1998)). The stock market is a well-established feature of the U.K. economy and shareholders occupy the central position as their interests are the ones British companies tend to promote. Share ownership is widely dispersed and the 'Berle-Means' type of corporations (the separation of ownership and control) is broadly prevalent. An active market for corporate control functions as an important disciplinary mechanism (Franks and Mayer (1996)). On the other hand, Belgium is an example of French Civil Law family which is characterized by relatively weak investor protection and corporate law enforcement. Belgian companies have features like high ownership concentration, cross-shareholdings and pyramid structure (Renneboog (2000)). These features make Belgium typical of some Continental European countries. In between the U.K. and Belgium, is the Netherlands which falls under the German Civil Law system having somewhat stronger protection of creditors. Share ownership is not as dispersed (concentrated) as in the U.K. (Belgium). Shareholders of Dutch listed companies have divergent cash-flow

and control rights that arise not from pyramiding and cross-holdings, but from various mechanisms leading to the issue of depository (non-voting) shares and priority shares, and the reduction of certain rights of common shareholders (Kabir et al. (1997)). The two-tier corporate board structure is the norm in the Netherlands while one-tier boards are typical in Belgium and the United Kingdom.

Do these and other cross-country differences in corporate governance features lead to significant differences in performances of firms in these countries? In order to study this question, we assemble a panel data set consisting of 150 listed non-financial firms from these three countries covering a time period of five years. The firm-level panel regressions that we perform in our analysis are based on approximately 720 observations.

We have several principal findings. First, there is a significant cross-country variation of commonly described corporate governance characteristics like board size, board composition, and ownership structure of listed firms. We thus confirm earlier findings reported in the literature. Second, these common features do not have similar cross-country relationships with corporate performance. While one characteristic has a positive relationship with performance in one country it has negative or no relationship in another country. For example, an analysis of stock returns shows that financial institutional investors only have a significant impact in the U.K., which is positive. Apparently, the role of these institutions differs in this setting, which induces this positive effect. Third, specific corporate governance features of a country play an important role in determining corporate performance, relative to the common characteristics. For example, for each of the three performance measures we use, a significantly negative impact of so-called holding companies is found in Belgium. This characteristic is unique to the Belgian setting. These findings are relevant for the literature on governance for at least two reasons. First, findings in a specific country cannot be generalized to other countries. Second, a set of variables that is used to study a specific country is most likely not the complete set of variables in another country.

The rest of the paper is organized as follows. In the next section, we discuss the relevant literature analyzing the relationship between corporate governance mechanisms and firm performance. In Section III, we describe the data used in our analysis. We also discuss firm and corporate governance characteristics of three countries. Section IV outlines the research

methodology. The empirical results are presented in Section V. The summary and conclusions of this study are presented in Section VI.

II. Literature review

Jensen and Meckling (1976) and Fama and Jensen (1983) argue that the diffusion of ownership has an important impact on the validity of the profit-maximising goal of corporations because the separation of control may enable corporate managers to pursue their own interests. Without a managerial remuneration system geared towards value maximisation, managers of firms face an asymmetrical reward structure: poor performance will negatively affect them whereas they will not be excessively awarded for good corporate performance. Consequently, managers of widely-held firms may be more risk averse than those of blockholder-controlled firms. The alternative view is that there exist several managerial disciplining mechanisms, like blockholder monitoring, the (threat from the) market for corporate control, pay-for-share price performance remuneration schemes, managerial labour markets etc., which curb managerial opportunistic behaviour.

A large number of studies spanning a few decades have investigated the relationship between ownership structure and corporate performance, but have not yielded clear-cut results. It has been argued that as ownership concentration increases, the incentives and the abilities of shareholders to properly monitor managers increase too. This creates beneficial effects for firms in the sense that performance or profitability improves (Morck et al. (1989)). On the other hand, there are studies which find that higher ownership concentration lead to detrimental effects for corporations as large blockholders and managers can collude to extract rents from small shareholders (Lehman and Weigand (2000)).

Demsetz and Lehn (1985) state that a relation between ownership and performance is not to be expected because ownership-induced inefficiencies cannot be maintained. Ownership concentration will be adjusted to maintain the highest possible profitability. In a rational world, equity can act as a commitment device to delegate a certain degree of authority from shareholders to management (Burkart et al. (1997) and Bolton and von Thadden (1998)). Equity control should be state-contingent: in some states of the world (e.g. with low corporate

profitability), close monitoring resulting from strong ownership concentration is desirable. In other states, close monitoring may reduce managerial discretion and hence management's effort. The study by Demsetz and Villalonga (2001) provides recent evidence that there is no significant relation between ownership structure and firm performance.

However, if (insufficient) monitoring by shareholders or other control mechanisms cannot avoid a decrease of profitability, low quality monitors may sell their stakes and new (controlling) shareholders could improve future corporate performance by substituting incumbent management. Bethel et al. (1998) find empirical support for US companies: activist shareholders hold large blocks in diversified companies with poor profitability. Likewise, poor corporate performance triggers changes in control to remove top management (Franks et al. (2001)).

