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Corporate monitoring by blockholders in Europe:

Empirical evidence of managerial disciplining in Belgium, France, Germany and the UK

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Abstract: This study examines managerial disciplining in poorly performing firms using large panels for Belgian, French, German and UK firms. We consider the monitoring role of large blockholders, the market for share blocks, creditors, and non-executive directors. Board restructuring is correlated to poor performance, but not for France. Neither existing blockholders nor creditors play an active role in disciplining. Block purchases have a monitoring role in Belgium and Germany, but not in France and the UK. Large boards facilitate disciplining, but the role of non-executives is ambiguous.

Keywords: corporate governance, managerial disciplining, ownership structure, CEO succession
JEL classification: G3 (Corporate finance and governance), G32 (financial policy; capital and ownership structure)

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Non-technical summary

This paper investigates the role of several monitoring mechanisms of managerial disciplining in Belgian, French, German and UK listed companies. Our results are calculated making use of four large firm databases for all four countries, covering periods of five to eight years.

We find substantial differences across countries. Executive turnover (corrected for natural turnover like retirement and illness) is strongly related to past performance for all countries apart from France. Overall, there is little evidence that existing blockholders play an active role in disciplining underperforming management. In Belgium, France and Germany, there is some evidence that executive turnover augments when individuals or families (not related to a director), holding companies or industrial firms own blockholdings. In Germany, we also discover increased bank monitoring when adding the potential proxy votes to the banks' equity stakes. However, as the interaction of blockholdings with performance is not significant, these blockholders do not seem to replace incumbent management for reasons of disciplining underperformance. In UK firms, executive directors with voting blocks are successful in impeding executive board restructuring, and hence in defending their private benefits, even in the wake of poor performance.

Part of the market for blockholdings is a corporate governance market in Belgium and Germany. Non-financial firms (in Belgium) and financial institutions (in Germany) increase their voting power when performance is poor, which is followed by increased turnover. In contrast, the markets for share blocks in the UK and France are not related to managerial disciplining. Little evidence is discovered of creditor monitoring in companies with high leverage or low interest coverage.

A high proportion of non-executive directors, a proxy for independence from management, increases the probability of managerial departures in Belgium and France, but non-executives seem to support incumbent management (even when it is underperforming) in Germany and the UK. Separating the functions of the chief executive officer (CEO) and the non-executive chairman of the board facilitates the removal of a poorly performing CEO in Belgium, but not in France or the UK. In France, it is beneficial to nominate a representative of the main bank to the board. Finally, in Belgium, Germany and the UK, a large board seems to facilitate managerial disciplining as there is a higher probability that the board comprises a potential successor to a departing CEO.

1. INTRODUCTION

Recent corporate governance research has primarily focused on the relation between governance systems and capital market development, shareholder protection and legal tradition or origin (e.g. La Porta *et al.*, 1997, 1998, 1999). Several studies show empirically that there is a relation between corporate governance systems and economic growth on country or industry level. More specifically, some financial and corporate systems are better suited for specific types of economic activity: Market-oriented systems stimulate research and development (R&D) efforts and high growth in industries requiring a high skill level (Carlin and Mayer, 1998, Rajan and Zingales, 1998). Furthermore, high concentrations of ownership are also associated with high growth of these industries in developed but not in developing countries (Levine, 1998, 1999).

Still, this research has not sufficiently answered the question whether or not these systems can reduce agency costs by efficient corporate monitoring which is our main research objective. We focus on one specific (observable) aspect of corporate governance: the removal of underperforming management in Belgium, France, Germany and the UK. We analyse whether existing large shareholders discipline management when corporate performance is poor. Among the blockholders, we distinguish between: (i) holding companies, (ii) banks, (iii) insurance companies, (iv) investment funds, (v) industrial and commercial companies, (vi) families, individuals (excluding directors and their relatives) and private companies (which are under full control of families), (vii) federal or regional authorities, (viii) executive directors and their families, (ix) non-executive directors and their families, (x) real estate firms and (xi) the free float. As continental European ownership structures are usually complex and pyramidal, both direct and indirect control should be taken into consideration. In addition, we analyse whether the market for share blocks is related to managerial disciplining. If this is the case, such a market can be considered as a (partial) market for control. Denis and Kruse (2000) find that even when merger and acquisitions activity slows down, managerial disciplining does not decrease, which implies that even in market-based systems alternative monitoring mechanisms are active. We also investigate the role of creditor monitoring and analyse whether or not specific board composition is beneficial in terms of monitoring.

This study provides a contribution to the literature as it explains the differences in corporate monitoring by country, explains why various classes of blockholders exert (or not) their voting rights, and explains which monitoring mechanisms dominate. We empirically assess these claims using a unique multi-country panel of companies from Germany, Belgium, France and the UK. This study helps to reduce the lack of non-US research of managerial disciplining and provides new insights particularly regarding the existence and the workings of a market for corporate control in four

European countries. However, given the very different legal, historical, and institutional background of these four countries, our empirical model of managerial disciplining is likely to be too simple. Therefore, the rather weak evidence we find in this study concerning the different elements of managerial disciplining does not come at a surprise. But since we are the first to examine the determinants of management turnover for a range of European countries simultaneously, this study should be seen as an important first step.

The remainder of this paper is organised as follows. Section 2 explores the hypotheses. Section 3 presents the sample selection, data sources, variable description and methodology. Section 4 provides stylised facts on board structure and turnover, performance and leverage, and ownership structure for the four countries. The main results of the multi-country Tobit and Logit models are discussed in section 5. Finally, section 6 concludes.

2. HYPOTHESES

Corporate performance is a (noisy) measure of managerial performance but also reflects the quality of corporate governance by directors, like strategic advice and corporate monitoring. Since the outcome of board meetings or of shareholder-management convocations is usually not disclosed, we focus on visible corporate governance actions, namely the management disciplining process in the wake of poor performance or a financial crisis.

Share price returns and accounting performance reflect managerial achievements, but both performance yardsticks comprise measurements problems of managerial quality. Firstly, the correlation between performance-related management dismissal and past share price performance may be weaker than expected because past share prices may already have anticipated the beneficial impact of the removal of poorly performing management by more competent successors. Secondly, incumbent management can (temporarily) manipulate accounting performance by income-smoothing and the choice of accounting policies (Pourciau, 1993)**.** Hence, when studying whether or not management is held responsible for poor performance, it is important to relate managerial turnover to a variety of performance measures like share price returns, operating and net accounting earnings, cash flow measures and dividend cuts or omissions[1]. *We expect that top management turnover is triggered by poor performance (Hypothesis 1).*

[1] Reductions in dividend may be an important critical performance measure as management is generally reluctant to reduce dividends unless a reduction is unavoidable. Dividend cuts or omissions are associated with unusually poor stock price and earnings performance (Michaely *et al*., 1995).

In this paper, we investigate which corporate governance mechanisms (if any) are responsible for managerial disciplining by country and, where there is redundancy, whether some forms dominate others consistently.

2.1 Blockholder Monitoring

Two aspects of ownership are important in relation to corporate monitoring. Firstly, ownership *concentration* because monitoring is only cost effective if a single party becomes large enough to internalise the costs of corporate control. Such costs are borne by the monitoring shareholder individually, but the financial benefits resulting from corporate governance actions are only reaped in proportion to the cash flow rights (Grossman and Hart, 1988). Hence, it pays for small shareholders to shirk the effort and to free-ride on control. Secondly, the *nature* of ownership concentration may also influence the degree of corporate control. That owning a block of shares has value beyond the financial share price return can be deduced from the fact that blocks are usually sold at a premium, which suggests the presence of private gains (Barclay and Holderness, 1989). These gains vary across investors or ownership categories. The source of the control premium is the additional compensation and perquisites the controlling security holders can accord themselves (Jensen and Meckling, 1976). Boot and Macey (1999) confirm this argument by showing that higher premiums are commanded in countries with weaker investor protections. That different classes of owners have different abilities to extract control rents is supported by evidence from the US (Demsetz and Lehn, 1985; Barclay and Holderness, 1991).

Private benefits and reasons for control accumulation for (industrial) holding companies are manifold: e.g. the cost of capital of the group members may be reduced if the holding company creates an internal market for funds or if tax reductions are captured by inter-company transfers (see, e.g. Banerjee *et al.*, 1997 for France and Renneboog, 2000 for Belgium). Likewise, corporate blockholders may acquire voting rights in order to hold a board seat at a supplier or customer company. This way the blockholder may influence and/or capitalise on the target's strategic decisions. In contrast to other outside shareholders, little corporate monitoring is expected from institutional investors. The main reason is insider trading regulation: Non-public corporate information may temporarily reduce the liquidity of institutions' investments (Renneboog, 1997).[2] Finally, whereas non-executive director-blockholders should discipline poorly performing management in line with their fiduciary duties, executive directors owning large blocks may be able to impede executive board restructuring. This group extracts different types of private benefits: cash and options-based compensation and, possibly, non-pecuniary benefits of being an executive director. Thus, Hypothesis

[2] Stapledon and Bates (2001) propose changes in UK voting regulation to stimulate institutional shareholder activism.

2 states: *In the wake of poor performance, the presence of large outside blockholders (holding companies, industrial or commercial firms, individuals and families not related to a director) and large inside blockholders with monitoring tasks (non-executive directors) leads to higher executive board turnover (2a). Executive directors controlling a high concentration of voting rights resist managerial disciplining (2b). Conflicts of interest dissuade institutions to take disciplinary corporate control actions (2c).* Given that the distribution of blockholdings across investor categories varies across Belgium, France, Germany and the UK, the relation between blockholdings by type of owner and managerial disciplining may differ across these countries.

As ownership pyramids or cascades are widely used in Belgium, France and Germany for reasons of control leverage (Wymeersch, 1994), true control is not found at the direct ownership tier. For each direct shareholding, we have constructed the ownership pyramid until the ultimate shareholder (a family or individual, or a widely held (holding) company or an institutional investor) was reached. We have assumed that control was not interrupted throughout the control chain of the pyramid if the shareholder at the next ownership tier held at least 50 percent of the equity, or at least 25 percent with no other shareholder owning a block of 25 percent (‘*ultimate control criterion’*). The direct blocks were classified into one of ten shareholder categories (see section 3.2) according to the identity of the ultimate shareholder. We illustrate this criterion with an example based on the (simplified) shareholding structure of the Belgian Group Brussels Lambert (GBL) (see Figure 1). Via the intermediate electricity holding Electrafina, GBL has important share stakes in a Belgian-French energy holding (TotalFinaElf), in a German media group (Bertelsmann) and one of the largest French utilities (Suez). On top of the pyramid the families Frère-Bourgeois maintain absolute control via five intermediate levels of holding companies.[3] The advantage of such an ownership structure is obvious: Albert Frère holds a blocking minority of 25 percent in the Bertelsmann Group but only holds less than 0.88 percent of the cash flow rights in Bertelsmann. In this study, we would classify the 25 percent stake in Bertelsmann not as a shareholding controlled by the utility Electrafina but as a block controlled by Albert Frère (category ‘individuals or families excluding directors’, provided Frère does not have a board seat).

As corporate governance decisions may not be taken by direct or intermediate investors but by ultimate shareholders, we expect that the relation between turnover and concentration of voting rights held (directly or indirectly) by ultimate blockholders is stronger than between turnover and direct share blocks (Hypothesis 3).

