Corporate Control Mechanisms, Voting And Cash Flow Rights, And The Performance Of Dutch Firms

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(Abstract)

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This paper exploits several unique institutional features in the Dutch system of corporate control to examine the relations among investor protections, concentrated ownership, and firm performance. Four conclusions emerge. First, controlling shareholders do not appear to ameliorate corporate governance problems to any great extent. Second, the identity of ownership matters; when a firm is controlled by a few large individual shareholders, firm performance suffers. Expropriation costs are very high for this type of investor. Third, and somewhat at odds with the bulk of the prevailing literature, performance is enhanced when the firm is freed of equity market constraints. These results are consistent with recent theoretical models emphasizing that too much oversight can be detrimental to performance by forcing firms to underinvest in physical or human capital. Fourth, we distinguish between voting rights providing the means for intervening in firm affairs and cash flow rights providing the required motivation. Considering both rights are important for the empirical results.

Apart from its substantive contributions, the paper develops a new four-step estimation strategy to control for the reverse causation problem plaguing econometric studies of corporate control mechanisms and firm performance.

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> ...the way the Dutch system transmits capital market
> pressures to incumbent management does not resemble
> any of the better known governance models...

<div align="right">OECD (1996, p. 85)</div>

1. Introduction

The critical control roles played by investor protections and concentrated ownership has been the focus of much recent work in corporate governance. Some very interesting but equally controversial conclusions have been generated based largely on cross-country comparisons. This paper continues to investigate these two mechanisms of corporate control, but offers a within-country analysis of Dutch firms.

The Netherlands offers a splendid environment in which to study control issues. Several unique devices exist for circumscribing investor protections, and they are used by many, but not all, firms. Ownership concentration also ranges widely, and different types of owners can be identified. Voting rights and cash flow rights have differing effects on firms, with the former providing the means for control and the latter the motivation. We are able to assesses the impact of these different rights on firm performance. Dutch firms are also constrained by an interesting set of networks among individuals sitting on the boards of firms and financial intermediaries. These networks may provide an additional channel of control. Importantly, the extent to which these unique control mechanisms are used varies greatly among firms, thus enhancing identification of their impact on behavior. Coupled with an active stock market, a very stable macroeconomy in the

1990s, and high quality data, the Netherlands provides an unusually rich environment in which to learn about the effectiveness of a wide variety of corporate control mechanisms.

Apart from substantive contributions, the paper also develops a new approach to the reverse causation problem plaguing econometric studies of corporate control mechanisms and firm performance. In these studies, there is the salient possibility that the corporate controls may themselves be responsive to the factors determining firm performance. This potential endogeneity calls into question econometric equations using corporate control variables as regressors. We develop a four-step estimation strategy for generating consistent coefficient estimates and the associated standard errors.

Section 2 considers the relations among information and incentive asymmetries, control mechanisms, and firm performance. We begin with the well-known agency problem between managers and owners emphasized by Berle and Means. We then consider the underinvestment that may occur when firms face constraints for external funds. The analysis is broadened to include the additional constraint imposed by equity investors that generates additional incentives for management to underinvest in physical capital (as emphasized in models of myopia) or human capital (as emphasized by Allen and Gale (2000) and Burkart, Gromb, and Panunzi (1997)). Management/owner conflicts, financing constraints, and managerial underinvestment each stem from information and incentive asymmetries, and each may lower profitability. The extent of this adverse effect is related to corporate control mechanisms.

Section 3 discusses the important characteristics of the Dutch system of corporate control comprising three constituencies -- financiers, institutions, and corporate managers. The roles of Networks as a means for controlling managers

and of Administrative Offices as a means for separating voting and cash flow rights are discussed, as well as additional devices by which managers can dilute shareholder influence.

Section 4 provides a detailed discussion of the data. We have financial statement data and corporate control characteristics, including separate measures of voting and cash flow rights, for 112 Dutch firms for the period 1992-1997.

Section 5 develops our four-step estimation strategy that accounts for the possible endogeneity between corporate controls and firm performance. The first step estimates a panel model, and extracts a fixed effect composed of corporate control and other influences. The second step isolates the impact of the corporate control variable in a cross-section regression. In the third step, the potentially distorting effects of reverse causation are controlled for in a Probit regression using appropriate instruments. The fourth and final step adjusts the standard errors for the regressors generated in the third step.

Section 6 reports on four initial findings. First, a substantial role of a controlling shareholder in ameliorating corporate governance problems is not sustained; we find some weak evidence that performance is enhanced for firms with a controlling shareholder. Second, the identity of ownership matters. When a firm is controlled by a few large and individual shareholders, firm performance suffers, and expropriation costs appear to be very high for this type of investor. Third and somewhat at odds with the bulk of the prevailing literature, performance is enhanced when the firm is freed of equity market constraints. These results are consistent with recent theoretical models emphasizing that too much oversight can be detrimental to performance by forcing firms to underinvest in physical or human capital. Fourth, considering both voting and cash flow rights proves important for the empirical results. Voting rights provides the means for

intervening in firm affairs; cash flow rights the required motivation.