Another dimension of ownership structure is concerned with the identity of shareholders which also has implications for corporate governance. Demsetz and Lehn (1985) point out that individuals and families, financial institutions and corporations may have different objectives, monitoring skills as well as different monitoring incentives. Individual blockholders are usually strongly involved with the events of a firm, and their monitoring can significantly enhance firm performance. Financial institutions have the skills and resources to monitor managers, but they can also align with managers in order to foster their other interests in the firm.

A deficiency of most of the U.S. empirical research is that they usually only focus on insider ownership concentration and thus ignore the presence of blockholders. Insider ownership concentration per se is not a good proxy for agency costs, but rather *relative* insider control. Morck et al. (1988) and McConnell and Servaes (1990) show that the impact of equity ownership may change over different levels of ownership. Morck et al. (1988) discover a non-monotonic relation between Tobin's Q and insider ownership. Increasing insider ownership between 0 and 5% has a positive impact on Tobin’s Q. This effect reverses for insider control over 5 to 25% of the voting rights, and is again positively related to Q if management holds more than 25% of the equity. It seems that at low levels of insider ownership, the agency costs decrease with rising insider ownership, that at higher levels of insider control, performance suffers from managerial entrenchment and that at high levels of insider control, management maximizes shareholder value. The McConnell and Servaes (1990) study does

not confirm these results. They find a curvilinear relation between Q and insider ownership. The relation increases up to ownership levels of 40-50% and subsequently decreases. Still, these findings are not confirmed by Loderer and Martin (1997), Cho (1998) and Himmelberg et al. (1999) who consider equity ownership as endogenous.

In addition to the ownership structure, the board of directors is expected to play an important role in corporate governance. But, its role has been controversial too. On the one hand, the board of directors is expected to perform effective monitoring of the actions of top corporate managers. The board replaces poorly performing managers and determines their compensation. It is also believed that boards dominated by non-executive/independent directors are better monitors. On the other hand, directors may have their own interests which are not aligned with those of shareholders. Hence it is possible that directors are not effective monitors as they are not selected independently and are more dependent on management for obtaining firm-specific information. Several outside directors are in fact former employees or advisers of a firm. Numerous studies (predominantly in the U.S.) have investigated the role of boards, specifically its tasks and its composition, and found no clear-cut evidence regarding their effects on firm performance (Denis and Denis (1995), Borokhovich et al. (1996), Agrawal and Knoeber (1996)).

Both ownership and board characteristics of firms are found to be interrelated. Agrawal and Knoeber (1996) examine the role of different corporate governance mechanisms and find evidence of interdependence among these mechanisms. They conclude that a greater use of one mechanism need not be positively related to firm performance.

In sum, both theoretical and empirical studies suggest that the relation between corporate governance characteristics and corporate performance can be positive, negative or none. Therefore, we do not put forward specific hypotheses describing the relationships in one or another direction. Rather, our stance is that the precise manner in which corporate governance characteristics affect corporate performance has to be determined empirically.

III. Sample

A. Data sources

We identify a time period of five years and construct a sample of 150 non-financial firms. These firms are listed on Amsterdam, Brussels and London stock exchanges, and are selected after first matching on the basis of industry and then on firm size.[1] Companies in our sample range from very small (22% of the sample firms have sales of less than £25 millions) to very large (24% have sales of at least £1000 millions).

We use a wide variety of sources in the three countries to collect firm-level panel data. All financial data for the Belgian companies are collected from '*Balanscentrale'* (a CDROM database maintained by the National Bank of Belgium) and annual publications of '*Memento der Effecten'*. Corporate governance data are hand collected from the Brussels stock exchange and annual publications of '*Memento der Effecten'*. For the Netherlands, financial data are collected from Yearbooks of Dutch Companies, *REACH* (a CDROM database) and annual reports. Corporate governance data are again hand collected from different publications (Yearbooks of Dutch Companies and a daily financial newspaper '*Het Financieele Dagblad'*) and annual reports of companies. The financial data from the U.K. companies are collected from *Worldscope* and, wherever needed, from company annual reports. All corporate governance data of British companies are also hand collected from annual reports.

These data are collected for the five-year period from 1993 through 1997. The sample period is 1992-1996 for Belgian firms because complete 1997 data were not available. This minor difference in time-period is not likely to lead to different results. Nevertheless, as a robustness check we have performed the analysis covering the single common period of four years data (1993-1996) and the empirical results of this study remain qualitatively similar.

[1] An important governance characteristic in Dutch firms is the structured regime. We start with a random selection of 25 Dutch firms with this regime and we locate for each firm a matching firm in the same industry (manufacturing, trade or service) and the smallest difference in total sales. For these 50 Dutch firms, we locate 50 Belgian and 50 U.K. matched firms based on the same industry/size matching.

B. Variable definitions

The variables used in our analysis are classified into three categories: firm characteristics, corporate governance characteristics and performance measures. The definitions are presented in Table 1. Although firm characteristics are not of primary interest, we include these in our analysis as control variables because differences on these dimensions can affect the relative performance of firms. Prior studies show that both firm size and leverage are two important determinants of company performance. The book value of total assets (BVTA) of a firm is used as a proxy for firm size. We use the natural logarithm of the book value of total assets in the regression analyses to account for inherent skewness of this variable. The leverage variable (LEV) used in our analysis is the percent of total assets financed by total debt (in book value terms). We also separate firms with leverage ratios reporting a profit from those reporting a net loss (LEVPROF and LEVLOSS) as these firms tend to have differentiated patterns of corporate governance.