[INSERT FIGURE 1 ABOUT HERE]

2.2 The Market for Share Blocks

Poor corporate performance (in absolute terms or relative to industry peers) results to a large extent from poor managerial performance. Still, poor performance also reflects ineffective monitoring and control. Therefore, a market in blocks may be triggered by corporate underperformance such that high quality monitors substitute low quality monitors. These blockholders with increased voting power are expected to discipline poorly performing management. Bolton and von Thadden (1998) and Burkart *et al.* (1997) argue that the degree of voting right concentration acts as a commitment device to delegate a certain degree of authority from shareholders to management. They show that the use of equity implements state-contingent control: In states of the world with decreasing corporate profitability, close monitoring resulting from strong ownership concentration is desirable. In other states of the world, it may not be optimal to have close monitoring as this may reduce managerial discretion and hence management's effort. For the US, Bethel *et al.* (1998) find that activist purchases take place in poorly performing, diversified US firms. Thus, *poor performance gives rise to changes in the ownership structure which are, in turn, associated with higher managerial turnover (Hypothesis 4).*

2.3 Board Composition, Board Size and Creditor Monitoring

The structure of the board should be such that the potential conflicts of interest among decision-makers and residual-risk bearers are minimised. Board composition should also reduce the transaction or agency costs associated with the separation of management, ownership and control. An important task of the non-executive directors of a one-tier board or a supervisory board is that of control. Non-executive directors have strong incentives to monitor: Firstly, they are legally bound due to their fiduciary duty. Still, non-executive blockholders in the UK are expected to be better monitors because their fiduciary duties are wider and more developed than in continental Europe (Baums, 2000). Secondly, in a system with strong ownership concentration, many non-executives are appointed by and represent large shareholders. Finally, non-executives have incentives to develop reputations as decision control experts whose human capital depends on performance. Consequently, non-executive directors face an external labour market which provides some form of disciplining for passive leadership (Kaplan and Reishus, 1990). Separating the role of CEO and non-executive chairman can also strengthen the board's monitoring ability as a non-executive chairman should be more able to ensure a higher degree of independence from management.[4] Consequently, we expect that *the greater the proportion of non-executive directors, the higher the monitoring ability of the non-executive directors which is reflected in increased*

[3] There was a voting pact until 2017 between Powercorp and Agesca.

executive turnover when performance is poor. Separating the functions of CEO and chairman facilitates disciplining of underperforming management. (Hypothesis 5)

In as much as the board of directors is a pool of potential successors to a departing CEO, board size may be an explanatory variable of CEO and executive director turnover. We do not only include executive board size in the model but also the number of executive and non-executive directors as it sometimes occurs that a non-executive director accepts the function of CEO (or executive director). We therefore state that *a large board size is positively related to executive board turnover (Hypothesis 6).* Still, the alternative hypothesis is that there should be a limit to the total board size, because overly large boards may lead to inefficient decision-making.

Creditor intervention is expected when the probability of defaulting on debt covenants increases or when the company needs to be refinanced. The choice of gearing can be considered as a bonding mechanism for management (e.g. Aghion and Bolton, 1992). *High leverage or low interest coverage intensifies creditor monitoring and managerial disciplining (Hypothesis 7).*

3. DATA AND METHODOLOGY

3.1 Sample Selection and Data Sources

A. Germany

A sample of 361 German companies is collected for the years 1987-94, representing almost all non-financial firms listed on a German stock exchange. Financial companies (banks, insurance companies) are excluded because their balance sheet data are not comparable with those of non-financial companies. Bankrupt companies, initial public offerings (IPO) and acquired firms are included until the year of bankruptcy, from the year of floatation or until the last year of quotation, respectively. Turnover and ownership data are collected for the period 1987-94 and accounting performance data start in 1986 when a change in German accounting law made balance sheet data prior to 1986 incompatible with subsequent data. The data sources are presented in the data appendix.

B. Belgium

The sample consists of all Belgian companies listed on the Brussels Stock Exchange during the period 1989-1994. In 1989 and 1994, respectively, 186 and 165 companies were listed. Nine firms (mostly from steel and coal industries) are excluded as these firms had been in liquidation processes for long periods and reliable performance data are missing. Bankrupt companies, IPOs and acquired firms

[4] Such recommendations have been formulated in the U.K. Cadbury Committee report of 1992 (and the subsequent Hampel commission of 1997), the French Viénot reports 1999, the Belgian corporate governance guidelines by the Stock Exchange

over the period 1989-94 are included until the year of bankruptcy, from the year of floatation or until the last year of quotation, respectively. About 40 percent of the Belgian listed companies are holding companies with multi-industry investments, 47 percent are industrial or commercial companies and 13 percent are in the financial sector (banking, insurance and real estate). For reasons stated above, we exclude this last category of firms from our analysis. Data on turnover and ownership are collected for the period 1989-94, and accounting and share price performance data start in 1987. The data appendix lists the sources.

C. France

The sample consists of the 325 non-financial companies listed on the First Market of the Paris Stock Exchange for which data on ownership concentration and turnover are available over the period 1988-92.[5] Incomplete accounting and share price data reduces the number of companies to 323. Bankrupt companies, IPOs and acquired firms are included until the year of bankruptcy, from the year of floatation or until the last year of quotation, respectively. Data on turnover and ownership were collected for the period 1988-1992 and performance data start in 1986. The data appendix reveals the data sources.

D. The UK

From all companies listed on the London Stock Exchange, a random sample of 250 companies is selected for the years 1989-93.[6] This sample excludes financial institutions. Data on board turnover and ownership are collected for the period 1988-93 and performance data start in 1986. Eight of the original 250 companies are dropped because of lack of performance data. Both beneficial and non-beneficial shares are collected. The latter are held by directors on behalf of families and charitable trusts. These directors do not obtain cash flow benefits from these holdings but they have control rights. We also investigate nominee holdings which are used in 95 percent of the cases by institutional investors to reduce administrative costs. The nominee shareholdings are classified according to category of owner using nominee accounts. The data appendix presents the data sources.

We have taken care that all variables are whereever possible defined similarly and that observations are picked by comparable selection procedures. The share price and accounting variables, as described in section 3.2, have the same definitions. The differences in precision of ownership data across countries depend mainly on the regulatory and institutional context of each country. For

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Commission, the Association of Employers and the Commission for Banking and Finance (all in 1998).

[5] The First Market or the Official Market consists of two submarkets: (1) Monthly settlement market (RM, règlement mensuel) with 190 French stocks and 90 foreign ones and (2) cash market with 260 French stocks and 110 foreign ones (with a transaction volume 25 times lower than that of the RM).

example, for Belgium, France and Germany ownership is disclosed for blocks of five percent, whereas in the UK this threshold is at three percent. The variables are adjusted to the institutional governance context by country: e.g. direct blockholdings are used for the UK, whereas the ownership data are reclassified using information about the ownership cascades for Belgium, France and Germany. Our initial intention to identify disciplinary turnover by collecting the reasons for resignation had to be abandoned because the reasons usually mentioned in the press or in annual reports were put in euphemistic terms and were hence non-informative (e.g. 'CEO wants to spend more time with his family', 'retires aged 42'). Therefore, we assumed that all turnover is disciplinary unless the turnover was the result of age-related retirement, death or illness ('natural turnover').[7]

3. 2 Methodology and variable description

A panel of data is formed with the eight years of data for Germany, six years for Belgium and the UK, and five years for France with each firm-year representing a separate observation. The relation between board restructuring, and performance, ownership, changes in ownership, leverage, board structure and board size is examined in the following model:

$$TURNOVER_{i,t} = \sum_{C=1}^{4} COUNTRY_C * \Big[\sum_{k=0}^{2} \beta_{c,,k} * PERFORM_{c,i,t-k} \quad \text{Performance (lagged)}$$

$$+ \sum_{l=1}^{4} \gamma_{c,l} * BLOCK_{c,i,l,t-1} + \sum_{l=1}^{4} \delta_{c,l} * BLOCK_{c,i,l,t-1} * PERFORM_{c,i,l,t-1} \quad \text{Ownership concentration and interaction}$$

$$+ \sum_{l=1}^{4} \pi_{c,l} * INCREASE_{c,i,l,t} + \sum_{l=1}^{4} \theta_{c,l} * INCREASE_{c,i,l,t} * PERFORM_{c,i,l,t-1} \quad \text{Market in blocks and interaction}$$

$$+ \sum_{m=1}^{2} \phi_{c,m} * DEBT_{c,i,m,t-1} + \sum_{m=1}^{2} \eta_{c,m} * DEBT_{c,i,m,t-1} * PERFORM_{c,i,m,t-1} \quad \text{Debt policy and interaction}$$

$$+ \sum_{n=1}^{2} \varphi_{c,n} * BOARD_{c,i,n,t} + \sum_{n=1}^{2} \lambda_{c,n} * BOARD_{c,i,n,t} * PERFORM_{c,i,n,t-1} \quad \text{Board variables and interaction}$$

$$+ \theta_c * SIZE_{c,i,t}] + \sum_{p=1}^{86} \iota_p \ Industry_{i,t} + \sum_{q=1}^{7} \tau_q * Year_{i,t} + \varepsilon_{i,t} \quad \text{Size; industry and time dummies}$$

with i = firm, t = year, c = country, k = lag of performance, l = class of owner, m = debt policy variable, n = board composition variable, p = country-specific industry, q = year.

- **TURNOVER** = Board restructuring, measured by (1) executive director turnover, (2) CEO or executive chairman turnover.

- **COUNTRY** = Belgium, France, Germany or the UK.

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[6] The UK has a higher proportion of recent IPOs (17% of the sample were introduced within a 5 year period prior 1989) than the other countries. The results in section 5 are not influenced by the number of recent IPOs.

[7] Weisbach (1988) also mentions that reasons for turnover are often lacking and likewise excludes retirements if they are age related (63 years or older). This eliminates most of the non-linearity in the turnover-age relationship. The turnover data for Belgium, France and the UK were corrected for natural turnover, but for Germany, information about directors' age was not available, hence the German dependent variable is more noisy. However, in spite of the measurement error in the dependent variable, the estimation process still yields consistent parameter estimates.

- **PERFORM** = performance variable measured by current and lagged (by one or two years) (i) return on assets (ROA), (ii) return on equity (ROE), (iii) return on sales (ROS), (iv) market-adjusted return (v) market-to-book ratio, (vi) cash flow on book equity, (vii) cash flow on assets, (viii) earnings losses (dummy) and (ix) dividend cuts and omissions (dummy). All performance variables (apart from the dummy variables) are corrected for their two-digit industry median by country.

- **BLOCK** = ownership concentration by class of owner: (i) holding companies, (ii) banks, (iii) insurance companies, (iv) investment funds, (v) industrial and commercial companies, (vi) families, individuals (excluding directors and their relatives) and private companies (which are under full control of families), (vii) federal or regional authorities, (viii) executive directors and their families, (ix) non-executive directors and their families,[8] (x) real estate firms and (xi) the free-floating shares.[9] Both the percentages of ownership by category of owner and the percentage held by the largest shareholder are included (in separate regressions). The direct shareholdings are reclassified according to the ultimate control criterion (described in section 2). The data include only voting shares. In the multi-country models, we reduce the number of categories to four to keep the model parsimonious: institutions (categories (ii), (iii), (iv) and (x)), corporations (categories (i) and (v)), government (vii) and individuals (categories (vi), (viii) and (ix)). In sections 5.1 and 5.2, we show the results using these four categories and discuss the results with the more detailed ownership categories in section 5.3.

- **INCREASE** = purchases (in percentage) of share stakes by old and new shareholders (combined), by category of owner. To determine the increases by category of owner, the ultimate control criterion is used (see section 2).

- **DEBT** = debt to total assets ratio, interest coverage (EBIT/interest expenses).

- **BOARD** = board size (number of directors, for Germany only the number of supervisory board members) and the percentage of non-executive directors (for Germany, we divide the number of directors in the supervisory board by the combined number of managerial and supervisory directors). For individual country models, we include country-specific board variables such as separation of the functions of CEO and chairman (1 = no separation) and the percentage of board representatives of shareholders, debtholders or founders.

- **SIZE** = natural logarithm of total assets.

[8] Individuals and families are classified as executive/non-executive directors if the last name of the shareholder matches with the name of a director. In so far as directors are part of a family which owns shares, but do not carry the same last name, the categories for executive/non-executive shareholders are underestimated.

[9] The percentage of free-floating shares is the percentage of shares for which no information about the ownership is available as these share stakes do not pass the disclosure threshold. For Germany, when these free-floating shares are held by private investors, they will be likely to be deposited with a German bank. As individuals usually delegate voting of the deposited shares to the depositary banks (Gottschalk, 1988), these free-floating shares might de facto be under the control of banks.

The Pearson correlation coefficients for variables is calculated and used to investigate possible multi-collinearity as variables with too high a correlation were not included simultaneously.[10]

LOGIT models are used if the dependent variable is a dummy (in the case of CEO turnover). For executive director turnover, TOBIT models are used because the dependent variable (turnover) is truncated at zero and one. Prior to running the global multi-country model described above, we investigate simpler models by adding step-by-step more independent variables to examine the additional explanatory power of specific groups of variables. In a first simple model, turnover is explained by performance observed for three consecutive years (year t, year t-1 and year t-2). Next, we extend this basic model by adding concentration of share ownership, changes in ownership and firm size. In a third step, all governance mechanisms discussed above are included. Finally, in a fourth step we interact all governance variables with lagged performance to test which governance mechanism is typically active to discipline management in case of poor performance.[11] All models include two-digit country-specific industry dummies[12] and time dummies, which are not reported.

The fact that we run the model using a pooled sample of all four countries has two major advantages. First, coefficients are directly comparable in their magnitude such that comparison between countries is straightforward. Second, in the pooled model we allow country-specific residuals to be correlated and we estimate the full variance-covariance matrix of the estimators simultaneously. This has the advantage that coefficients are estimated more efficiently. Typically this procedure leads to lower standard errors for the estimates.