Section 7 contains a summary and conclusions.

2. Impediments To Firm Performance

Information asymmetries among managers, investors, and creditors can affect firm performance in several different ways. This section discusses some of the models in the literature, and highlights that firm performance does not increase monotonically with tighter corporate controls.

One consequence of information asymmetries is the well-known Berle-Means agency problem. The incentives of managers controlling the firm differ from those of owners and, in large publicly held corporations, most owners/investors have little incentive to expend resources to ensure that the firm is operated in their interests. Jensen (1986) emphasizes that these agency problems are likely to become particularly severe when managers have an abundance of internal resources relative to investment opportunities (i.e., "Free Cash Flow"). Various mechanisms exist to attenuate incentive conflicts and narrow the distance between the objectives of managers and owners. Nonetheless, corporate control problems will not be fully resolved, and managers' interests in expanding the size of and keeping resources within the firm will not be fully kept in check. The important consequence is that the Berle-Means agency problem may lead overinvestment and poor performance.

Information asymmetries can also lead to underinvestment for several reasons. First, when creditors have less information about a firm and its investment prospects, they will demand a premium for extending finance.[1] Consequently, the cost of external funds will exceed that for internal funds, and investment may be retarded. Projects with a positive net present value (calculated

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[1] Among the many important papers on the topic of finance constraints, see Stiglitz and Weiss (1981), Myers and Majluf (1983), Fazzari, Hubbard, and Petersen (1988), Gertler (1988), and Hubbard (1998).

with respect to the rate on internal funds) will not be undertaken. Financing problems increase and overall firm performance decreases with the extent of information asymmetries. Second, underinvestment may also arise because of managerial shirking. In the model of Aggarwal and Samwick (1999), managers forgo profitable projects that have net private costs to managers. These costs are generated in their model by the increased oversight due to the new investment project. Asymmetric information precludes investors from gaining a full appreciation of managerial behavior. Third, the "Managerial Myopia" model argues that equity markets may not allocate capital efficiently because of an absence of stable, dedicated investors with a long-term interest in the firm's performance. Information asymmetries lead investors to emphasize immediate, measurable investment returns when allocating capital.[2] Rather than being ameliorative, equity market pressure management into an undue focus on boosting short-term earnings and avoiding takeover threats at the expense of long-run performance.

This model of managerial myopia has not received as much attention as those for finance and free cash flow problems, but is fully consistent with optimizing behavior. Models of strategic behavior establish that, when inside managers know more about the firm's operations than outside owners, high hurdle rates can occur because of a premium for signal jamming, obfuscation, or hidden action.[3] As one example of this class of models, consider the "Signal Jamming"

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[2] For discussions of capital allocation systems suffering from short-termism, see De Jong (1996) for the Netherlands, Daniels and Morck (1995) for Canada, and Hayes and Abernathy (1980), Grundfest (1990), and Porter (1992) for the United States.

[3] See Narayanan (1985), Stein (1989), Webb (1993), and Bebchuk and Stole (1993) for formal models and Bohlin (1997) for an excellent survey of managerial incentives and investment biases.

model of Stein (1989) in which there exists a Nash equilibrium between managers and stock market investors. Investors value earnings as a signal, and know that firms recognize the value of the earnings signal. Firms thus have an incentive to increase earnings by undertaking actions invisible to outsiders (i.e., firms jam the earnings signal). The firm and investors qua owners are in a classic prisoners dilemma. The stock market is efficient, but firms nonetheless act myopically. Not undertaking profitable investment projects is one of the invisible actions adversely affecting firm performance. From a different perspective, Shleifer and Vishny (1990) examine arbitragers' incentives. They argue that arbitrage in long-term assets is more expensive relative to short-term assets. Consequently, in equilibrium, serious and sustained mispricing is more likely to affect long-term assets, which tend to fund long-term projects. Since managers wish to avoid mispricing of their equity, they will favor assets and projects with shorter horizons. The important implication of these models is that "[S]hielded from short-term stock-market pressure and the risk of hostile takeovers, management can develop a long-term view" (CPB, p. 380).

Two recent studies have emphasized that tight shareholder controls can be detrimental to firm performance through managers' reluctance to invest in the firm. In somewhat similar frameworks, Allen and Gale (2000) and Burkart, Gromb, and Panunzi (1997) develop models in which managers hesitate to make firm-specific human capital investments in environments with controlling owners who may subsequently extract the rents from ex-post vulnerable managers. Looser controls, perhaps through a reduction in investor protections, partly resolves this problem, and thus benefit firm performance.

In sum, free cash flow, finance, and/or myopia problems hurt performance. Importantly, better corporate control may not lead to better performance. To

obtain a better understanding of the relation among control and performance, we consider several control mechanisms in our empirical work. Before turning to econometric issues and estimation results, we review the Dutch corporate control system.