We identify widely used corporate governance characteristics of firms. These are grouped under board structure and ownership structure categories. The total number of directors sitting on the board is used to calculate the board size variable (BRDSIZE). Both Belgium and the U.K. have unitary board structure. The Netherlands has a two-tier board system and our measure includes the size of both boards. We also classify all directors as either internal or external. In Belgium and U.K. internal members are normally called executives, while in the Netherlands they are referred to as managerial board members. External directors are non-executives in Belgium and U.K. and supervisory board members in the Netherlands. The variable board fraction external (BRDEXT) is the percentage of external board members. The size of total block ownership (BLOCK) is computed as the percentage of firm's total outstanding shares owned by all blockholders, which is defined as those owning at least 5% of a firm’s total outstanding shares. We also construct additional variables related to the identity of share ownership. The percentages of shareholdings by financial institutions including banks and insurance companies (FINAN), individuals and family members (INDIV), insiders (INSIDE), and industrial corporations (INDUS) are computed separately.

In addition to the above-mentioned common governance characteristics, we define three variables that are specific to one or two of the three countries. The variable CEO dummy (CEO) has a value of one in case the chairperson of the internal and external boards are the

same. Such a situation is not possible in the Netherlands. The dummy variable structured regime (SR) has a value of one in case a firm has adopted the structured regime. Under this regime many of the powers of shareholders are delegated to the external (supervisory) board (see De Jong et al. (2002)). A governance characteristic that is specific in Belgium firms are the blockholdings of holding companies. We measure the percentage of shares held by holding companies (HOLDING) (see Renneboog (2000)).

We examine three different measures of firm performance. The return on assets (ROA) is a purely accounting-based measure and is computed from company financial statement data. Each firm's annual earnings before interest, taxes and depreciation are divided by the average of the book value of total assets at the beginning and ending of the year and is denoted as ROA. Accounting performance measures (like ROA) have an advantage because they are backward looking. Still, they are prone to manipulation by management and usually do not reflect investment in intangible assets. This distorts performance comparisons across firms with differing proportions of intangible assets.

The second performance measure, Tobin's Q-ratio (Q), is a hybrid one. It is measured by dividing the sum of the market value of equity and the book value of debt by the book value of total assets. The last performance metric we use is stock return (RET) which is a capital market-based performance measure. It is computed from annual changes in share price plus dividends divided by previous year's share price. Stock return is considered to be a purely forward-looking benchmark. It should be pointed out that almost all published empirical studies on the control-performance relation are set within the Anglo-American context and usually take one performance measure: Tobin's Q, or an accounting measure like ROA. Since no consensus exists in the literature on the use of a reliable performance measure, we believe that these three variables would reflect company performance in a robust way.

C. Descriptive statistics

Table 2 reports descriptive statistics for firm characteristics (Panel A), corporate governance characteristics (Panel B) and firm performance measures (Panel C) for each country separately. Note that the number of observations for each country is approximately 250. Conforming prior research analyzing financial statement data, we winsorize the most extreme observations (larger/smaller than the mean plus/minus three standard deviations) in order to

mitigate the influence of outliers. According to Panel A, the mean (median) total assets of Belgian firms in our sample is £665 (£124) million, compared to £1203 (£162) million for Dutch firms and £1877 (£121) million for the U.K. firms. The values from five different years have been transformed into 1997 pounds in order to adjust for inflation. Although the mean total assets of Dutch and U.K. firms are significantly different from that of Belgian firms, none of the median differences are statistically significant. It should be noted that the average Belgian listed firm is smaller as the Belgian economy is characterized by small and medium sized firms and multinational firms less prevalent. The median firm in our sample of all three countries is roughly of equal size.

Looking at the leverage ratio of the Belgian, Dutch and U.K. firms, we observe that these are significantly different from each other. The average leverage ratios of Belgian, Dutch and UK firms in the sample are 53%, 61% and 59%, respectively. The median value of each country does not differ much from the mean. We also find that the leverage ratio of Belgian firms reporting positive earnings is significantly different from that of Dutch and U.K. firms.

Analyzing the corporate governance characteristics in Panel B, we observe that country means or medians of almost all variables are significantly different from each other. Companies in Belgium have the largest boards. The average board size of Belgian firms is 10 compared to 8 for Dutch and U.K. firms. These differences are statistically significant. A significantly larger percent of board seats (75%) of Belgian companies are held by non-executives. The corresponding figure for the Netherlands is 64% and 43% for the U.K. Prior studies report similar findings (Dahya et al. (2002)).

The functioning of the board systems prevailing in these three countries can be described as follows: directors of the U.K. firms are, in general, expected to take into account the ‘interests of shareholders’ in company decision making; those of the Dutch firms are expected to take into account the ‘interests of the company’; and those of the Belgian firms are expected to take into account the ‘interests of the company’ in which non-shareholders interests are limited to long-term goals.