We also perform several methodological robustness checks. In order to avoid unobserved firm heterogeneity biasing our results, we run our models for CEO and executive turnover with fixed and random effects. In section 5 we only show LOGIT and TOBIT models (without fixed or random effects), but results based on the other estimation techniques are shortly discussed. Further robustness checks of the model are performed by running regressions by country. In order to cope with outlier problems, we truncate all performance variables: The value above or below the 1 and 99 percent thresholds have the same value as those thresholds. We also re-run the models with lagged ownership,

[10] Table available upon request.

[11] In section 5, we report only the results from the first and fourth specification. The results on the second and third specification are available on request from the authors

[12] The reason for including country-specific industry dummies is that we do not have a common industry classification across all four countries.

debt and board variables because it may well be that when performance is poor, the managerial disciplining only takes place after a specific time lag.

4. STYLISED FACTS

Ownership concentration, board structure and performance differ across countries, even across Belgium, France and Germany which belong to the same generic corporate governance system. This section highlights the main differences in the variables which are included in the multi-country model.

4.1 Board Characteristics and Turnover

The internal governance mechanism is substantially different across the four countries. In the UK, Belgium and France, one corporate body combines both management and non-executive directors whereas in Germany executive and non-executive functions are separated in a management board (*Vorstand*) and supervisory board (*Aufsichtsrat*). Still, the board sizes are similar across countries: The average Belgian and UK listed firms count 9.4 and 9.5 directors, respectively, with medians of 8 and 9 (see Table 1). French boards are slightly larger with 10.2 directors (median of 10) and the combined number of directors on the German supervisory and management board amounts to 12.7 with a median of 9.[13] There are marked differences regarding the separation of board control: In Germany the functions of CEO and chairman of the board are de facto separated given the two-tier board system whereas in the vast majority of French firms (86 percent) unitary control is standard with a powerful *Président Directeur Generale* (PDG) at the helm. In the UK and Belgium, one person combines the functions of CEO and chairman of the board in about one third of listed firms (Table 1). The number of firms with unitary board control in these countries has been decreasing to, currently, less than 20 percent as a consequence of the voluntary codes of best corporate governance practice. These codes, like the Cadbury Code of 1992 and subsequent Hampel commission of 1997 for the UK (Goergen and Renneboog, 2001a) and the Belgian codes proposed in 1998 by the Brussels stock exchange, the Commission for Banking and Finance and the employers organisation (VBO) (Goergen and Renneboog, 2001b) emphasise the need to strengthen board independence by appointing a higher proportion of independent non-executive directors and by avoiding unitary control (of a CEO). In contrast, the first French proposal of a corporate governance code by the Viénot Commission in 1995 did not follow the international consensus of separating the functions of CEO and chairman, which may be explained by the fact that the committee is entirely composed of *PDGs*. The second Viénot report of July 1999 tones down its earlier conviction and suggests the option to choose between unitary or dual control (Dherment and Renneboog, 2001).

In Germany and Belgium, the average proportion of non-executive directors amounts to respectively 73.9 percent and 71.8 percent (Table 1). In France, there is frequently only one executive director on the board, the *PDG* (CEO/Chairman), whereas in the average listed UK firm, it is the executive directors that form a board majority with on average 60.5 percent of the board members. In contrast to continental Europe where the large dominating shareholders usually have board representatives, the non-executive directors of UK boards' fiduciary duty extends to all shareholders such that they should take an arm's length-position with regard to the dominating shareholders. In Germany, supervisory board representation of shareholders and employees is enshrined in corporate law. In companies with more than 500 but fewer than 2000 employees, two thirds of the supervisory board consists of shareholder representatives whereas in larger firms, a system of quasi-parity co-determination exists (Goergen and Renneboog, 2001c). In France, 16 percent of the board represents the large shareholders among which the founding family, and 9.3 percent of the board seats (equivalent to one board seat) is reserved for a representative of the main bank.[14]

[INSERT TABLE 1 ABOUT HERE]

Annual CEO turnover in Belgium amounts to only 7.4 percent (Table 2), less than that of the UK (with 12.5 percent), of Germany (with 15.1 percent) and of France (with 18.4 percent). However, whereas in France, the UK and Germany the annual rate of executive turnover is lower than the rate of CEO turnover, the picture is different for Belgium: Almost 20 percent of executive directors (one director) resigns annually for reasons other than retirement, death or illness. Hence, it seems that if board restructuring is required, an executive director (who is not CEO) is more frequently resigning than the CEO. In the UK and Belgium, non-executive turnover is substantially lower than the percentage of executive resignations. This is because the non-executives bear only indirect responsibility for corporate performance. The high non-executive turnover in Germany also reflects changes in blockholdings as in most firms 50 to 67 percent of non-executives are large shareholder representatives

[INSERT TABLE 2 ABOUT HERE]

4.2 Performance, Leverage and Firm Size

Table 3 shows performance, debt structure and corporate size data by country. Corporate performance below an industry benchmark may be an important indication of substandard managerial quality. Therefore, we use industry-corrected ROA, ROE, ROS in our empirical model in section 5. Table 3 contains some descriptive statistics. Over the sample period, German firms reached the highest market-corrected share price performance with a small positive median versus negative median returns for the

[13] The data presented in Tables 1-5 do not change significantly by taking the common denominator period, 1989-1992.
[14] The board representation percentages may be a severe underestimation because they are based on voluntary reporting by the companies.

other country samples. The best performing quartiles of firms in Germany, Belgium and the UK obtained similar levels of share price returns but the French firms lagged over the sample period (Table 3). Tobin's Q of UK sample firms is higher than that of the other country sample firms, but the industry-corrected Tobin's Q variables are similar in all samples. In terms of persistence of earnings losses, there are substantial differences: In France ten percent of firms generate losses in three consecutive years. This stands in stark contrast with the UK, Germany and Belgium where such firms only make up two percent, three percent and five percent of the samples, respectively. More than one third of Belgian and French firms cut dividends in any one year of the sample period versus seven percent in Germany and 16 percent in the UK (Table 3).

In terms of leverage, German firms bank more on debt with a leverage ratio (debt on total assets) of on average 41 percent. The UK firms' reliance on debt is less than half this percentage. The median interest coverage is high for the Belgian, German and UK samples, but low (at 1.53) in France (which reflects the fact that there are more loss-making firms in the French sample). In terms of total assets and total sales, Belgian firms are substantially smaller than the average sample firm of the other countries. The difference in size between Belgian firms and those of the other countries is explained by the fact that the Brussels stock exchange has a higher proportion of listed small and medium caps and by the fact that Belgium has hardly any multinational firms. The larger average French size may be the result of a sample selection problem as the disclosure is worse for small firms such that the smallest French firms are underrepresented in the sample.

[INSERT TABLE 3 ABOUT HERE]

4.3 Ownership concentration and changes

The sum of all disclosed shareholdings as well as the largest corporate share stake by category of owner is presented in Table 4. Panel A highlights the strong ownership concentration for Germany: The sum of all large disclosed shareholdings averages to 68 percent (a median of 75 percent). In most firms, one single shareholder (group) holds absolute control: The average and median largest share stake is 60 percent. The most important shareholder category in Germany is industrial and commercial companies. Directors and their families hold on average almost 18.9 percent whereas individuals or families which are not related to a director hold 14.1 percent. The average ownership stake of banks is only 7 percent, but the proxy votes of shareholders depositing their shares with a bank may yield the banks substantially more voting power (Böhmer, 2000). The Belgian ownership structure is characterised by the importance of holding companies who control 23.3 percent of the large share stakes (panel B). Average ownership concentration is lower than in Germany: The sum of all large share stakes amounts to 52.2 percent, but the largest share stake averages 36.6 percent. In about 20

percent of the sample, families and individuals control at least a blocking minority and this category owns an average of 12.1 percent of the voting rights. The degree of ownership concentration in France (panel C) is more similar to Germany: In the average company, about two thirds of the share stakes are large (more than 5 percent) and the largest shareholder maintains an absolute majority with 52.9 percent of the voting rights. Like in Belgium, holding companies are important shareholders, as are other non-financial firms. The involvement of the government is striking: An average share of 12.6 percent in the listed firms is held by state holding companies and banks, although government control has since dwindled subsequent to privatisation schemes. The degree of ownership concentration in the UK (panel D) is substantially lower than that of the three other countries, even though the UK data overstate relative ownership concentration because UK disclosure is based on a three percent threshold versus five percent in the other countries. Even so, average total concentration in the UK is only 38 percent and the largest stake is 15.4 percent, which is only 40 percent of the average largest Belgian share stake and less than 30 percent of the French and German equivalent. Institutional investors are the most important category of owner as they hold 18 percent of the large share blocks. In reality, their combined share stakes are about 2.5 times higher as most of these shareholdings do not exceed the minimal disclosure threshold. Directors are the second most important shareholder category with an average of 11.2 percent.[15]

[INSERT TABLE 4 ABOUT HERE]

For almost all Belgian, French and German firms, it is pointless to initiate a hostile raid as the majority of voting rights are controlled by one party. Nevertheless, in these countries a market for share blocks exists. The percentage of sample firms in which a large share stake within a specific size bracket is purchased and sold is exhibited in Table 5. In Germany (panel A), the market for share stakes is small: Over a seven-year period there are no substantial purchases in 1994 out of 2378 firm-years. This means that in about 16 percent of listed industrial or commercial firms large share blocks are purchased. In nine percent and five percent of firms, these share blocks are at least a blocking minority (25 percent) and a voting rights majority (50 percent), respectively. Holding companies and the government are net sellers of stakes of more than 25 percent whereas individuals and families are net buyers. The Belgian market for share stakes is larger but involves relatively smaller blocks than in Germany. In 21 percent of Belgian firms, existing shareholders augment their stakes by more than five percent, or new shareholders purchase stakes of this size. In only 6.3 percent of the listed companies are these shareholdings larger than 25 percent. Panel B shows that the percentage of firms with sales and purchases for all categories of owner combined is about as large which indicates that share blocks do not tend to be broken up. Whereas institutional investors, and individuals and families sell

[15] The descriptive ownership data are in line with the description of voting rights concentration by the European Corporate Governance Network of which the results are presented in Barca and Becht (2001) and Köke (2001).

important share stakes of at least 25 percent, banks and especially industrial and commercial companies increase their controlling holdings. Of the three continental European countries, France has the most active market for control stakes as in 39 percent of listed firms share stakes are acquired (and sold) (panel C). In a large number of listed firms, 13.7 percent, these purchases involve important control changes of 25 percent or more. Holding companies, banks and industrial and commercial firms further accumulate control whereas the government, individuals and families and directors sell off important blocks of voting rights. Given the diffuse ownership structure in the UK, hostile take-overs are possible. Still, shareholders desiring to control a UK company often do not resort to full take-overs but accumulate voting rights to a percentage just below 30 percent (Goergen and Renneboog, 2001a). This is the threshold triggering a mandatory tender offer for all remaining share stakes at a share price not lower than the lowest share price during last twelve months. Given that in the average company the largest shareholder owns a block of about 15 percent, we can investigate the relative importance of blocks of e.g. ten percent in panel D. In 40 percent of sample firms, shareholdings of at least ten percent were purchased.

From this section, we conclude that the German and French ownership structures are substantially more concentrated than that of the UK. In the latter, institutions and directors hold the largest blocks of voting rights whereas other corporations, families and holding companies prevail in the continental European countries. In contrast to Belgium and Germany, France has a more active market in controlling share stakes. In relative terms, the UK also has an important market for share blocks, but the blocks remain under the 30 percent tender-offer threshold.

[INSERT TABLE 5 ABOUT HERE]

5. RESULTS

This section discusses the results of the multi-country Tobit and Logit models of executive turnover and CEO turnover. We also report the results of several robustness checks which were performed by including lagged and alternative variables and by specifying alternative estimation techniques (e.g. fixed effects).

5.1 The executive turnover models

For Germany, Belgium and the UK, we find a statistically significant relation between performance and executive turnover (Table A1 of the appendix). In German firms, executive dismissals increase when industry-adjusted ROA, ROE, ROS or the market-adjusted share price return is negative in the previous period, or when the company realises losses in two consecutive years (see panels A-G in Table A1). These results are also economically significant: A negative industry-adjusted ROA of minus ten percent is followed in the subsequent year by an increased executive turnover of twelve

percent, and persisting earnings losses cause 34 percent of the executives to leave the firm. For the UK, the results are even more outspoken: current and past performance measured by ROA, ROE, ROS, share price returns, losses and dividend cuts are all significantly correlated to increased turnover. Earnings losses in two consecutive years even lead to resignation of half of the executive directors. There is a longer time lag (of up to two years) between poor performance (ROA and ROE) and director dismissal in Belgium. These results support Hypothesis 1, but not for France where the performance-turnover link is weak.