3. The Dutch System Of Corporate Governance

Figure 1 depicts the system of corporate control comprising three constituencies: financiers and institutions that seek to oversee corporate managers.[4] The focal point of this system is a two-tier board structure consisting of a **management board** (*Raad van Bestuur*) in charge of the day-to-day operations of the firm and a **supervisory board** (*Raad van Commissarissen*). The supervisory board's scope of influence varies substantially depending on which organizational regime the firm adopts. The structural regime (*Structuurregeling*) described here applies to the majority of public limited liability companies (*Naamloze Vennootschappen*, NV's) listed on the Amsterdam Stock Exchange. (Further discussion of legal regimes is provided in Section II.B.) The supervisory board has three primary functions: to appoint (usually for an indefinite term), monitor, and dismiss members of the management board (though the latter rarely occurs);[5] draft the annual financial statement for presentation at the annual shareholders meeting; and approve major business decisions proposed by the management board concerning, for example, expansions, acquisitions, restructurings, or financing.

Members of the supervisory board are appointed for four year terms by co-

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[4] Detailed descriptions of the system of corporate control and finance in the Netherlands can be found in CPB (1997, Chapter 10), Gelauff and den Broeder (1997), and de Jong, Kabir, Marra, and Röell (1998). We have relied particularly heavily on Gelauff and den Broeder's work in writing this section.

[5] Dutch management board turnover, calculated as the number of management board members leaving the firm by other than natural causes and scaled by board size, is approximately 8.0% (Van Oijen, 2000). This figure is somewhat low compared to those reported for other countries; Kaplan (1994) reports turnover rates of 12.0% (excluding cases of death and illness) for the United States and 10.0% for Germany.

option, that is, by the incumbent members of the supervisory board.[6] An individual can not serve on both the supervisory and management boards of the same company. In practice, the management board has a very large influence on appointments to the supervisory board (van der Goot and van het Kaar, 1997); hence the two-way arrows of influence between the supervisory and management boards in Figure 1. The two-tier board structure in the Netherlands differs substantially from that in Germany, where the supervisory board is appointed by the shareholders at the annual meeting and exerts substantial independent influence on management. The close relations between management and supervisory boards makes the Dutch two-tier system somewhat similar to the U.S. system, where executive managers sit on the board of directors (comparable to the supervisory board) and the chief executive officer often chairs the board of directors. In sum, the Dutch supervisory board is largely advisory, though that counsel may receive more attention depending on the background of the advising member.

Voting rights exercised at the annual meeting of shareholders (*Algemene Vergadering van Aandeelhouders*) are largely circumscribed by the structural regime in two ways. First, few important issues come before the annual meeting: the financial statement drafted by the supervisory board is voted on (amendments are not permitted), nominations for the supervisory board may be proposed and rejected, though election is by incumbent members of the supervisory board. Second and more devastating to investors' voting rights, management has available several potent devices for diluting voting power and separating control rights from cash flow rights (discussed in Section II.B). Shareholders have little reason to

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[6] The mean [median] number of members on the supervisory and management boards for our sample of firms is 4.95 [5] and 2.95 [3], respectively.

pursue aggressively their limited tasks granted under the structural regime. The Dutch annual meeting differs radically from its German and U.S. counterparts, where, in principle, shareholders have a powerful effect on the course of events primarily by electing the supervisory board (or board of directors) and voting on important matters brought before shareholders. However, German annual meetings are controlled by the large banks, who amass a vast number of votes either directly through ownership or indirectly through proxies, borrowings, or bank-controlled investment companies. In considering voting rights in the Netherlands, it is important to bear in mind that investor protections and the tasks voted upon at the annual meeting are directly linked to the applicable organizational regime. Under other organizational regimes available to Dutch firms, shareholders exercise much more influence.

Diluted voting power also cripples both **large and small shareholders**, and hostile takeovers do not succeed in the Netherlands. In Figure 1, the lines connecting large and small shareholders to voting rights and voting rights to the management and supervisory boards represent weak, nearly non-existent, channels of influence. However, large shareholders representing either organizations (especially financial) and or individuals have some success in securing appointments to the supervisory board.

The separation of cash flow and control rights is particularly stark with the establishment of an **administrative office** (*Administratie-kantoor*, AK) that issues tradable depository receipts (TDR's). Under this procedure, the ordinary equity capital is deposited at an AK, and TDR's are issued (similar to American Depository Receipts issued on no-U.S. equity). TDR's entitle the holder to cash flow rights; however, control rights reside with the AK. This anti-investor protection device is used by 32.0% of the firms in our sample, and will be an

important part of our empirical analysis.