With regard to ownership, we observe that Belgian firms have, on average, significantly higher ownership concentration (59%), compared to Dutch firms (46%) and U.K. firms (26%). Shareholdings by financial institutions are the largest for the U.K. firms. The average

blockholdings by financial institutions in the U.K. is 15% which is significantly different from that of Belgium and the Netherlands (11%). The average ownership by individuals and families in both Belgium and the Netherlands is equal to 13%. It is significantly larger compared to the average share ownership of individuals in the U.K. (5.7%).[2] Block ownership by industrial corporations is the largest in Belgium (the average is 35%) which is significantly different from that of the Netherlands (11%) and the U.K. (5%).

In Belgium, 31.2% of the firms has the position of chairperson of the executive and non-executive board unified in one person. On average 22.8% of the shares is held by holding companies. In the U.K. 20.9% of the firms has the dual position of the chairperson. In the sample for Netherlands, 54.8% of the firms has the structured regime.[3]

Panel C of Table 2 reports summary statistics of our three performance measures. Most of these variables are significantly different from each other. The mean (median) ROA of the Belgian sample of firms is 10.44 (8.94). Both Dutch and U.K. samples have a significantly higher average (median) ROA: 15.61 (15.28) for the Netherlands and 12.86 (13.88) for the U.K. The mean (median) Q-ratio of Belgian firms in our sample are 1.34 (1.23), compared to 1.59 (1.37) for Dutch firms and 1.74 (1.51) for the U.K. firms. These values are also significantly different from each other. Our last performance measure is stock return. We find that during the sample period both mean and median annual stock returns of Dutch companies (30.29 and 22.72) are significantly higher relative to Belgian and U.K. companies. Over the period 1993-1997, Dutch companies have substantially outperformed those of other continental European countries as well as those of the U.K. (see Dimson et al. (2001)).

IV. Research design

The descriptive analysis above shows that there are significant differences among corporate governance characteristics as well as performance in the samples of companies from the three

[2] Shareholdings by individuals include insider shareholdings. In the U.K. the average insider blockholdings are 3.9% and in the Netherlands on average 6.7% is held by insiders. In Belgium, no insider shareholdings are reported for our sample of firms.

[3] De Jong et al. (2002) show that 60% of the Dutch firms has adopted the structured regime. Although, by construction, our sample has a lower percentage, this difference is small. Therefore, it is not likely that the selection will influence our findings.

countries. In order to study whether the observed differences in performance are related to the differences in corporate governance characteristics associated with each country, we estimate the following basic regression model:

$$Performance = f\ (corporate\ governance\ variables,\ control\ variables) \qquad (1)$$

The model uses firm performance as the dependent variable. As mentioned earlier, three different proxies (ROA, Q and RET) are used to measure firm performance. We use two types of proxies to represent a country's corporate governance system: board characteristics and ownership characteristics. The variables BRDSIZE (board size) and BRDEXT (board fraction external) represent the number of directors and the percentage of non-executive directors, while the variables FINAN, INDIV and INDUS represent percentages of block ownership by institutions, individuals and families and industrial corporations, respectively. It is possible that corporate performance is driven purely by non-governance factors. Therefore, we specifically control for differences in two most important firm characteristics by using BVTA (firm size) and LEV (leverage) variables. The first set of regression equations that we estimate can be specified as follows:

$$\begin{aligned} Performance_{i,t} = {} & \beta_0 + ß_1\, BRDSIZE_{i,t} + ß_2\, BRDEXT_{i,t} + ß_3\, FINAN_{i,t} + \\ & ß_4\, INDIV_{i,t} + ß_5\, INDUS_{i,t} + ß_6\, LOG(BVTA)_{i,t} + ß_7\, LEVPROF_{i,t} + \\ & ß_8\, LEVLOSS_{i,t} + \sum \gamma_j\, Country\ dummies + \sum \lambda_l\, Time\ dummies + \varepsilon_{i,t}, \end{aligned} \qquad (2)$$

where *i* and *t* represent all 150 firms in our sample and the five time periods, respectively, and $\varepsilon_{i,t}$ is an error term. The country dummies capture the performance differentials related to country characteristics. The time dummies capture the potential effect of general market condition and other systematic factors that may vary across years.

To control for all other unobservable firm-level features that can influence performance, we estimate a fixed-effects regression model in which each firm is assigned a unique intercept. The important advantages of a panel regression are that it will yield more accurate estimators and reduce the effect of omitted variables in comparison to pure cross-section or time-series regressions. The firm dummies capture the potential effect of all firm-specific omitted

variables. The second set of regression equations that we estimate can thus be specified as follows:

$$Performance_{i,t} = \beta_0 + ß_1\, BRDSIZE_{i,t} + ß_2\, BRDEXT_{i,t} + ß_3\, FINAN_{i,t} + ß_4\, INDIV_{i,t} + ß_5\, INDUS_{i,t} + ß_6\, LOG(BVTA)_{i,t} + ß_7\, LEVPROF_{i,t} + ß_8\, LEVLOSS_{i,t} + \sum \lambda_l\, Time\ dummies + \sum \eta_m\, Firm\ dummies + \varepsilon_{i,t}, \quad (3)$$

One can ask whether our empirical tests are robust to the generic relation between corporate performance and corporate systems of these three countries. In order to find out whether the change in performance is specifically related to each country's corporate governance characteristics, we model several interaction variables which measure the relationship of firm performance with country-specific corporate governance characteristics. Therefore, our third set of regression equations is specified as follows:

$$Performance_{i,t} = \beta_0 + ß_1\, BRDSIZE_{i,t} + ß_2\, BRDEXT_{i,t} + ß_3\, FINAN_{i,t} + ß_4\, INDIV_{i,t} + ß_5\, INDUS_{i,t} + ß_6\, LOG(BVTA)_{i,t} + ß_7\, LEVPROF_{i,t} + ß_8\, LEVLOSS_{i,t} + \sum \varphi_k\, Interaction\ variables_{i,t} + \sum \lambda_l\, Time\ dummies + \varepsilon_{i,t}, \quad (4)$$

Finally, we estimate three separate set of regressions per country, in which we include an intercept, time dummies, control variables and the common governance variables, as in equation (2) to (4). In addition, in these regressions we include the country-specific governance variables.