The results of the multi-country executive director turnover model with four performance variables (industry-adjusted ROA and ROE, market-adjusted returns and Tobin's Q) are presented in Tables 6a (models 1 and 2) and 6b (models 3 and 4). All variables are interacted with lagged performance. In addition, all variables, including the variables interacted with performance, are interacted with country dummy variables. Lines 4 to 11 in Tables 6a and 6b show whether or not the presence of large blockholders of four generic ownership categories is related to managerial turnover. The categories are: (i) individuals or families (including directors), (ii) financial firms consisting of banks, insurance companies and investment/pension funds, (iii) non-financial firms consisting of industrial or commercial firms and holding companies and (iv) government-controlled ownership. The corporate governance role of large blockholders can be deduced from the interactive terms of ownership with performance. If blockholders monitor and discipline management in the wake of poor performance, we expect to see significant negative interactive coefficients in lines 5, 7, 9 and 11 for models 1-3. If only the non-interactive ownership variables are related to executive turnover (lines 4, 6, 8, 10 of models 1-3), we can conclude that the large shareholders have some impact on the resignation of executive directors but that turnover is non-performance related but for example due to a strategy conflict with shareholders or the move to a better paid job.

In German firms, models 1 to 4 all point out that higher executive turnover occurs when individuals or families, or non-financial firms hold important share blocks (lines 4 and 8 of Tables 6a and 6b). Likewise, there is not much evidence of corporate monitoring and performance-related disciplining of management in Belgian firms. Lines 4 and 10 of Tables 6a and 6b suggest that neither the government nor individuals or families perform an active corporate control role: When they control substantial share stakes, executive turnover is reduced. Furthermore, contrary to our expectations, large concentration of ownership held by financial firms (lines 7) and industrial or holding companies (lines 9) are related to increases in managerial resignations when performance is high. In French listed firms, there is no consistent relationship between turnover and ownership concentration, which confirms the findings of Banerjee *et al.* (1997) for French holding companies. Finally, remarkable for UK firms is

the negative relationship between shareholding concentration by individuals and families and managerial disciplining in models 1-4. This ownership variable amalgamates these categories: (a) executive and (b) non-executive directors and their families as well as (c) individuals and families not related to a director. Substituting the detailed categories for the amalgamated category shows that it is the executive directors who are able to impede executive turnover. The fact that only the non-interactive term of executive director ownership is significant implies that executive directors can successfully defend their position even in the wake of poor performance. Managerial entrenchment is also documented for the US by Denis *et al.* (1997) and for the UK by Franks *et al.* (2001). Apart from the resistance against board monitoring in the UK, we find little evidence of performance-induced managerial disciplining. We conclude that, whereas Hypothesis 2a is not supported by these findings, Hypotheses 2b and 2c are.[16]

[INSERT TABLES 6a AND 6b ABOUT HERE]

We also investigate whether the market in share blocks leads to increased board restructuring. Especially in the wake of corporate underperformance, we expect that those blockholders with better monitoring ability or a managerial alternative increase control. In Germany, we find that when individuals (including directors) and families increase control, executive director turnover augments (line 12 of models 1-4). However, as the interactive term with performance (line 13) is not statistically significant, we cannot conclude that the executives' resignation is the result of performance-induced monitoring by families. Models 1 and 2 (line 15 of Table 6a) point out that when German performance is negative and institutions (primarily the banks) increase their blockholding, more resignations from the management board can be expected. Increases in voting blocks by non-financial corporations are strongly positively correlated with increased turnover (models 1, 2 and 4, line 16) which could mean that new powerful non-financial firms restructure the management board for reasons not related to past performance. Köke (2000) reports stronger evidence that block transfers coincide with poor performance and are followed by increased layoffs of employees and board restructuring. Still, the subsequent performance increase is only modest. For Belgium, we find strong statistical evidence that when industrial or commercial companies increase their blockholding or acquire a large block, more executive directors resign (line 16 in Tables 6a and 6b). The fact that executive directors turnover is amplified when past performance is very poor (cf. the negative sign of line 17 in models 1 and 2) indicates that non-financial firms augment their voting power with the intention of disciplining underperforming top management. A more detailed analysis shows that it is industrial and commercial firms rather than holding companies which discipline management. In France, increases in

[16] We also ran models with direct ownership for Belgium and France (not for Germany as only the indirect ownership relations are available). We find weaker relations than the ones described in section 5.1, which gives some indirect support for Hypothesis 3.

blockholdings by non-financial firms in French listed firms is also related to increased executive turnover. However, for this sample, we cannot conclude that the increased resignations are the result of a performance-related monitoring process. For UK sample firms, increases in share blocks by individuals and families are positively correlated to executive resignation (line 12).

We conclude that the market for share blocks in the UK and France does not seem to be related to managerial disciplining. However, there is some evidence for Germany and Belgium that part of the transactions in the block market occurs for corporate governance reasons: Industrial and commercial companies and banks who increase their voting power in Belgium and Germany, respectively, seem to cause increased turnover of poorly performing management. Hypothesis 4 is rejected for France and the UK, but not for Germany and Belgium.

High debt leverage or low interest coverage, combined with poor corporate performance, may lead to increased director dismissal as a result of creditor monitoring. Tables 6a and 6b show that their leverage is positively related to executive turnover for Belgium, France and Germany (model 2), but there is little consistency in this relationship across all models. Therefore, we reject Hypothesis 5.

The size of the board of directors has an important impact on executive resignations: the larger the board, the higher executive turnover in Germany, Belgium and the UK (line 24). Hence we fail to reject Hypothesis 6 which states that a large board may provide a pool of potential permanent (or temporary) successors, which facilitates absorbing the vacuum left by a resigning director. For Germany and the UK, this relationship is independent of past performance. Still, the fact that for Belgium the interactive term of board size with past performance is negative (in models 1-4, but significant only in model 1) provides some evidence that the size of board as potential managerial pool is especially important if the resignation was related to past underperformance. In this case, given that the board may be responsible for the poor performance due to a lack of effective monitoring, hiring an outside successor may be more appropriate.

A large number of non-executive directors may guarantee a higher degree of independence from management and thus more efficient monitoring of managerial performance. For Belgian listed firms, the higher the percentage of non-executive directors, the higher executive turnover although this relation is not associated with performance. For the UK and Germany, we find the opposite results: Here a large percentage of non-executives reduces executive directors dismissal. Franks *et al.* (2001) come to similar conclusions for the UK and state that non-executives usually vote to support incumbent management. The lack of sufficient monitoring by non-executive directors in the UK in the

pre-Cadbury period is also described by Conyon and Peck (1998) who show that boardroom control is not related to management compensation schemes. Finally, Tables 6a and 6b show that executive director turnover in Germany, France and the UK is larger in smaller firms.

5.2 CEO turnover models

Table 7 shows the results for two multi-country models that explain CEO turnover. In all countries, the negative signs in lines 1-3 prove that there is strong statistical significance that CEO departures augment when past and current performance was poor, which supports Hypothesis 1.[17] For Germany, there is a strong correlation between the control structure and CEO resignations: Large blockholdings held by individuals and families, and non-financial companies lead to increased executive turnover (lines 4 and 8 of Table 7). When the category of individuals and families is divided into directors, and individuals or families not related to a director, we find that the positive correlation is due to the latter (not shown in the Table). Lines 5 and 9 show that the relation between CEO departure and holdings by individuals or families is negative when performance is poor. An analysis with more detailed ownership classes reveals that this finding is caused by insider ownership: When performance is poor, executive directors are able to resist disciplining. As this relation is even stronger when performance is good, these German blockholders do not perform a monitoring and disciplining role (lines 5 and 9). For Belgian listed firms, the presence of major blockholders (individuals/families, financial and non-financial firms) in well-performing companies increases the probability that the CEO resigns. For France, we get the opposite picture, the negative interaction terms in lines 5, 7 and 9 point out that the CEO is dismissed when individuals or families, or non-financial firms hold important blocks of voting rights and performance is poor. A detailed analysis with eight ownership categories reveals that it is the industrial companies who are active monitors: When these companies own a high percentage of the voting rights or increase their control stake, the probability of CEO turnover augments. Holding companies do not seem to enhance efficiency by way of monitoring, which does not conflict with the findings of Banerjee *et al.* (1997) who even stress the detrimental effect of blockholdings held by holding companies. Large share blocks have little impact on CEO turnover in the UK where major share blocks in the hands of individuals or families lead to lower odds of CEO resignation. Thus, we conclude that there is strong evidence of performance-related monitoring by outsider shareholders in France, but Hypothesis 2a is not supported for the other countries. We fail to reject Hypothesis 2b as there is strong evidence of insider shareholder resistance to board restructuring for Germany and the UK. Given that institutions do not monitor – with the exception of France – we do not reject Hypothesis 3c.

[17] It should be noted that the significance of the performance terms in lines 1-3 underestimates the true correlation as some of the statistical significance of the lagged performance is absorbed by the interaction terms.

The market for share stakes in Germany cannot be considered as a corporate governance market: Large increases in blocks held by individuals and families lead to the resignation of the CEO but not only in cases of low corporate performance. When non-financial firms increase their voting power, it seems that they desire to nominate a CEO of their choice, but in this resignation process the CEO's past performance does not seem to matter. For Belgium, increases in share blocks controlled by non-financial firms are – independent of corporate performance - positively correlated with CEO departure (line 16). Similarly, individuals and families who increase their shareholding in a French listed firm when market-adjusted ROA is negative are more likely to replace the CEO. The market for share blocks is not correlated with CEO turnover in the UK. Apart from French listed firms, we reject Hypothesis 3 that the market for blocks is a corporate control market.

In the UK and Germany, the larger the number of directors, the larger CEO turnover (line 24). For Germany, this is especially the case when the CEO's past performance is weak (line 25). A large number of non-executives in Germany is negatively related to turnover, whereas we find the opposite sign for France.

[INSERT TABLE 7 ABOUT HERE]

5.3 Robustness checks and additional governance characteristics

Tables 6a, 6b and 7 show only a limited number of all models tested. We also test models with other performance measures such as cash flow on equity, earnings losses, dividend cuts, with and without correction for industry median. The results discussed above are confirmed by models with earnings losses and dividend cuts, but are weaker when including cash flow variables or absolute measures of ROA and ROE. The robustness of the findings discussed in sections 5.1 and 5.2 is further investigated by running the respective models with fixed and with random effects.[18] The results obtained do not differ qualitatively from the results reported above. We also estimate models for each country separately and add some explanatory variables unique to each country. For example, apart from Germany with its two-tier board system, the separation of the function of CEO and chairman of the board may be an important factor stimulating non-executive independence for Belgium, France and UK. We find that separating the functions of CEO and (non-executive) chairman of the board matters in Belgium: Separation facilitates dismissing the CEO and executive directors. For France, the CEO turnover relation is also statistically significant but with a negative sign. Although this relation is counter-intuitive, it should be noted that such a separation is probably not very crucial for French

[18] These tables are available upon request.

boards, because in many cases the CEO is the only executive on the board. Hence, in corporate governance terms, it may not matter whether the CEO also chairs a French board.

For France, we also collect data on the percentage of the board members representing the large shareholder, the debtholders (banks) and the founding family. We find no relation between managerial disciplining and shareholder representation on French boards. Still, what does matter for France is whether or not the board comprises representatives of the main debtholders, usually a large French bank. In this case, the probability of CEO resignation following poor corporate performance increases.

German banks may have a more powerful position resulting from proxy votes deposited by shareholders (Gorton and Schmid, 2000). Although data on proxy votes are not available, we proxied this bank proxy voting process by adding the free floating shares to the bank equity stakes.[19] In the CEO turnover models, we found strong evidence that the banks' voting power matters in the disciplinary process of underforming management (statistically significant interaction term at the one-percent level).

It should be noted that this study focuses on drastic governance actions, namely managerial disciplining when performance is poor. However, these actions may be an instrument of last resort as a slight reduction of performance may be penalised by other governance mechanisms like performance-related remuneration schemes. Still, the effectivess of such compensation schemes has been shown to depend on the ownership structure (Toshi and Gomez-Mejia, 1994). Unfortunately, top management compensation is not disclosed in Belgium, France and Germany.