Financial Intermediaries also hold equity positions and, as discussed above, shareownership per se has little impact on controlling managers. However, their equity stakes are occasionally large, and they are considered long-term, "patient" investors. Consequently, financial intermediaries frequently obtain seats on the supervisory board.[7] Furthermore, banks are actively involved in extending short-term credit, and thus have a direct and potentially powerful channel of influence on management (cf. Shleifer and Vishny, 1997, Section IV.C). The role of Dutch banks is much greater than in the United States, where banks are largely prohibited from owning equity and, until very recently, were small by the standards of Continental Europe. By contrast, banks have a long-standing and prominent role on the corporate landscape in Germany where they hold large positions in both debt and equity and actively serve on, and frequently chair, supervisory boards.

Employees are represented by a works council (*Ondernemings-raad*), which is voluntary but in force at virtually all large firms. The works council has some influence with and occasional membership on the supervisory board, where usually one member represents workers' concerns. The works council has the same rights as shareholders to propose or reject nominations to the supervisory board. The position of the works councils bear some resemblance to that played by organized labor in the United States, where union representatives frequently hold a seat on the board of directors. By contrast, legal statutes grant German workers much more nominal influence on corporate affairs, including between

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[7] Pension funds and insurance companies own more equity in the Netherlands than Germany (13.4% vs. 7.1%) but much less than their U.S. counterparts (24.7%). (Data are for 1993, and are taken from Gelauff and den Broeder, 1997, p. 46).

one-third to one-half of the seats on the supervisory board.[8] However, the chair of the German supervisory board holds the tie-breaking vote, and this position is usually held by a person (frequently a banker) sympathetic to management's concerns.

Inside (managerial) ownership of listed firms is unimportant in the Netherlands. de Jong et. al. (1998, Table 10) provide data on inside ownership by members of the management and supervisory boards (for 1996). Based on an ownership criterion of 20.0%, 13 of the 137 firms were controlled by insiders sitting on the management board and an additional four for those on the supervisory board. Six of these companies have insiders with majority ownership; in five cases, the control is fully within the management board.

Lastly but potentially important for control, members of the supervisory board are frequently **Outside Board Members**. These individuals hold positions on the management and supervisory boards of other companies or are "distinguished experts" drawn from the ranks of politicians, civil servants, lawyers, professors, and former directors. We are particularly interested in relations between financial institutions and firms, and focus on their board members who create informal networks by sitting on both boards.

In sum, Dutch managers are pressured by several mechanisms of control that affect firms to differing extents. For firms organized under the structural regime, investor protections are devastated, and the influence of equity stakes of whatever size is severely curtailed. The behavior of these firms "liberated" from investor influence will highlight the effectiveness of other control mechanisms. First,

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[8] German co-determination laws require that, for stock companies with 500 or more employees, one-third of the seats on the supervisory board must be held by persons elected by the employees. The fraction increases to one-half for stock companies with 2,000 or more employees.

institutional mechanisms may be put in place that force firms to disgorge cash, and hence lessen the incidence of agency problems. Second, banks may exercise control via the extension of short-term credit. Third, financial intermediaries with large equity stakes, other large shareholders, and outsiders board members may gain influence by obtaining seats on the supervisory board. These latter two channels of influence are consistent with the composition of supervisory boards for Dutch and German firms reported in Table 1. Measured by the number of seats on the supervisory board, Dutch firms are as much bank-influenced as those in Germany, the prototypical bank-based economy. The potential influence of financial intermediaries, large shareholders, and informal networks is evident, as 53.0% of supervisory board seats are held by representatives of these groups. By examining the performance of a broad cross-section of Dutch firms, we will be able to assess the impacts of various control mechanisms on corporate behavior.

4. The Dataset

We draw on three sources to construct the variables used in our econometric analysis. Our sample extends from 1992-1997, unless otherwise noted. Financial statement data are obtained from the AMADEUS/REACH database covering 165 Dutch firms. We focus on firms involved in manufacturing, omitting financial and service firms. Since the data will be time-averaged to form the cross-section used in the econometric work, a balanced panel is required.[9] Thus, we omit firms involved in mergers or takeovers (which are extremely rare). Royal Dutch Shell is excluded because it is not fully registered in the Netherlands. Based on financial statement data, we have 128 firms, and the following data definitions:

CV_{CFA}	=	cash flow, equal to operating income plus depreciation, divided by TA;
FIXED	=	material assets less depreciation all divided by TA;
LEVERAGE	=	TA less stockholders equity all divided by TA.
PROFITABILITY	=	the return on assets equal to before-tax profits plus financial expenses divided by TA;
SIZE	=	the natural logarithm of TA;
TA	=	total assets less depreciation;

Data for variables describing governance characteristics are obtained from the Monitoring Commissie Corporate Governance (1998). Ownership data were

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[9] For those series analyzed as ratios, the ratios are computed and then summed over time; that is, $ratio_i = \Sigma_t (a_{i,t} / b_{i,t})$. All of the ratios are defined so that $b_{i,t}$ is far from zero. This procedure obviates the need for price deflators, which are unavailable on a firm-specific basis.