V. Empirical results

Table 3 presents the results of the different regression models using the full data set. There are about 720 observations pooled across the three countries. The regressions of various corporate performance measures using firm-specific explanatory variables include time dummies, and are performed both with and without country dummies and company fixed effects.

In Panel A, we start with pooled data from the three countries for all firm-years with firm characteristics, country dummies and time dummies used as control variables (equation (2) in section IV). We include the basic set of explanatory variables. The results in the column ROA show that the accounting return is significantly negatively influenced by the fraction of external board members, industrial shareholdings and leverage of firms with a loss. The dummy for Dutch firms has a significantly positive coefficient. The regression includes an intercept and five period dummies (results not reported).

We can compare the results in Panel A for the three performance measures. Board size has a significantly positive impact for Q, while the other measures yield insignificant results. The evidence for external board members is stronger, because both ROA and Q have a significantly negative sign. The blockholdings of financials and industrial firms are both significantly negative for one of our measures, while the blockholdings of individuals and families have no significant effect on performance. The two country dummies in Panel A clearly show that the Dutch firms and the UK firms have outperformed the Belgian firms. The influence of firm size and leverage of profitable firms is only significant for a single measure. Leverage in firms with a loss has the expected negative sign for two measures.

In Panel B we introduce controls for firm-specific fixed effects (equation (3) in section IV). Here, we observe that five coefficients remain significant, with same sign. Four coefficients that were significant in Panel A become insignificant. We find two new significant coefficients, i.e. individuals have a positive impact on ROA and leverage of profitable firms influences Q positively. The fact that statistical significance of corporate governance variables changes with the inclusion of fixed firm effect suggests that omitted firm characteristics are correlated with the included explanatory variables. We observe that the adjusted R^2 increases dramatically. For example, for ROA from 23 percent in Panel A to 53 percent in Panel B. It indicates that a substantial amount of cross-sectional variation in firm performance is explained by firm characteristics. It is reassuring to notice that, although our findings are never significant in all of the six regressions, the results that are significant are never contradictory across regressions.

The analysis in Panel A and B assumes that the impact of our governance variables is the same across countries. This assumption can be tested by introducing country-specific interactive corporate governance variables. This allows us to see to what extent corporate

governance variables produce a differential effect across the three countries. Our results are reported in Panel C (equation (4) in section IV). For example, for Tobin's Q the coefficient for board size is significantly positive in the base-case, Belgium. The interaction term for board size and the Netherlands is insignificant, which implies that for Dutch firms the influence is not significantly different from the base case. UK firms have a significantly higher positive influence of board size, in comparison with the base case.

The overall results in Panel C point out some similarities, but also distinct differences between the three countries. As mentioned above, a larger board size has a positive effect in each of the countries. The similarity is stronger for the fraction of external board members. In Belgium a significantly negative effect is found for Q. None of the coefficients in Netherlands and UK is significant, which means that the result is similar across countries. Differences seem to appear in the ownership structures. Financials are only significant in the UK, but the result is negative for Q and positive for stock returns. Individuals and families are significantly negatively related to stock returns in Belgium. However, the coefficients in the Netherlands and UK are larger, which leads to positive effects in these countries. For the Netherlands, this positive effect is confirmed by significant results for Q and ROA, while in the UK the results are mixed. Industrial firms clearly have a negative impact in Belgium, because all three regressions show significantly negative coefficients in the base case. For Dutch firms, this negative effect becomes positive for stock returns. Also in the UK a positive effect results for the market-based measures, i.e. Q and stock returns. A puzzling result is the more negative effect in the UK for ROA.

Two conclusions can drawn from Panel C. First, board size and the fraction of outsiders have similar influence across the countries. Second, the variables for ownership structure show pronounced differences across the countries in their relations to performance. So far, our analysis has included variables that represent part of the institutional setting that is present in each of the three countries. However, some variables are unique to one or two countries. We therefore analyze the three countries separately and provide more attention to specific institutional features of each country. Table 4 presents the results of country-level regressions of corporate performance on firm-specific corporate governance variables.

The results for the separate analyses of the countries are presented in three panels. For Belgian firms (Panel A), we find that the board characteristics (size and external members)

are similar in comparison with the previous table. As mentioned earlier, Belgian firms have one-tier board. It can be argued that if the CEO of a firm is also the chairperson of the board, no effective monitoring can be expected. We, therefore, use the CEO dummy as an explanatory variable, but we do not find a systematic relationship with performance. The variables representing ownership by financial institutions and individuals and families also do not show any significant relationship with any of the performance measures.