6. CONCLUSIONS

This paper investigates the role of several monitoring mechanisms of managerial disciplining in Belgian, French, German and UK listed companies. First, large blockholders are expected to exert a corporate monitoring task provided their ownership stakes are sufficiently large to internalise the costs of monitoring. Interacting these blockholdings with past performance enables us to investigate whether or not executive turnover is related to past managerial underperformance. Second, we investigate whether a market in share stakes is a (partial) corporate control market. This is the case if blockholders accumulate control in the wake of poor performance and subsequently force management to resign. A third monitoring mechanism is the creditors, who are expected to dismiss management not only when performance is poor but especially when leverage is high or interest

[19] Adding to full free float to the banks' equity stakes may lead to an overestimation as some of the free floating shares are held by institutions. Still, assigning only 75 percent of the free-float to the banks yields the same results.

coverage is low. Fourth, board structure and composition – measured by percentage of non-executive directors, separation of control, board representation – may be a proxy for the degree of independence of the non-executive directors. We collect four large databases for Belgium, France, Germany and the UK with panel data over periods of five to eight years. The multi-country model of managerial disciplining are estimated using Logit and Tobit models.

We find substantial differences across countries. Executive turnover (corrected for natural turnover like retirement and illness) is strongly related to past performance for all countries apart from France. Overall, there is little evidence that existing blockholders play an active role in disciplining underperforming management. In Belgium, France and Germany, there is some evidence that executive turnover augments when individuals or families (not related to a director), holding companies or industrial firms own blockholdings. However, as the interaction of these blockholdings with performance is not significant, these blockholders do not seem to replace incumbent management for reasons of disciplining underperformance. Managers of government controlled companies in France do not seem to be disciplined when they underperform. In UK firms, executive directors with voting blocks are successful in impeding executive board restructuring, and hence defending their private benefits, even in the wake of poor performance.

The blockholdings are calculated and categorised taking into the account the pyramidal ownership structures for Germany, Belgium and France. The fact that the results are weaker when only considering direct share blocks yields some evidence that governance decisions are not taken at the direct ownership level but by the ultimate blockholder. In Germany, we discover increased bank monitoring when adding the potential proxy votes to the banks' equity stakes.

Part of the market for blockholdings is a corporate governance market in Belgium and Germany. Non-financial firms (in Belgium) and financial institutions (in Germany) increase their voting power when performance is poor, which is followed by increased turnover. In contrast, the markets for share blocks in the UK and France are not related to managerial disciplining. Little evidence is discovered of creditor monitoring in companies with high leverage or low interest coverage.

A high proportion of non-executive directors, a proxy for independence from management, increases the probability of managerial departures in Belgium and France, but non-executives seem to support incumbent management (even when it is underperforming) in Germany and the UK. Separating the functions of CEO and non-executive chairman of the board facilitates the removal of a poorly performing CEO in Belgium, but not in France or the UK. In France, it is beneficial to

nominate a representative of the main bank to the board. Finally, in Belgium, Germany and the UK, a large board seems to facilitate managerial disciplining as there is a higher probability that the board comprises a potential successor to a departing CEO.

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DATA APPENDIX

A. Germany

Accounting information is collected from *Hoppenstedt*, a commercial information provider. In addition, the *Guide through German Companies*, edited by the former *Hypobank*, is used to verify the *Hoppenstedt* information and to add missing information. Share price data are obtained from the *Capital Market Database* of the University of Karlsruhe. These data are corrected for dividend payments, stock splits and changes in the nominal value of the shares. Average weekly share prices are used to calculate yearly returns. The market index *DAFOX* is also corrected for dividend and stock splits and takes into account entry and exit of firms to avoid a survivor bias. The interest rate on short term government bonds is used as a proxy for the riskfree rate and is collected from the Federal Statistical Office of Germany.

Data on the ownership structure of German companies are collected from the *Guide through German Companies*. These handbooks contain information on the direct shareholders (with ownership of more than 5 percent) of all listed and some large non-listed Germany companies. In cases in which the *Hypobank* guides indicate that ownership rights diverge from voting rights, the respective information on voting rights is used. Information on proxy votes is only accessible at local courts and therefore is not used. Some firms may implement voting restrictions provided this is enshrined in the by-laws. We do not dispose these voting restrictions; the use of voting caps is discussed in Gorton and Schmid (2000). Data on the supervisory board (*Aufsichtsrat*) and the managerial board (*Vorstand*) are collected from the *Guide through German Companies.* On a year-by-year basis, turnover of the CEO, of the chairman of the supervisory board, and of directors in the managerial and supervisory boards are calculated. In addition, we gather board size and the percentage of employee and shareholder representatives on the supervisory board.

B. Belgium

Accounting data are collected from annual reports and from the database of *Central Depository of Balance Sheets* at the National Bank of Belgium. Weekly share price returns, corrected for stock splits and dividend pay-outs, and a value-weighted, dividend and stock split-corrected index of all companies listed on the Brussels Stock Exchange are provided by the *Generale Bank*. The interest rate on short term government bonds is used as a proxy for the riskfree rate and collected from Datastream.

Data on the ownership structure are collected from the Documentation and Statistics Department of the Brussels Stock Exchange. Ownership data are only available since 1989, following the introduction of the Ownership Transparency Legislation (of 2 March 1989). Ownership and voting rights disclosure is obligatory for shareholdings of at least 5 percent. To capture a company's ownership position at the end of its fiscal year and the yearly changes in shareholdings, about 5000 hardcopy Notifications of Ownership Change from 1989 till 1994 are consulted. With this information about major direct shareholdings and about indirect control (which is complemented with details from annual reports), the multi-layered (pyramidal) ownership structures were reconstructed for each company over the period 1989-1994. The yearbooks of *Trends 20,000*, which comprise industry sector classification and financial data for listed and non-listed Belgian companies, are used to classify all Belgian investors into ownership categories. Foreign investors are classified with information from *Kompass*. Reasons for directors' resignations are collected from the notes in the annual reports and the financial press.

The database of the National Bank of Belgium also contains information about the board of directors. Turnover of executive, non-executive, CEO and chairman are collected as well board size and composition (percentage of non-executive directors). Reasons to leave the company as well as age of the directors are collected from the notes in the annual reports. Data on size and turnover of the

management committee are gathered from the annual reports. When the annual report does not explicitly mention the existence of a management committee, the yearbooks *Memento der Effecten* and the *Jaarboek der Bestuurders* (Yearbook of Directors) are consulted to determine whether or not directors hold executive functions. If the annual reports or other public sources does not reveal the data needed, companies are contacted by fax and phone to supplement lacking data.

C. France

Accounting data are collected from the *DAFSA* fiches. Share price and dividend pay-out data are collected from the database *FININFO* which also contains the daily closing prices for the French market index SBF. The interest rate on short term government bonds is used as a proxy for the riskfree rate and collected from the *Statistiques Annuelles de la Société des Bourses Françaises* (SBF).

Information about direct and indirect blockholdings of at least 5 percent is also collected from the *DAFSA* fiches, which also provides information about whether or not a director represents a large shareholder, a debtholder (bank) or the founding family.

Information about the board of directors and turnover of CEO, chairman and executive directors is collected from several sources. The database of the *Banque de France* contains for each director of a listed company, the name, date of birth, dates of nomination to and resignation from the board. A press search using *Les Echos* and *l'Annuaire des Sociétés Cotées Desfossés (Dafsa-Desfossés)* is used to check the nomination and resignation data and to distinguish between natural and conflictual turnover.

D. The UK

Accounting data were collected from Datastream. Share price data, dividends and annual abnormal returns are gathered from the London Share Price Database (LSPD).

Ownership data are collected from the Directors' Report or the notes in hardcopy annual reports. All share stakes over 3 percent are collected as well as all directors' shareholdings. In 1989, the statutory disclosure threshold for outside shareholders was reduced from 5 percent to 3 percent. As well as beneficial shareholdings, we include all non-beneficial ones held by directors on behalf of families and charitable trusts. Directors do not obtain cash flow benefits from these holdings but they have control rights. We also investigate nominee holdings and find that in 95 percent of the cases, institutional investors use the nominee registration to reduce administrative costs. The nominee shareholdings are classified according to category of shareholder using nominee accounts.

Data on the composition of the board of directors are compiled from annual reports, Datastream, the Financial Times and Nexus databases. They include the names, tenure and age of the CEO, chairman, and all directors, both executive and non-executive. Like for Belgium and France, we distinguish between natural and other turnover, the latter being a noisy measure of conflictual turnover. Reasons for directors' resignations as well as age and tenure of directors are collected from the notes in the annual reports.

Table 1
Characteristics of the Board of Directors

This table shows the board characteristics: board size (for Germany of the management and supervisory boards separately, whether or not the CEO is also the board chairman (1=yes), the percentage of non-executive directors on board (for Germany this is taken as the percentage of supervisory board members on management and supervisory boards), percentage of representatives of the shareholders, of the debtholders or of the founders on the board (and of the management and supervisory boards for Germany), if applicable. The table shows the means, medians, 25 and 75 percentiles and standard deviation. Source: own calculations based on the data of which sources are presented data appendix.

Panel A : Germany						
Average 1987-94	**Obs.**	**25%**	**median**	**mean**	**75%**	**Std. Dev.**
Supervisory board size	2377	6	6	9.2	12	5.3
Management board size	2378	2	3	3.5	4	2.3
CEO=Chairman (yes=1)	2379	0.0%	0.0%	0.0%	0.0%	0.0%
% Non-exec. Directors	2377	66.7%	75.0%	71.8%	75.0%	9.4%
% Shareholder representatives	2377	50.0%	66.7%	63.2%	66.7%	13.2%
Panel B : Belgium						
Average 1989-94						
Board size	727	5	8	9.4	11	5.9
CEO=Chairman (yes=1)	724	0.0%	0.0%	35.2%	100.0%	47.8%
% Non-exec. Directors	602	66.7%	80.0%	73.9%	85.7%	17.9%
Panel C: France						
Average 1989-92						
Board size	1071	7	9	9.5	11	3.7
CEO=Chairman (yes=1)	1255	100.0%	100.0%	85.9%	100.0%	34.8%
% Non-exec. Directors	1254	80.0%	87.5%	85.4%	92.3%	10.6%
% Shareholder representatives	1255	0.0%	8.3%	12.0%	20.0%	14.7%
% Debtholder representatives	1253	0.0%	0.0%	9.3%	14.3%	16.1%
% Founders' representatives	1255	0.0%	0.0%	3.9%	0.0%	12.4%
Panel D : UK						
Average 1989-93						
Board size	1071	7	9	9.5	11	3.7
CEO=Chairman (yes=1)	1071	0.0%	0.0%	32.7%	100.0%	46.9%
% Non-exec. Directors	1071	30.0%	40.0%	39.5%	50.0%	14.6%

Table 2
Board turnover in Germany, Belgium, France and the UK

This table shows the average yearly turnover of the CEO, the executive directors, the chairman (if applicable) and the non-executive directors. In addition, the median, 75 percentiles and the standard deviation are presented. Source: own calculations with data of which sources are presented in the data appendix.

	Obs.	Median	Mean	75%	Std. Dev.
Panel A : Germany					
Average 1987-94					
CEO turnover	2379	0.00%	15.13%	0.00%	35.84%
Executive turnover	2378	0.00%	12.19%	20.00%	21.50%
Chairman turnover	2377	0.00%	14.93%	0.00%	35.65%
Non-exec. turnover	2377	0.00%	12.93%	16.67%	17.64%
Panel B : Belgium					
Average 1989-94					
CEO turnover	735	0.00%	7.35%	0.00%	26.11%
Executive turnover	587	0.00%	19.60%	20.00%	36.88%
Non-exec. turnover	601	0.00%	7.27%	10.53%	13.97%
Panel C: France					
Average 1989-92					
CEO turnover	1255	0.00%	18.41%	0.00%	38.77%
Executive turnover	1251	0.00%	10.86%	0.00%	28.30%
Turnover chairman	1260	0.00%	18.57%	0.00%	38.90%
Panel D : UK					
Average 1988-93					
CEO turnover	1071	0.00%	12.51%	0.00%	33.10%
Executive turnover	1071	0.00%	8.95%	16.67%	13.99%
Total board turnover	1071	0.00%	7.60%	12.50%	10.71%
Non-exec. turnover	1052	0.00%	5.02%	0.00%	13.47%

Table 3
Performance, firm size and debt variables

This table presents performance, debt and size measures for Germany, Belgium, France and the UK. ROA, ROE and ROS stand respectively for return on assets (where return is earnings before interest and taxes, EBIT), return on equity (where return is EBIT), return on sales (where return is EBIT). These measures are corrected for the industry median. Mkt. Adj. return is the share price return (corrected for dividends and stock splits) minus the market return, Tobin's Q is approximated by market value of equity and book value of debt divided by total assets. Losses (t and t-1) and Losses (t, t-1 and t-2) are dummy variables equal to 1 if a company has losses in the years t and the previous year, and in the year t and the two previous years, respectively, Dividend cuts is a dummy variable equal to 1 if the firm has dividend cuts and omissions over the previous year. Debt on assets and on equity is total debt divided by total assets and book value of equity, respectively. Interest coverage is the EBIT divided by interest charges. The total Sales and Assets are given in millions of Euro. Source: own calculations with data of which the sources are presented in the data appendix.