not available for the 16 firms, and thus our dataset is reduced to 112 firms:

AK_{mm}	=	is an indicator variable equaling one if at least mm% of the voting [cash flow] rights are held by an administrative office (*Administratie-kantoor*);
$LARGEST_{mm}$	=	is an indicator variable equaling one if the largest shareholder holds at least mm% of the voting rights or cash flow rights, 0 elsewise;
LIS_{mm}	=	is an indicator variable equaling one for large individual shareholders (LIS), those shareholders who are 1) individuals (not organizations), 2) who hold at least 5% of the voting [cash flow] rights, and 3) who collectively hold at least mm% of the voting [cash flow] rights, 0 elsewise;
LISTING	=	an indicator variable equal to one when the firm has been listed on the stock exchange since 1984, 0 elsewise;
N_{MB}	=	the number of seats on the management board;
N_{SB}	=	the number of seats on the supervisory board;
NON-FRENCH	=	is an indicator variable equal to one when the firm is majority owned by a foreign investor and this investor is headquartered in a country that does not follow the French legal tradition as determined by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

Informal networks are determined from the *Jaarboek van Nederlandse*

Ondernemingen.[10] Based on this information on board composition, we are able to trace through the relations between firms and financial intermediaries as follows:

NETWORKS = is an indicator variable equal to one if 1) a firm's supervisory board contains a member(s) of the management board of a financial intermediary or 2) a member of the management board of the firm sits on a financial intermediary's supervisory board, or 3) a firm's supervisory board contains a member(s) of the supervisory board of a financial intermediary, 0 elsewise;

Summary statistics for the means, medians, and standard deviations for the above variables are presented in Table 2.

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[10] Note that one of the "Big Three" Dutch banks, the RABObank, is a co-operative, and network data are obtained from its annual reports for 1992-1997.

5. The Four-Step Estimation Strategy

The fundamental problem plaguing econometric studies of corporate control mechanisms and firm performance is the salient possibility that the corporate controls may themselves be responsive to the factors determining firm performance. This potential endogeneity calls into question econometric equations using corporate control variables as regressors. In this section, we build on prior work by Hsaio (1986), Himmelberg, Hubbard, and Palia (1999), and Lehmann and Weigand (2000), and develop our four-step estimation strategy for generating consistent estimates of the sensitivity of firm performance to various corporate control variables and the associated standard errors.

Before describing that procedure, we begin by noting that the ultimate aim of our estimation strategy is a cross-section analysis of the relation between corporate control mechanisms and firm profitability. The questions motivating this study focus on long-run relations. Since there is variation in both the cross-section and time dimensions, one is tempted to exploit all of this variation by pooling the data and estimating a fixed-effects model. Two reasons suggest resisting this temptation. First, since corporate control mechanisms change very little over our available time period, behavioral responses can be identified only in the cross-section.[11] Second, using the available time variation would necessitate specifying the temporal dynamics of the balance sheet variables. While these dynamics are interesting in their own right, they raise specification issues that may bias estimates of the parameters of interest in this study. For example, if firms smooth earnings, then annual earnings will be a misleading measure of period t profitability; the averaging procedure used here is unaffected by this intertemporal

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[11] We have verified that there is little time-series variation in the corporate control variables in our dataset.

distortion. Several of these points have been considered formally by Pesaran and Smith (1995) in a random coefficients framework with exogenous regressors. These authors establish three important properties of coefficients estimated from a cross-section model: 1) they represent the long-run average effects; 2) they are consistent for large T; and 3) they are robust to misspecification of dynamics in the underlying micro model. Furthermore, even when the model is correctly specified, they show that the fixed-effects model generates inconsistent estimates. Thus, several considerations suggest that the cross-section relation between corporate control variables and firm performance is the ultimate goal.

5.1. Extracting The Compound Fixed Effect

We begin with the following econometric equation that relates performance ($\pi_{i,t}$) of firm i at time t to a set of explanatory variables (represented here by the scalar variable $X_{i,t}$) and, of most interest to this study, a corporate control variable (CC_i) that does not vary over time. Additionally, we assume that firm profitability is influenced by a fixed effect (α_i) and a stochastic disturbance ($e_{i,t}$). These considerations lead to the following panel model for firm performance,

$$\pi_{i,t} = \alpha_i + \beta\, X_{i,t} + \gamma\, CC_i + e_{i,t}, \tag{1}$$

where β and γ are parameters to be estimated. The object of our analysis is γ, which can not be estimated in a standard fixed effects model because its regressor, CC_i, does not vary in the time dimension and, hence, γ is not identifiable given the α_i's. Nonetheless, we can estimate their total effect with a pooled version of (1) rewritten as follows,