An analysis of the ownership of Belgian companies reveals that by far the largest category of shareholders is that of the holding companies. We, therefore, split corporate shareholders into two sub-categories: holding companies and other companies, and use these variables in regression analysis. Our results show that ownership by holding companies is significantly negatively related to performance. The sign on holding companies variable is negative and statistically significant in all three regressions. Renneboog (2000) and Banerjee et al. (1997) also documents evidence that holding companies destroy value for Belgium and France, respectively.

The regression results for the Dutch sample (Panel B of Table 4) show that board size has no relationship with any of the performance measure used in the analysis. On the other hand, the percentage of external directors is significantly negatively related with performance (ROA and Q). As mentioned earlier, Dutch firms have a two-tier board structure where supervisory board members are expected to look after the interests of all stakeholders. It is argued that the composition of the supervisory board is controlled by the management board and therefore, these 'external' directors (supervisory board members) are not that effective in disciplining corporate managers. One specific institutional feature of many Dutch companies is the 'structured regime' which reduces certain rights of the shareholders and grants them to the supervisory board (see Kabir et al. (1997) and De Jong et al. (2002)). In particular, it is not the common shareholders but the supervisory directors who appoint and dismiss directors, approve the annual accounts of the corporation, and approve certain major decisions like issue of new securities, file for bankruptcy, etc. Nearly half of the Dutch firms in the sample fall under this regime and we use a dummy variable in the regression analysis to proxy for this feature. The structured regime appears to have a negative effect on stock returns, while it is insignificant for the other measures. We observed in Table 3 that blockholdings by individuals and families in the Netherlands had a positive impact on corporate performance. Splitting the ownership of individuals and family members into ownership of insiders

(management and supervisory board members) and others, we find that for ROA insider block ownership has a significantly negative effect on firm performance while ownership by outside large shareholders has a significant positive effect.

Unlike Belgium and the Netherlands, the U.K. is an example of typical Anglo-Saxon country. We use the common corporate governance features as explanatory variables in the regression analysis. The results presented in Panel C of Table 4 indicate that board size has a positive effect (Q) and the fraction of outsiders has a negative effect (ROA). The CEO dummy (CEO acting as a chairperson of the board) has a negative effect on firm performance (ROA and stock return). We find that when the management owns a high proportion of equity, Q is lower. We also observe that large shareholdings by financial institutions and corporations in the U.K. seem to reduce corporate performance.

As a robustness check, we try a variety of alternative regression specifications. First, we control for industry fixed effects instead of company fixed effects. It is possible that firm performance is affected by industry factors which are not captured by the explanatory variables we use. Second, we perform regressions using five-year average values of all variables. One can argue that yearly performances of firms are usually quite erratic and therefore can cause insignificant relationship. None of these specification checks significantly change the above mentioned results.

Overall, our results show that country-specific corporate governance features are important in multi-country studies for two reasons. First, variables have different impact on performance across countries. Second, countries have unique institutional features that influence performance.

VI. Conclusions

The purpose of this paper is to examine whether differences in corporate governance features across countries can explain the differences in corporate performance. Whereas most studies on the relation between performance and control focus on the United States, this study takes a comparative approach and researches the relation in different countries. We assemble a small

but unique data set comprising of matched industrial firms listed on stock exchanges of three countries: Belgium, the Netherlands and the United Kingdom. These countries are chosen because their corporate governance characteristics differ significantly on many dimensions. Moreover, these countries can be considered to be examples of three different corporate governance systems having close similarities with many countries of the world. The U.K. represents countries with a market-based system, Belgium is prototypical for most Continental Europe whereas the Netherlands has unique corporate governance features but is close to the German governance system.

We can draw the following major conclusions from this study. First, a significant cross-country variation in stylized corporate governance characteristics is present among Belgian, Dutch and U.K. firms. The average board size and the proportion of non-executives in Belgian firms is larger than that of the Netherlands and the U.K. Ownership concentration is the highest in Belgium and the lowest in the U.K. Second, these common corporate governance features do not have similar relationship with firm performance across countries. Our results indicate that in cases where a statistically significant relationship with performance is observed, there is no consistency across countries concerning the direction of such relationship. Third, country-specific corporate governance characteristics are found to be more important in determining performance of firms. The significantly negative relationship between corporate shareholdings and performance observed in Belgium is driven by the ownership and lack of monitoring by holding companies. The legal obligation for many Dutch firms to create a separate supervisory board with outsiders and to reduce rights of shareholders also negatively influences the governance-performance relationship.

The empirical evidence provided in this study therefore suggests that it would not be sufficient to consider only the stylized facts to explain firm performance in an international context. In fact, it would be misleading if researchers do not include country-specific factors as additional explanatory variables. This study is only a first attempt to evaluate the importance of some universally used corporate governance characteristics in explaining the performance of individual firms across countries. A challenging future task will be to perform empirical tests on a larger data set from many other countries. The recent worldwide interest in the disclosure of company-specific corporate governance data would be a valuable stimulus in this direction.