	ROA (ind. adj.)	ROE (ind. adj.)	ROS (ind. adj.)	Mkt. adj. return	Tobin's Q	Tobin's Q (ind. adj.)	Losses (t and t-1)	Losses (t, t-1 and t-2)	Divid. Cuts	Debt on Assets	Interest Coverage	Debt on Equity	Sales (m. Euro)	Assets (m. Euro)
Panel A : Germany														
25%	-2.1%	-5.0%	-1.7%	-16.1%	0.36	-0.20	0.0%	0.0%	0.0%	0.26	1.88	0.36	59	39
Median	0.9%	0.7%	0.9%	0.5%	0.59	0.00	0.0%	0.0%	0.0%	0.40	4.19	0.68	180	121
Average	1.3%	1.5%	4.3%	0.6%	0.80	0.16	3.2%	1.1%	7.0%	0.41	54.81	1.09	1758	1339
75%	4.8%	7.8%	3.6%	16.7%	1.00	0.35	0.0%	0.0%	0.0%	0.55	10.32	1.23	752	518
Stan. Dev.	9.1%	26.1%	30.1%	27.0%	0.70	0.67	17.7%	10.3%	25.5%	0.20	418.72	1.65	5394	4698
Obs.	2376	2375	2278	1591	1439	1439	2374	2349	2378	2377	2337	2377	2278	2378
Panel B : Belgium														
25%	-3.6%	-6.3%	-6.3%	-18.2%	0.42	-0.26	0.0%	0.0%	0.0%	0.11	1.54	0.12	1	14
Median	0.2%	0.5%	0.0%	-2.6%	0.74	0.00	0.0%	0.0%	0.0%	0.33	4.47	0.50	10	52
Average	-0.5%	-0.1%	-7.6%	2.1%	1.09	0.35	7.6%	4.7%	35.7%	0.36	384.52	1.10	182	384
75%	4.5%	10.3%	4.0%	15.3%	1.13	0.42	0.0%	0.0%	100.0%	0.56	17.20	1.40	65	205
Stan. Dev.	13.0%	25.2%	54.3%	37.2%	1.49	1.47	26.6%	21.1%	48.0%	0.26	2121.01	1.73	608	1048
Obs.	689	672	510	687	575	575	680	665	468	681	599	665	692	692
Panel C : France														
25%	-2.6%	-9.9%	-2.8%	-24.5%	0.39	-0.23	0.0%	0.0%	0.0%	0.11	0.46	0.28	50	77
Median	-0.1%	-0.5%	0.0%	-8.4%	0.62	-0.02	0.0%	0.0%	0.0%	0.21	1.53	0.63	290	384
Average	-0.5%	-1.6%	-2.7%	-8.8%	0.79	0.08	14.1%	10.2%	36.6%	0.23	3.08	1.10	1634	5388
75%	2.1%	6.4%	3.1%	6.6%	1.00	0.28	0.0%	0.0%	100.0%	0.34	3.08	1.32	1230	1374
Stan. Dev.	6.0%	24.3%	23.8%	25.5%	0.59	0.52	34.9%	30.2%	48.2%	0.16	8.16	1.70	3829	23415
Obs.	936	932	857	564	384	384	927	916	1228	797	800	796	861	1248
Panel D: UK														
25%	-7.0%	-9.0%	-3.4%	-28.6%	0.78	-0.49	0.0%	0.0%	0.0%	0.04	2.83	0.04	166	50
Median	-0.7%	-0.8%	-0.2%	-7.9%	1.30	-0.03	0.0%	0.0%	0.0%	0.16	5.17	0.21	343	141
Average	-0.9%	-0.5%	0.1%	-5.7%	1.72	0.33	2.0%	0.4%	16.4%	0.19	14.13	0.37	1533	745
75%	6.6%	8.8%	3.9%	14.3%	2.17	0.68	0.0%	0.0%	0.0%	0.30	10.23	0.48	950	449
Stan. Dev.	16.7%	19.5%	8.6%	38.7%	1.47	1.41	13.9%	6.4%	37.1%	0.16	32.33	0.55	5567	2286
Obs.	972	969	955	1031	965	965	969	959	986	989	959	989	957	989

Table 4
Ownership Concentration

This table shows the ownership concentration of all large share stakes for Germany, Belgium, France and the UK by category of owner. Large share stakes are defined (in line with the local disclosure regulation) as 5% for France, Belgium and Germany and 3% for the UK. The data reflect the averages over 1987-94 for Germany, 1989-1994 for Belgium, 1988-92 for France and 1988-93 for the UK. The results are not significantly different when using the period 1989-1992 as common denominator. The table shows the 25 and 75 percentiles as well as means, medians and standard deviations. Source: own calculations with data of which the sources are presented in the data appendix.

		Sum of all large shareholdings by category					Largest of all large shareholdings by category				
	Obs.	**25%**	**median**	**mean**	**75%**	**St.Dev.**	**25%**	**median**	**mean**	**75%**	**St.Dev.**
Panel A : Germany											
Holding companies	2378	0.0	0.0	2.4	0.0	11.1	0.0	0.0	2.4	0.0	11.1
Banks	2378	0.0	0.0	7.1	0.0	18.8	0.0	0.0	6.4	0.0	17.5
Investment funds	2378	0.0	0.0	0.2	0.0	2.2	0.0	0.0	0.2	0.0	2.2
Insurance companies	2378	0.0	0.0	1.6	0.0	9.0	0.0	0.0	1.6	0.0	8.9
Indust.&commercial co's	2378	0.0	0.0	21.6	39.6	35.0	0.0	0.0	20.8	30.0	34.4
Individuals and Families	2378	0.0	0.0	14.1	5.0	28.6	0.0	0.0	13.7	5.0	28.2
Government	2378	0.0	0.0	2.0	0.0	9.6	0.0	0.0	1.9	0.0	9.0
Executive Directors	2378	0.0	0.0	10.2	0.0	26.2	0.0	0.0	10.1	0.0	26.0
Non-executive Directors	2378	0.0	0.0	8.7	0.0	23.3	0.0	0.0	8.5	0.0	22.9
For all categories	2378	50.1	75.1	67.9	90.6	27.6	38.7	60.0	60.1	87.4	29.8
Panel B : Belgium											
Holding companies	656	0.0	6.8	23.3	59.3	29.9	0.0	0.0	12.9	23.0	19.2
Banks	656	0.0	0.0	0.8	0.0	6.0	0.0	0.0	0.6	0.0	5.9
Investment funds	656	0.0	0.0	2.3	0.0	8.9	0.0	0.0	0.8	0.0	5.6
Insurance companies	656	0.0	0.0	1.7	0.0	8.4	0.0	0.0	0.6	0.0	6.1
Indust.&commercial co's	656	0.0	0.0	9.1	1.8	22.8	0.0	0.0	7.9	0.0	20.8
Individuals and Families	656	0.0	0.0	12.1	11.4	25.5	0.0	0.0	11.6	16.0	21.5
Government	656	0.0	0.0	2.5	0.0	12.7	0.0	0.0	2.4	0.0	12.9
Real estate	656	0.0	0.0	0.3	0.0	1.5	n.a.	n.a.	n.a.	n.a.	n.a.
For all categories	656	32.1	56.3	52.2	75.0	29.6	17.0	32.0	36.6	52.0	23.6

Panel C: France											
Holding companies	1260	0.0	0.0	14.7	13.3	27.0	0.0	0.0	12.9	0.0	26.7
Banks	1260	0.0	0.0	7.1	0.0	19.3	0.0	0.0	5.3	0.0	18.2
Investment funds	1260	0.0	0.0	4.3	0.0	14.3	0.0	0.0	3.3	0.0	13.6
Insurance companies	1260	0.0	0.0	2.7	0.0	12.7	0.0	0.0	1.6	0.0	10.3
Non-financial companies	1260	0.0	0.0	15.0	13.8	27.9	0.0	0.0	12.3	0.0	26.6
Indust.&commercial co's	1260	0.0	0.0	3.3	0.0	12.8	0.0	0.0	2.5	0.0	12.3
Government	1260	0.0	0.0	12.6	10.3	25.1	0.0	0.0	9.8	0.0	23.1
Real estate	1260	0.0	0.0	0.7	0.0	5.8	0.0	0.0	0.5	0.0	5.6
Executive Directors	1260	0.0	0.0	4.4	0.0	14.3	0.0	0.0	3.8	0.0	13.2
Non-executive Directors	1260	0.0	0.0	1.2	0.0	6.6	0.0	0.0	0.8	0.0	5.9
For all categories	1260	22.6	67.3	66.0	84.4	22.6	34.5	52.4	52.9	70.4	25.5
Panel D : UK											
Banks	1071	0.0	0.0	1.3	0.0	3.6	0.0	0.0	1.2	0.0	3.2
Investment funds	1071	0.0	8.4	12.0	18.1	13.4	0.0	5.4	6.6	9.1	7.4
Insurance companies	1071	0.0	3.7	5.1	8.1	6.1	0.0	3.6	3.5	5.9	3.5
Indust.&commercial co's	1071	0.0	0.0	5.8	5.8	12.0	0.0	0.0	5.1	5.7	10.7
Individuals and Families	1071	0.0	0.0	2.4	0.0	8.1	0.0	0.0	1.6	0.0	5.1
Government	1071	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	1.0
Executive Directors	1071	0.0	0.8	7.2	7.4	13.6	0.0	0.6	5.1	5.2	9.5
Non-executive Directors	1071	0.0	0.0	4.0	1.2	9.9	0.0	0.0	3.0	1.0	7.8
For all categories	1071	20.3	36.6	38.0	53.4	22.6	7.0	11.6	15.4	20.5	12.8

Table 5
Changes in Ownership Concentration

This table shows the percentage of firms with changes in ownership concentration by category of owner and by size bracket for Germany, Belgium, France and the UK. The purchases include both increases in ownership by existing blockholders and the emergence of new blockholders. The data reflect the averages over 1988-94 for Germany, 1990-1994 for Belgium, 1989-92 for France and 1989-93 for the UK. The results are not substantially different when using the period 1989-1992 as common denominator. Source: own calculations with data of which the sources are presented in the data appendix.

	% of companies with share stake purchases						% of companies with share stake sales					
	Obs.	**]5-10%]**	**]10, 25%]**	**]25-50%]**	**]50-100%]**	**No Δ**	**Obs.**	**]5-10%]**	**]10, 25%]**	**]25-50%]**	**]50-100%]**	**No Δ**
Panel A : Germany												
Holding companies	2378	13.2	26.3	36.8	23.7	2340	2378	3.6	17.9	42.9	35.7	2350
Banks	2378	25.4	46.0	17.5	11.1	2315	2378	33.3	31.5	25.9	9.3	2324
Investment funds	2378	16.7	50.0	16.7	16.7	2372	2378	11.1	55.6	22.2	11.1	2369
Insurance companies	2378	19.2	65.4	11.5	3.8	2352	2378	11.1	66.7	11.1	11.1	2360
Indust. & commercial co's	2378	10.1	25.7	29.7	34.5	2230	2378	8.1	26.1	29.7	36.0	2267
Individuals and Families	2378	15.2	29.5	26.8	28.6	2266	2378	18.4	38.0	20.2	23.3	2215
Government	2378	23.3	36.7	10.0	30.0	2348	2378	11.1	22.2	33.3	33.3	2360
For all categories	2378	11.7	29.7	28.4	30.2	1994	2378	11.8	29.8	29.8	28.7	2015
Panel B : Belgium												
Holding companies	732	46.4	30.4	21.7	1.4	663	732	33.3	41.4	12.6	12.6	645
Banks	732	28.6	28.6	0.0	42.9	725	732	100.0	0.0	0.0	0.0	731
Investment funds	732	58.3	33.3	8.3	0.0	720	732	22.2	22.2	33.3	22.2	723
Insurance companies	732	75.0	25.0	0.0	0.0	724	732	37.5	37.5	25.0	0.0	724
Indust. & commercial co's	732	25.9	25.9	22.2	25.9	705	732	22.2	44.4	11.1	22.2	714
Individuals and Families	732	36.8	44.7	7.9	10.5	694	732	29.7	27.0	18.9	24.3	695
Government	732	0.0	66.7	11.1	22.2	723	732	18.2	54.5	27.3	0.0	721
For all categories	732	35.3	34.6	17.0	13.1	579	732	29.0	33.5	20.6	16.8	577