$$\pi_{i,t} = \delta_i + \beta X_{i,t} + e_{i,t} , \tag{2a}$$

$$\delta_i \equiv \alpha_i + \gamma CC_i . \tag{2b}$$

Equation (2b) contains the fixed effect and the corporate control variable. Following Himmelberg, Hubbard, and Palia (1999), we assume that the endogeneity between $e_{i,t}$ and $X_{i,t}$ is captured by the α_i in δ_i. With this assumption, consistent estimates of β are obtained by removing the time-means from the dependent and independent variables in (2), and running the following regression,

$$\pi^{\#}_{i,t} = \beta X^{\#}_{i,t} + e_{i,t} , \tag{3}$$

where the # superscript represents deviations from time-means. Finally, we extract the compound fixed effect (Y_i) by taking time-means (MEAN[.]) of the terms in (2) and using the β estimated from (3) to the fixed effect,

$$Y_i \equiv \delta_i + e_{i,} = MEAN[\pi_{i,t}] - \beta MEAN[X_{i,t}] , \tag{4}$$

where e_i equals MEAN[$e_{i,t}$].

5.2. Isolating The Impact Of Corporate Control

The observable Y_i is a collection of three effects that vary only in the cross-sectional dimension: the firm fixed effect (α_i), the mean of profitability shocks (e_i), and the corporate control variable (CC_i). To isolate the impact of corporate control, we run the following cross-section regression containing dummies for J industries (INDUSTRY$_j$) and a specific measure of the corporate control variable,

$$Y_i = \phi_0 + \phi_j \, \text{INDUSTRY}_j + \gamma \, CC_i + u_i, \tag{5}$$

where u_i is an error term. Estimates of γ in (5) will be consistent only if the corporate control variable is orthogonal to the profitability effects captured in u_i. The possibility of a correlation suggests that we need to search for a set of instruments to neutralize the influence of profitability on corporate control.

5.3. Controlling For Reverse Causation

Our approach to ensuring that reverse causation does not affect our estimated γ is to search for instruments (Z_i) that will be correlated with the corporate control variable but be reasonably expected to be uncorrelated with profitability. We choose longevity as measured by whether the firm has been listed on the stock exchange for several years (LISTING), the size of the firm (SIZE), and the number of members on the managerial (N_{MB}) and supervisory boards (N_{SB}). Following recent arguments in the law and finance literature, we also include an indicator variable for those firms with foreign owners headquartered in countries with strong legal protections (NON-FRENCH). Since all of our corporate control variables are dichotomous, we run the following probit regressions,

$$CC_i = \text{PROBIT}[Z' \Lambda] + w_i \tag{6}$$

where Λ is a vector of estimated parameters, w_i is an error term, and $Z_i = \{\text{LISTING}_i, N^{MB}_i, N^{SB}_i, \text{NON-FRENCH}_i, \text{SIZE}_i, \text{CONSTANT}\}$.

Regression results for shareholders with a stake in excess of 40% of voting

rights, cash flow rights, and the intersection of voting and cash flow rights are presented in Table 3. The coefficients and their individual significance are not of immediate importance. The estimated values of CC_i share the property with the Z's that they are orthogonal to profitability shocks, and hence we estimate (5) with the fitted PROBIT values,

$$Y_i = \phi_0 + \phi_j \, \text{INDUSTRY}_j + \gamma \, \text{PROBIT}[Z' \Lambda] + u_i . \qquad (7)$$

Equation (7) generates a consistent estimate of γ, which is the key objective of our analysis.[12]

5.4. Correcting The Standard Errors

While the coefficient estimates are consistent, the standard errors from the software package fail to recognize that the regressors have been generated. The associated incremental variation is not incorporated in the computation of the standard errors. This correction can be easily implemented by replacing the estimated values with the actual values in (7) where the ϕ's and γ are estimated consistently and recomputing the standard error (SE[.]) of u_i,

$$SE[u_i] = SE[Y_i - \phi_0 - \phi_j \, \text{INDUSTRY}_j - \gamma \, CC_i]. \qquad (8)$$

The correct standard errors are obtained by multiplying the standard errors from the computer package by the value in (8) and dividing by the standard error of u_i

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[12] The impact of reverse causation can be assessed by a Hausman test by comparing the efficient but potentially inconsistent OLS estimate of γ to the four-step estimate. These computations will be undertaken in future work.

computed from (7).   This correction substantially raises the standard errors, and hence makes it more difficult to find statistically significant γ's.

6. Empirical Results

This section presents initial results based on our four-step estimation strategy. The several regressions required by this approach "burn-up" a substantial amount of information in the dataset, and thus makes inference difficult using conventional significance levels. Consequently, we expand the cutoff for determining statistical significance to 20%. The discussion of impediments to firm performance in Section 2 indicates that any hypothesis test must be two-sided.

Statistical tests of the null hypothesis that a coefficient is zero is only one way to significance. In future work, we will translate the coefficients estimated in the four-step procedure into statements about the economic impacts on profitability.