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Table 1. Definition of variables

Firm characteristics

BVTA	Firm size	Book value of total assets (£ million)
LEV	Leverage	Book value of total debt / book value of total assets (%)
LEVPROF	Leverage (profit)	Leverage of firms reporting a profit (%)
LEVLOSS	Leverage (loss)	Leverage of firms reporting a loss (%)

Common corporate governance characteristics

BRDSIZE	Board size	Total number of board members
BRDEXT	Board fraction external	Percentage of external board members
BLOCK	Total blockholdings	Percentage of common shares owned by all blockholders
FINAN	Financial blockholdings	Percentage of blocks of common shares owned by financial institutions
INDIV	Individual&family blockholdings	Percentage of blocks of common shares owned by individuals and family members
INSIDE	Inside blockholdings	Percentage of blocks of common shares owned by insiders
INDUS	Industrial blockholdings	Percentage of blocks of common shares owned by industrial firms

Country-specific corporate governance characteristics

CEO	CEO dummy	Equals 1 if CEO is also the chairperson of the board (Belgium, U.K.)
SR	Structured regime	Equals 1 if firm adopted structured regime (Netherlands)
HOLDING	Holding company blockholdings	Percentage of blocks of common shares owned by holding companies (Belgium)

Performance measures

ROA	Return on assets	(Earnings before interest, taxes and depreciation) / Book value of total assets (%)
Q	Tobin's Q	(Market value of equity + book value of debt)/ Book value of total assets
RET	Stock return	Annual stock return (%)

Table 2. Descriptive statistics for firm characteristics, corporate governance characteristics and performance measures

The sample consists of 150 matched Belgian, Dutch and UK listed firms. Annual data for a five-year period are analyzed. All variables are defined in Table 1. The superscripts b, n and u denote if there are statistically significant differences (at the 5% level) in mean and median values between the country and Belgium, the Netherlands and the UK, respectively. We use a two-tailed t-test for means and Wilcoxon signed rank test for medians.

Panel A. Firm characteristics

	Mean	Median	25th	75th	St. dev.	Obs.
Belgium						
BVTA	665.07 (u, n)	124.35	46.06	712.84	1321.65	250
LEV	53.20 (u, n)	54.53 (u, n)	38.55	70.59	22.23	250
LEVPROF	52.29 (u, n)	53.54 (n)	38.49	68.87	21.68	234
LEVLOSS	-	-	-	-	-	-
Netherlands						
BVTA	1203.03 (b)	161.94	27.23	904.67	2950.87	247
LEV	61.26 (b)	62.71 (b, u)	52.73	70.59	13.49	247
LEVPROF	61.16 (b)	62.55 (b, u)	52.74	70.59	13.76	224
LEVLOSS	61.71	58.51	51.15	73.97	11.44	20
U.K.						
BVTA	1876.94 (b)	121.11	25.44	1204.00	6463.12	249
LEV	59.18(b)	55.84 (b, n)	44.60	70.87	21.49	248
LEVPROF	58.77 (b)	55.21 (n)	44.45	70.87	19.98	210
LEVLOSS	60.95	60.28	43.96	70.04	28.85	37

Panel B. Corporate governance characteristics

	Mean	Median	25th	75th	St. dev.	Obs.
Belgium						
BRDSIZE	10.29 (u, n)	9 (u, n)	6	11	6.05	248
BRDEXT	75.27 (u, n)	80.00 (u, n)	62.94	91.66	21.68	248
BLOCK	58.86 (u, n)	57.40 (u, n)	46.22	70.50	18.85	250
FINAN	10.85 (u)	0	0	8.18	20.68	249
INDIV	12.78 (u)	0	0	19.5	21.02	249
INDUS	35.24 (u, n)	36.40 (u, n)	5.62	56.30	28.17	249
Netherlands						
BRDSIZE	8.48 (b)	7 (b)	5	11	3.98	247
BRDEXT	64.47 (b, u)	66.66 (b, u)	60	73.33	11.28	247
BLOCK	46.35 (b, u)	47.23 (b, u)	25.11	68.51	28.51	247
FINAN	11.00 (u)	6.01 (b, u)	0	14.78	14.36	247
INDIV	13.35 (u)	0	0	20.37	23.21	247
INDUS	10.08 (b, u)	0	0	6.01	20.32	247
U.K.						
BRDSIZE	8.17 (b)	8 (b)	6	10	3.12	249
BRDEXT	43.30 (b, n)	44.44 (b, n)	33.3	55.55	15.99	249
BLOCK	25.55 (b, n)	24.96 (b, n)	8.69	37.96	19.14	249
FINAN	15.20 (b, n)	11.1 (b, n)	0	25.81	15.13	249
INDIV	5.77 (b, n)	0	0	0	13.88	249
INDUS	4.98 (b, n)	0	0	0	12.08	249

Panel C. Performance measures

	Mean	Median	25th	75th	St. dev.	Obs.
Belgium						
ROA	10.44 (u, n)	8.94 (u, n)	5.48	15.04	7.84	249
Q	1.34 (u, n)	1.23 (u, n)	0.99	1.58	0.50	244
RET	11.22 (n)	7.04 (n)	-7.81	27.22	31.41	240
Netherlands						
ROA	15.61(b)	15.28 (b)	10.40	20.32	6.79	247
Q	1.59 (b, u)	1.37 (b, u)	1.06	1.85	0.76	247
RET	30.29 (b, u)	22.72 (b, u)	4.03	51.33	40.99	245
U.K.						
ROA	12.86 (b)	13.88 (b)	6.96	20.53	14.31	246
Q	1.74 (b, n)	1.51 (b, n)	1.16	2.12	0.82	249
RET	15.18 (n)	13.11 (n)	-6.66	30.53	41.84	247