Panel C: France												
Holding companies	1260	41.3	29.9	12.0	16.8	1093	1260	49.1	30.4	10.7	9.8	1148
Banks	1260	42.7	28.1	16.9	12.4	1171	1260	50.8	24.6	15.4	9.2	1195
Investment funds	1260	43.8	37.5	12.5	6.3	1196	1260	50.7	28.8	8.2	12.3	1187
Insurance companies	1260	44.0	29.3	9.3	17.3	1185	1260	47.5	27.1	8.5	16.9	1201
Indust. & commercial co's	1260	42.3	30.3	13.4	14.1	1118	1260	39.4	37.6	11.9	11.0	1151
Individuals and Families	1260	86.7	13.3	0.0	0.0	1245	1260	65.2	26.1	4.3	4.3	1237
Government	1260	66.7	22.2	11.1	0.0	1251	1260	26.7	53.3	13.3	6.7	1245
Executive Directors	1260	38.5	53.8	7.7	0.0	1247	1260	42.9	46.4	7.1	3.6	1232
Non-executive Directors	1260	43.8	43.8	6.3	6.3	1244	1260	63.6	36.4	0.0	0.0	1249
For all categories	1260	29.9	35.0	17.1	18.1	768	1260	33.2	35.9	15.2	15.7	853
Panel D : UK												
Banks	1071	63.5	34.6	1.9	0.0	1019	1071	73.3	23.3	3.3	0.0	1041
Investment funds	1071	47.9	46.3	5.0	0.8	693	1071	59.6	34.2	4.4	1.8	846
Insurance companies	1071	81.4	18.6	0.0	0.0	953	1071	88.3	10.0	1.7	0.0	1011
Indust. & commercial co's	1071	51.5	35.1	12.4	1.0	974	1071	48.3	39.3	10.1	2.2	982
Individuals and Families	1071	53.7	31.7	12.2	2.4	1030	1071	62.2	35.1	2.7	0.0	1034
Government	1071	100.0	0.0	0.0	0.0	1068	1071	50.0	0.0	50.0	0.0	1069
Executive Directors	1071	46.7	35.6	17.8	0.0	1026	1071	50.0	36.8	11.8	1.5	1003
Non-executive Directors	1071	33.3	56.7	10.0	0.0	1041	1071	59.0	38.5	2.6	0.0	1032
For all categories	1071	32.1	49.7	16.0	2.2	441	1071	37.7	46.5	13.0	2.7	594

Table 6a Tobit results of executive turnover with as performance: industry-adjusted ROA and ROE

This table shows Tobit regression results explaining executive turnover, which is measured as the number of leaving executive directors to the number of all executive directors. Intercept, time dummies as well as two-digit country-specific industry dummies are included but not reported. Note: ***, ** and * stand for statistical significance of respectively 1%, 5% and 10%. Definition of variables is presented in section 3.2. Source: own calculations.

	Executive turnover Model 1: Industry adjusted return on assets								**Executive turnover Model 2: Industry adjusted return on equity**							
	Germany		**Belgium**		**France**		**UK**		**Germany**		**Belgium**		**France**		**UK**	
	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value
1. Perform at t	0.011	0.960	-0.011	0.976	-1.553	0.113	**-0.486*** **	0.007	-0.113	0.148	0.206	0.289	**-0.336**	0.093	**-0.438*** **	0.006
2. Perform at t-1	-2.485	0.128	0.853	0.692	-10.254	0.134	-0.093	0.924	**-1.888*** **	0.004	1.320	0.235	-1.469	0.363	0.034	0.967
3. Perform at t-2	-0.314	0.222	-0.424	0.160	-0.706	0.458	0.259	0.205	-0.047	0.582	-0.274	0.113	-0.282	0.206	0.122	0.507
4. Blockholder: individuals/families	**0.001***	0.066	-0.004	0.116	-0.001	0.645	**-0.005*** **	0.006	**0.001***	0.053	**-0.004***	0.099	-0.001	0.595	**-0.005*** **	0.005
5. Interaction with performance	0.013	0.151	0.013	0.562	0.015	0.772	-0.007	0.559	0.005	0.172	0.011	0.340	0.013	0.305	-0.004	0.646
6. Blockholder: financial	0.001	0.283	-0.003	0.405	-0.001	0.572	-0.003	0.178	0.001	0.256	-0.002	0.570	-0.001	0.703	-0.003	0.150
7. Interaction with performance	0.012	0.397	**0.100*** **	0.003	0.025	0.552	-0.016	0.187	0.006	0.359	**0.039***	0.057	0.007	0.619	-0.013	0.220
8. Blockholder: non-financial	**0.001***	0.056	0.000	0.890	**0.004***	0.084	0.000	0.126	**0.001** **	0.039	-0.001	0.496	**0.004***	0.058	0.000	0.999
9. Interaction with performance	0.014	0.126	**0.038*** **	0.002	0.020	0.596	-0.004	0.799	0.005	0.124	**0.028*** **	0.000	0.014	0.170	-0.007	0.616
10. Blockholder: government	0.000	0.998	-0.011	0.006	0.000	0.892	-0.011	0.531	-0.001	0.568	**-0.010** **	0.040	0.002	0.464	-0.008	0.626
11. Interaction with performance	-0.043	0.356	0.024	0.558	**0.145** **	0.035	-0.146	0.590	**-0.056** **	0.042	0.011	0.604	0.010	0.493	-0.085	0.704
12. Increases in blocks: indivi/fam.	**0.007*** **	0.001	0.003	0.619	0.013	0.151	**0.012*** **	0.001	**0.007*** **	0.000	0.003	0.674	0.010	0.309	**0.013*** **	0.001
13. Interaction with performance	0.003	0.864	-0.110	0.109	0.223	0.480	0.016	0.521	0.006	0.317	-0.003	0.907	0.078	0.118	-0.001	0.965
14. Increases in blocks: financial	0.002	0.486	-0.020	0.115	-0.003	0.534	0.001	0.642	0.002	0.453	-0.012	0.173	-0.005	0.342	0.001	0.624
15. Interaction with performance	**-0.120***	0.082	-0.100	0.630	0.043	0.462	0.004	0.805	**-0.053***	0.054	-0.115	0.258	0.017	0.327	0.002	0.861
16. Increases in blocks: non-fin.	**0.003** **	0.012	**0.009*** **	0.002	**0.004** **	0.048	0.002	0.774	**0.003*** **	0.013	**0.011*** **	0.000	**0.003***	0.078	0.001	0.795
17. Interaction with performance	-0.009	0.531	-0.028	0.109	-0.050	0.154	-0.033	0.318	-0.007	0.163	**-0.016** **	0.049	-0.009	0.329	-0.024	0.360
18. Increases in blocks: government	-0.002	0.503	**0.030*** **	0.003	-2.774	n.a.	-0.038	0.595	-0.002	0.518	0.017	0.543	-2.502	n.a.	-0.038	0.599
19. Interaction with performance	0.008	0.913	0.014	0.797	-20.256	n.a.	-0.061	0.911	0.014	0.760	-0.366	0.308	-8.240	n.a.	0.028	0.955
20. Debt ratio	0.032	0.760	0.310	0.119	-0.128	0.654	0.217	0.242	**0.276*** **	0.005	**0.404***	0.063	-0.064	0.822	**0.392** **	0.035
21. Interaction with performance	0.238	0.802	1.170	0.398	5.004	0.219	-0.053	0.936	**1.367*** **	0.001	**-1.545***	0.051	-0.287	0.742	0.036	0.949
22. Interest coverage	**0.000***	0.089	0.000	0.757	-0.010	0.237	0.000	0.626	**0.000***	0.058	0.000	0.708	-0.002	0.742	0.000	0.618
23. Interaction with performance	0.001	0.591	**-0.003** **	0.045	**0.313*** **	0.007	0.001	0.877	0.000	0.763	-0.002	0.131	**0.075** **	0.013	0.002	0.644
24. Board size	**0.039*** **	0.000	**0.021** **	0.011	0.016	0.276	**0.041*** **	0.000	**0.041*** **	0.000	**0.022** **	0.010	0.013	0.347	**0.044*** **	0.000
25. Interaction with performance	0.004	0.949	**-0.196** **	0.040	-0.328	0.215	-0.010	0.863	0.024	0.436	-0.014	0.766	-0.083	0.247	-0.032	0.492
26. Non-executive dir./all dir.	**-1.503*** **	0.000	**0.652*** **	0.006	0.540	0.186	**-0.588*** **	0.001	**-1.496*** **	0.000	**0.747*** **	0.002	0.540	0.179	**-0.616*** **	0.001
27. Interaction with performance	0.109	0.962	-0.767	0.754	**12.709***	0.057	0.333	0.757	0.166	0.811	-1.570	0.201	1.663	0.305	0.685	0.431
28. log(assets)	-0.034	0.105	-0.020	0.475	0.000	0.998	**-0.057** **	0.017	**-0.037***	0.076	**-0.052***	0.085	0.010	0.720	**-0.061*** **	0.012
Industry dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Time dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Log likelihood	-2508.591								-2490.355							
Number of obs.	4199								4175							

Table 6b. Tobit results of executive turnover with market-adjusted return and market-to-book ratio

This table shows Tobit regression results explaining executive turnover, which is measured as the number of leaving executive directors to the number of all executive directors. Intercept, time dummies as well as two-digit country-specific industry dummies are included but not reported. Note: ***, ** and * stand for statistical significance of respectively 1%, 5% and 10%. Definition of variables is presented in section 3.2. Source: own calculations.

	Executive turnover Model 3: market-adjusted share price return								**Executive turnover Model 4: market-to-book ratio**							
	Germany		**Belgium**		**France**		**UK**		**Germany**		**Belgium**		**France**		**UK**	
	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value
1. Perform at t	-0.107	0.153	0.172	0.167	0.030	0.885	-0.079	0.171	0.073	0.353	**-0.266****	0.016	**-0.532*****	0.001	-0.024	0.284
2. Perform at t-1	-0.110	0.855	0.085	0.880	0.359	0.876	0.078	0.823	-0.179	0.556	0.483	0.235	-0.907	0.420	0.022	0.844
3. Perform at t-2	-0.069	0.300	-0.021	0.818	0.234	0.227	**-0.129***	0.057	-0.082	0.281	**0.194****	0.013	-0.082	0.532	-0.003	0.889
4. Blockholder: individuals/families	**0.002***	0.042	-0.003	0.137	-0.004	0.411	**-0.004****	0.030	**0.002****	0.045	**-0.004****	0.040	-0.005	0.196	**-0.004****	0.010
5. Interaction with performance	**0.006***	0.042	**0.008***	0.091	-0.027	0.143	-0.002	0.587	0.000	0.789	-0.001	0.761	-0.004	0.663	0.000	0.841
6. Blockholder: financial	0.000	0.987	0.003	0.325	**-0.011****	0.019	0.000	0.820	-0.001	0.637	0.001	0.679	**-0.015*****	0.007	-0.002	0.332
7. Interaction with performance	0.002	0.710	0.006	0.219	**-0.027***	0.072	-0.002	0.643	0.003	0.313	-0.001	0.842	-0.003	0.588	0.000	0.850
8. Blockholder: non-financial	0.001	0.128	0.001	0.600	-0.001	0.719	0.000	0.935	**0.002****	0.039	0.000	0.846	-0.002	0.460	0.000	0.826
9. Interaction with performance	-0.001	0.809	**0.014*****	0.001	**-0.022***	0.073	0.001	0.918	-0.001	0.492	**0.004***	0.058	-0.008	0.237	0.002	0.200
10. Blockholder: government	0.001	0.568	**-0.010****	0.013	-0.006	0.156	-0.008	0.622	0.002	0.429	**-0.022****	0.045	**-0.007***	0.081	-0.015	0.552
11. Interaction with performance	-0.007	0.501	0.001	0.929	**-0.039****	0.014	0.002	0.987	0.007	0.213	-0.034	0.267	-0.001	0.887	-0.015	0.715
12. Increases in blocks: indivi/fam.	**0.006****	0.016	0.005	0.378	0.011	0.491	**0.010****	0.003	**0.005***	0.097	0.002	0.807	0.000	0.982	**0.011*****	0.000
13. Interaction with performance	0.003	0.627	-0.003	0.845	-0.072	0.443	-0.006	0.620	**0.010****	0.010	-0.031	0.218	**-0.083****	0.041	0.001	0.539
14. Increases in blocks: financial	-0.001	0.840	-0.016	0.130	**0.016****	0.040	0.003	0.210	-0.001	0.880	-0.019	0.128	0.005	0.362	0.002	0.309
15. Interaction with performance	0.019	0.207	-0.021	0.652	**0.035***	0.082	0.001	0.830	-0.005	0.548	0.008	0.815	0.019	0.360	0.000	0.977
16. Increases in blocks: non-fin.	0.002	0.308	**0.008*****	0.005	**0.006****	0.032	0.001	0.834	**0.002***	0.086	**0.011*****	0.000	0.003	0.379	0.002	0.650
17. Interaction with performance	**0.013****	0.015	0.006	0.481	0.019	0.121	-0.014	0.313	**-0.009****	0.018	0.001	0.861	0.008	0.250	**-0.010***	0.067
18. Increases in blocks: government	-0.001	0.882	**0.028*****	0.000	-0.245	n.a.	-0.036	0.623	-0.002	0.496	0.023	0.138	0.006	n.a.	-0.042	0.531
19. Interaction with performance	0.011	0.482	0.038	0.113	1.714	n.a.	-0.020	0.913	-0.012	0.321	0.016	0.768	0.759	n.a.	-0.079	0.643
20. Debt ratio	0.113	0.341	0.252	0.119	-0.184	0.722	0.084	0.621	0.048	0.716	0.216	0.245	-0.629	0.226	**0.283***	0.064
21. Interaction with performance	-0.407	0.317	-0.613	0.117	-0.906	0.556	-0.440	0.281	0.295	0.178	-0.257	0.295	**-2.046***	0.083	-0.150	0.167
22. Interest coverage	0.000	0.153	**0.000****	0.010	**-0.119*****	0.001	0.000	0.534	**-0.001***	0.089	0.000	0.315	-0.018	0.358	-0.001	0.266
23. Interaction with performance	0.000	0.394	**-0.001*****	0.005	**-0.367*****	0.001	0.001	0.642	0.000	0.103	**0.000***	0.073	0.000	0.990	0.000	0.578
24. Board size	**0.032*****	0.000	**0.016****	0.022	-0.004	0.848	**0.037*****	0.000	**0.036*****	0.000	**0.023*****	0.001	-0.007	0.760	**0.038*****	0.000
25. Interaction with performance	-0.008	0.588	-0.022	0.387	0.009	0.906	-0.006	0.781	0.007	0.502	-0.013	0.287	0.013	0.711	0.001	0.857
26. Non-executive dir./all dir.	**-1.106*****	0.000	**0.726*****	0.000	**1.497****	0.037	**-0.460*****	0.005	**-1.333*****	0.000	**0.638*****	0.002	0.648	0.302	**-0.376****	0.015
27. Interaction with performance	-0.103	0.898	-0.116	0.838	1.867	0.472	-0.359	0.435	0.059	0.883	-0.699	0.109	1.718	0.200	-0.130	0.385
28. log(assets)	-0.025	0.305	-0.036	0.149	-0.046	0.358	**-0.038***	0.061	**-0.053****	0.037	**-0.069****	0.012	**-0.107****	0.046	**-0.065*****	0.002
Industry dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Time dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Log likelihood	-1725.026								-1600.703							
Number of obs.	3027								2853							