6.1. Dominant Shareholder

Concentrating ownership in the hands of a single owner has two contrasting effects on firm performance. It can be seen as a direct solution to the governance problems that arise from the separation of ownership from control. With a sufficiently large equity stake in the firm, investors have incentives to invest resources in monitoring and disciplining managers and hence reducing information problems and the associated agency costs. Alternatively, the controlling shareholder may exploit its powerful position, and expropriate resources from the firm in terms of direct (e.g., compensation) or indirect benefits (e.g. favorable arrangements with companies in which the controlling shareholder has a beneficial interest).

We investigate the importance of these monitoring and expropriation roles of concentrated ownership with the four-step estimates presented in Table 3, Panel A. In order to find a sufficient amount of data to meet our inclusion criterion (see

the foot to Table 4), we had to raise the cutoff value for the ownership stakes to 40%. There is some evidence that concentrated levels of voting rights are associated with better performance. However, the estimated impact is much lower for concentrated cash flow rights. When we form the intersection of the dominant shareholder holding both voting rights and cash flow rights at a 40% cutoff, the regression results indicate that performance rises, but the change is not statistically significant. Thus, we uncover some weak evidence in support of the monitoring role of concentrated ownership by the dominant owner.

6.2. Large Individual Shareholders (LIS)

The identity of ownership may matters. The incentive to expropriate may be more pronounced for large individual shareholders. We are able to identify this class of owners, which we define as those shareholders who are 1) individuals (not organizations), 2) who hold at least 5% of the voting [cash flow] rights, and 3) who collectively hold at least mm% of the voting [cash flow] rights, where mm% is the cutoff value.

Coefficient estimates are presented in Panel B of Table 4 for all four cutoff values of 5%, 10%, 20%, and 40%. Concentrated rights uniformly lead to lower profitability. The economic impact of concentrated voting rights is larger than that for concentrated cash flow rights, and are statistically significant for the 10% and 20% cutoff values. Cash flow rights are statistically significant for the 10%, 20%, and 40% cutoff values.

LIS' that have large voting rights usually have large cash flow rights. The one exception is LIS_{10} where two firms that have large individual owners as measured by voting rights do not have large individual owners measured by cash flow rights. Thus, the results for the intersection of VR and CR in column 3 are

very similar to the results for VR in column 1. We conclude that, when a firm is controlled by a few large and individual shareholders, firm performance suffers. Expropriation costs are very high for this large individual investors.

6.3. Administrative Office (AK)

Administrative offices are a particularly effective way for the managers of the firm to separate voting and cash flow rights. Since the AK's are controlled by the firm, managers can insulate themselves from shareholders' concerns.

Panel C of Table 4 contains the estimated sensitivity of performance to this corporate control mechanism. For those firms with AK's controlling substantial amounts of voting rights, performance is enhanced, but the increment is not statistically significant. However, as shown in Column 3, when these voting rights are combined with cash flow rights, the positive impact on profitability is much larger and statistically significant. Freed from the constraints of intrusive shareholders, managers appear to be able to increase profitability substantially.

7. Summary And Conclusions

This paper uses the interesting institutional features in the Dutch economy to undertake a within country test of the role of various corporate control mechanisms. Four conclusions emerge. First, a substantial role of a controlling shareholder in ameliorating corporate governance problems is not sustained. We found some weak evidence that performance was enhanced for firms with a controlling shareholder.

Second, the identity of ownership matters. When a firm is controlled by a few large and individual shareholders, firm performance suffers. Expropriation costs are very high for this type of investor.

Third, and somewhat at odds with the bulk of the prevailing literature, performance is enhanced when the firm is freed of equity market constraints. These results are consistent with the recent theoretical literature that too much oversight can be detrimental in forcing firms to make myopic investment decisions and for managers to forego investing in firm-specific human capital. This dark side of equity markets has received too little attention in the corporate governance literature.

Fourth, considering both voting and cash flow rights proved important. Voting rights provides the means for intervening in firm affairs; cash flow rights the required motivation. The AD's are an effective mechanism for collecting voting rights. However, voting rights do not give the AD's any motivation for assisting in firm performance. When coupled with cash flow rights, the controlling AD's enhance performance.

Many questions remain. What are the economic impacts of these various control mechanisms on profitability? What are the underlying forces at work in determining the choice of corporate control mechanisms? These and related

questions will be explored in future work.

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Data Appendix

The sample of 112 firms used in this study was drawn from the following 128 firms for which we were able to obtain financial statement data. Ownership data were not available for the 16 firms marked with a #, and hence they were excluded from the sample used in this study. There is no obvious set of common characteristics for these excluded firms.