Table 3. Estimation of relationship between corporate governance characteristics and corporate performance: international evidence

The table presents results of regressions of corporate performance on corporate governance and firm-specific variables. The sample consists of matched firms from Belgium, the Netherlands and the United Kingdom. Annual data for a five-year period are analyzed. NL (UK) is a dummy with value of one for Dutch (U.K.) firms, and zero otherwise. All other variables are defined in Table 1. The regressions include a constant and time-specific dummies (results not reported). The regressions in Panel B are estimated for the firm-fixed effects model (firm-specific estimators not reported). The asterisks *** , **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Panel A. Regressions with country effects

	ROA	Q	RET
BRDSIZE	-0.075	0.017**	0.344
BRDEXT	-0.047**	-0.004**	0.031
FINAN	0.018	-0.004**	0.106
INDIV	0.005	-0.002	0.070
INDUS	-0.066***	-0.001	0.083
NL	3.662***	0.233***	21.952***
UK	0.504	0.351***	9.351*
LOG(BVTA)	0.697	-0.162***	-1.503
LEVPROF	0.006	0.001	0.134*
LEVLOSS	-0.224**	-0.004***	-0.131
Adj. R^2	0.232	0.102	0.055
Obs.	720	719	713

Panel B. Regressions with firm-fixed effects

	ROA	Q	RET
BRDSIZE	0.117	0.011	0.034
BRDEXT	0.032	-0.006**	-0.251
FINAN	0.002	0.0001	-0.103
INDIV	0.104***	0.003	-0.113
INDUS	0.050	-0.001	-0.064
LOG(BVTA)	0.384	-0.391***	-2.254
LEVPROF	0.009	0.007***	0.320*
LEVLOSS	-0.168***	0.005**	0.129
Adj. R^2	0.531	0.690	0.099
Obs.	720	719	713

Panel C. Regressions with country-governance interactions

	ROA	Q	RET
BRDSIZE	-0.119	0.015*	0.315
BRDEXT	-0.006	-0.006***	0.075
FINAN	-0.006	-0.002	-0.043
INDIV	-0.048	-0.004	-0.318*
INDUS	-0.076**	-0.004*	-0.239*
NL*BRDSIZE	0.321*	0.006	-0.191
NL*BRDEXT	-0.027	-0.002	0.097
NL*FINAN	0.075	0.001	-0.123
NL*INDIV	0.094**	0.006*	0.487**
NL*INDUS	0.062	0.005	0.435**
UK*BRDSIZE	0.448**	0.024*	-1.167
UK*BRDEXT	-0.028	0.003	-0.073
UK*FINAN	-0.033	-0.013***	0.374*
UK*INDIV	0.060	-0.014***	0.501**
UK*INDUS	-0.204***	0.015***	0.564**
LOG(BVTA)	-0.141	-0.211***	1.100
LEVPROF	-0.005	0.003**	0.155*
LEVLOSS	-0.232***	-0.001	-0.122
Adj. R^2	0.250	0.177	0.061
Obs.	720	719	713

Table 4. Estimation of relationship between corporate governance characteristics and corporate performance: national evidence

The table presents results of regressions of corporate performance on corporate governance and firm-specific variables. The sample consists of matched firms from Belgium, the Netherlands and the United Kingdom. Annual data for a five-year period are analyzed. All variables are defined in Table 1. The regressions include a constant and time-specific dummies (results not reported). The asterisks *** , **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Panel A: Belgium

	ROA	Q	RET
BRDSIZE	-0.043	0.013**	0.068
BRDEXT	-0.005	-0.005***	0.020
CEO	0.970	-0.027	-5.896
FINAN	-0.023	-0.001	-0.035
INDIV	-0.045	-0.003	-0.164
HOLDING	-0.103***	-0.006***	-0.242*
INDUS-HOLDING	-0.048*	0.001	-0.082
LOG(BVTA)	0.281	-0.120**	4.071
Adj. R^2	0.078	0.103	0.185
Obs.	247	243	240

Panel B: The Netherlands

	ROA	Q	RET
BRDSIZE	-0.043	-0.028	0.072
BRDEXT	-0.185***	-0.013***	0.109
SR	-0.981	-0.122	-10.377***
INSIDE	-0.073*	-0.001	-0.035
FINAN	0.029	-0.003	-0.151
INDIV	0.053*	0.001	0.091
INDUS	-0.070***	-0.001	0.115
LOG(BVTA)	-0.881	-0.002	0.148
Adj. R^2	0.121	0.097	0.039
Obs.	244	244	242

Panel C: The United Kingdom

	ROA	Q	RET
BRDSIZE	0.245	0.075***	-1.261
BRDEXT	-0.102*	-0.002	-0.087
CEO	-7.170***	0.039	-12.644*
INSIDE	0.104	-0.019***	0.354
FINAN	-0.156**	-0.020***	0.244
INDIV	0.065	-0.025***	0.286
INDUS	-0.270***	0.005	0.277
LOG(BVTA)	0.661	-0.409***	2.717
Adj. R^2	0.118	0.200	0.098
Obs.	246	249	246