Table 7. Logit results of CEO turnover with as performance: industry-adjusted ROA and ROE

This table shows Logit regression results explaining CEO turnover, which is a dummy variable. Intercept, time dummies as well as two-digit country-specific industry dummies are included but not reported. Note: ***, ** and * stand for statistical significance of respectively 1%, 5% and 10%. Definition of variables is presented in section 3.2. Source: own calculations.

	CEO turnover Model 1: Industry adjusted return on assets								**CEO turnover Model 2: Industry adjusted return on equity**							
	Germany		**Belgium**		**France**		**UK**		**Germany**		**Belgium**		**France**		**UK**	
	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value
1. Perform at t	0.404	0.631	-1.164	0.565	**-8.078****	0.011	**-1.715****	0.012	-0.245	0.378	0.709	0.536	**-2.754*****	0.000	**-1.535****	0.013
2. Perform at t-1	**-15.583****	0.016	9.963	0.313	8.154	0.714	-2.732	0.505	**-6.662*****	0.009	7.536	0.162	5.580	0.337	-1.632	0.633
3. Perform at t-2	0.853	0.373	**-2.469***	0.083	**-5.515***	0.072	1.081	0.202	0.474	0.140	**-1.503***	0.076	-0.558	0.417	**1.356***	0.078
4. Blockholder: individuals/families	**0.007****	0.016	0.002	0.784	0.002	0.881	**-0.021****	0.016	**0.007****	0.017	0.007	0.652	0.002	0.788	**-0.020****	0.024
5. Interaction with performance	**0.093*****	0.005	**0.245***	0.052	**-0.406****	0.016	-0.003	0.947	0.010	0.416	**0.119****	0.038	-0.066	0.115	-0.003	0.941
6. Blockholder: financial	0.006	0.181	0.016	0.380	0.007	0.410	0.003	0.671	0.006	0.171	0.023	0.156	0.005	0.539	0.004	0.631
7. Interaction with performance	0.070	0.186	**0.297****	0.040	**-0.363****	0.011	0.005	0.929	0.023	0.300	0.087	0.341	**-0.095****	0.040	-0.008	0.850
8. Blockholder: non-financial	**0.007****	0.010	0.006	0.439	0.005	0.469	-0.001	0.928	**0.007****	0.014	0.005	0.603	0.006	0.375	0.001	0.930
9. Interaction with performance	**0.070****	0.035	**0.156*****	0.011	**-0.329****	0.011	**0.127***	0.064	0.006	0.604	**0.130*****	0.000	**-0.074****	0.030	0.068	0.228
10. Blockholder: government	0.008	0.389	-0.018	0.272	0.013	0.110	0.000	0.995	0.006	0.477	-0.012	0.567	**0.015***	0.068	0.003	0.957
11. Interaction with performance	-0.126	0.493	0.152	0.313	-0.069	0.714	-0.046	0.956	-0.060	0.500	0.037	0.743	-0.030	0.441	0.188	0.789
12. Increases in blocks: indivi/fam.	**0.015****	0.034	-0.039	0.636	0.031	0.350	**0.025***	0.090	**0.014****	0.039	-0.046	0.521	0.015	0.666	0.023	0.128
13. Interaction with performance	0.045	0.512	**-1.241***	0.071	**-2.288***	0.070	-0.098	0.445	0.018	0.332	-0.177	0.331	0.357	0.193	-0.101	0.366
14. Increases in blocks: financial	-0.010	0.553	-0.494	0.154	0.009	0.545	-0.004	0.754	-0.004	0.766	-0.196	0.319	0.013	0.381	-0.003	0.811
15. Interaction with performance	-0.278	0.373	5.391	0.126	-0.218	0.342	-0.027	0.692	-0.079	0.446	0.450	0.650	-0.024	0.581	-0.036	0.536
16. Increases in blocks: non-fin.	**0.009****	0.042	**0.047*****	0.000	0.010	0.104	0.002	0.936	**0.009***	0.059	**0.048*****	0.000	**0.011****	0.063	-0.002	0.943
17. Interaction with performance	-0.017	0.761	-0.058	0.518	0.228	0.115	-0.082	0.560	-0.021	0.297	-0.026	0.526	0.035	0.309	-0.093	0.398
18. Increases in blocks: government	-0.058	0.249	**0.096****	0.037	0.130	0.497	-0.145	0.817	-0.068	0.293	0.095	0.330	**0.227***	0.079	-0.062	0.873
19. Interaction with performance	0.218	0.863	0.115	0.608	-0.232	0.962	-2.451	0.724	-0.164	0.814	-0.677	0.538	-2.665	0.152	-1.135	0.729
20. Debt ratio	-0.238	0.538	-0.226	0.824	-0.226	0.552	0.317	0.682	0.306	0.413	-0.369	0.765	-0.997	0.299	0.467	0.545
21. Interaction with performance	-2.092	0.553	-6.429	0.416	18.327	0.212	2.092	0.415	**3.694****	0.017	**-9.269****	0.050	**6.969*****	0.029	2.411	0.280
22. Interest coverage	0.000	0.772	0.000	0.591	0.002	0.928	-0.002	0.673	0.000	0.407	0.000	0.688	0.011	0.525	-0.002	0.683
23. Interaction with performance	-0.002	0.581	**-0.024***	0.062	**0.599***	0.063	0.015	0.521	-0.002	0.485	**-0.017***	0.064	0.138	0.115	0.011	0.615
24. Board size	**0.088*****	0.003	0.037	0.373	-0.008	0.872	**0.072***	0.065	**0.085*****	0.004	0.059	0.155	-0.004	0.930	**0.072***	0.067
25. Interaction with performance	**-0.418***	0.086	-0.601	0.212	-0.375	0.652	0.124	0.610	-0.172	0.125	-0.148	0.488	-0.217	0.323	0.053	0.774
26. Non-executive dir./all dir.	**-2.195****	0.017	0.646	0.622	**2.767****	0.044	-0.551	0.471	**-2.123**	0.021	0.297	0.824	**2.840****	0.044	-0.621	0.417
27. Interaction with performance	11.286	0.191	-11.668	0.348	24.383	0.262	-1.101	0.804	4.208	0.138	-8.591	0.124	0.710	0.906	-0.603	0.866
28. log(assets)	**-0.134***	0.077	**0.261***	0.098	-0.054	0.588	**-0.054****	0.034	**-0.139***	0.068	0.132	0.457	-0.020	0.834	**-0.208****	0.040
Industry dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Time dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Log likelihood	-1536.898								-1530.667							
Number of obs.	4195								4152							

Appendix :

Table A1
Tobit results: Executive turnover and performance

This table shows the Tobit regression results of executive turnover (dependent variable) and current and lagged performance. Source: own calculations with data of which the sources are presented in the data appendix.

	Germany		Belgium		France		UK	
	coefficient	**p-value**	**coefficient**	**p-value**	**coefficient**	**p-value**	**coefficient**	**p-value**
Panel A: industry-adjusted return-on-assets								
Performance t	-0.025	0.917	-0.264	0.382	**-1.653****	0.036	**-0.407****	0.033
Performance t-1	**-1.226*****	0.000	0.376	0.252	-0.004	0.997	**-0.626*****	0.006
Performance t-2	-0.294	0.268	**-0.964*****	0.001	0.841	0.307	**0.370***	0.097
Log likelihood	-2899.768							
Number of obs.	4536							
Panel B: industry-adjusted return-on-equity								
Performance t	-0.125	0.131	0.148	0.417	-0.043	0.768	**-0.344****	0.046
Performance t-1	**-0.295*****	0.001	-0.103	0.564	-0.085	0.582	**-0.419****	0.040
Performance t-2	-0.057	0.527	**-0.364****	0.033	-0.052	0.739	0.298	0.139
Log likelihood	-2886.475							
Number of obs.	4503							
Panel C: industry-adjusted return-on-sales								
Performance t	**0.303*****	0.001	-0.029	0.785	-0.079	0.719	**-1.087****	0.011
Performance t-1	**-0.319*****	0.007	-0.075	0.528	-0.009	0.975	**-1.195****	0.018
Performance t-2	0.008	0.934	-0.118	0.305	0.288	0.285	0.629	0.165
Log likelihood	-2611.811							
Number of obs.	4172							
Panel D: market-adjusted stock market return								
Perform	-0.054	0.512	-0.059	0.616	0.057	0.740	-0.086	0.151
Perform1	**-0.237*****	0.003	0.097	0.295	-0.147	0.423	**-0.292*****	0.000
Perform2	-0.073	0.320	-0.080	0.376	0.047	0.784	**-0.172****	0.015
Log likelihood	-2144.634							
Number of obs.	3448							
Panel E: industry-adjusted market-to-book ratio								
Performance t	-0.035	0.579	-0.088	0.187	**-0.518*****	0.000	-0.024	0.312
Performance t-1	0.056	0.538	-0.024	0.729	0.192	0.183	-0.008	0.752
Performance t-2	-0.098	0.178	0.047	0.376	-0.070	0.567	-0.004	0.869
Log likelihood	-1829.671							
Number of obs.	2979							
Panel E: operating losses in two subsequent years (dummy variable is –1 when loss occurs)								
Performance t	**-0.339*****	0.001	-0.163	0.333	**-0.430*****	0.003	**-0.486*****	0.007
Performance t-1	-0.094	0.446	-0.074	0.725	-0.137	0.475	-0.237	0.384
Performance t-2	-0.208	0.146	-0.256	0.200	**0.502*****	0.006	-0.236	0.355
Log likelihood	-2700.611							
Number of obs.	4203							
Panel G: dividend cut or omission (dummy variable is –1 when dividend cut occurs)								
Performance t	0.073	0.365	0.066	0.595	-0.089	0.217	**-0.165****	0.038
Performance t-1	-0.033	0.659	0.044	0.693	-0.042	0.603	**-0.180****	0.050
Performance t-2	-0.007	0.922	-0.011	0.917	0.134	0.109	-0.093	0.353
Log likelihood	-2748.422							
Number of obs.	4310							

Figure 1
Ownership and control structure of the Group Brussels Lambert

Situation on 1 March 2001. Source. Trends.