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 1 AALBERTS INDUSTRIES
 2 AHOLD  KONINKLYKE
 3 AHREND  KONINKLYKE
 4 AIR HOLDINGS
 5 AKZO NOBEL
 6 ALANHERI
 7 AMSTERDAM  RUBBER CULTUUR MAATSCHAPPY #
 8 ARTU BIOLOGICALS #
 9 ASM INTERNATIONAL
10 ATAG HOLDING
11 ATHLON GROEP
12 BALLAST NEDAM
13 BAM GROEP  KONINKLYKE #
14 BATENBURG BEHEER
15 BEERS
16 BETER BED HOLDING #
17 BLYDENSTEIN WILLINK
18 BOER UNIGRO
19 BOLSWESSANEN  KONINKLYKE
20 BOSKALIS WESTMINSTER
21 BRUNEL INTERNATIONAL
22 BURGMAN HEYBROEK
23 CAP GEMINI
24 CATE  KONINKLYKE
25 CETECO
26 CINDU INTERNATIONAL
27 CONTENT BEHEER
28 CROWN GELDER PAPIERFABRIEKEN #
29 CSM
30 DELFT INSTRUMENTS
31 DICO INTERNATIONAL
32 DORP DESPEC GROEP
33 DRAKA HOLDING
34 DRIE ELECTRONICS BEHEER
35 DSM
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Data Appendix (continued)

36 ECONOSTO KONINKLYKE
37 ELSEVIER
38 EMBA #
39 EMIS EUROPEAN MARKETING INFORMATION SERVICES
40 ERIKS HOLDING
41 FLEXOVIT INTERNATIONAL
42 FREE RECORD SHOP HOLDING
43 FUGRO
44 GAMMA HOLDING
45 GELDERSE PAPIERGROEP
46 GETRONICS
47 GEVEKE
48 GOUDA VUURVAST HOLDING
49 GROLSCH
50 GRONTMY
51 GROOTHANDELSGEBOUWEN
52 GTI HOLDING
53 HAGEMEYER
54 HEINEKEN
55 HELVOET HOLDING
56 HES BEHEER
57 HEYMANS
58 HIM FURNESS
59 HOEKS MACHINE ZUURSTOFFABRIEK
60 HOLLAND COLOURS
61 HOLLANDSE BETON GROEP
62 HOOGOVENS KONINKLYKE
63 HUNTER DOUGLAS #
64 ICT AUTOMATISERING
65 IHC CALAND
66 INTERNATIO MULLER
67 KBB KONINKLYKE BYENKORF BEHEER
68 KLENE HOLDING
69 KONINKLYKE LUCHTVAART MAATSCHAPPY
70 KPN KONINKLYKE
71 KRASNAPOLSKY HOTELS RESTAURANTS
72 KUHNE HEITZ #
73 LANDRE MERREM KONINKLYKE
74 LCI COMPUTER GROUP #
75 LEER KONINKLYKE EMBALLAGE INDUSTRIE VAN

Data Appendix (continued)

76 MAAS GROEP KONINKLYKE FRANS
77 MACINTOSH RETAIL GROUP
78 MANAGEMENT SHARE
79 MELLE #
83 NEDAP
84 NEDCON GROEP
85 NEDLLOYD KONINKLYKE
86 NEDSCHROEF HOLDING KONINKLYKE
87 NEWAYS ELECTRONICS INTERNATIONAL
88 NKF HOLDING
89 NORIT
90 OCE
91 OMMEREN KONINKLYKE
92 OPG APOTHEKERS COOPERATIE #
93 ORDINA BEHEER #
94 OTRA
95 P C GROEP
96 PAKHOED KONINKLYKE
97 PHILIPS ELECTRONICS KONINKLYKE
98 POLYGRAM
99 POLYNORM
100 PORCELEYNE FLES ANNO 1653 KONINKLYKE DELFTSC
101 RANDSTAD HOLDING
102 REESINK
103 ROOD TESTHOUSE INTERNATIONAL
104 ROTO SMEETS BOER
105 SAMAS GROEP
106 SCHUITEMA
107 SCHUTTERSVELD
108 SIMAC TECHNIEK
109 SLIGRO BEHEER
110 SMIT INTERNATIONALE
111 SMIT TRANSFORMATOREN NV
112 SPHINX GUSTAVSBERG KONINKLYKE
113 STORK
114 TELEGRAAF HOLDINGMAATSCHAPPY
115 TULIP COMPUTERS #
116 TWENTHE KONINKLYKE TEXTIELGROEP #
117 TWENTSCHE KABEL HOLDING

Data Appendix (continued)

118 UBBINK KONINKLYKE
119 UNILEVER
120 VENDEX
121 VILENZO INTERNATIONAL
122 VNU
123 VOLKER WESSELS STEVIN KONINKLYKE
124 VREDESTEIN #
125 WEGENER ARCADE
126 WELNA
127 WEWELER
128 WOLTERS KLUWER

Table 1
Supervisory Board Seats

Category	The Netherlands (1)	Germany (2)
Industrial Firms	36%	25
Distinguished Experts	26	15
Large Shareholders	14	--
Financial Intermediaries	13	11
Employee Representatives	11	49
	100%	100%

_____

Notes To Table 1:

Source: Gelauff and den Broeder, 1997, Table 8. The entries are the percentage of seats held on supervisory boards in The Netherlands and Germany in 1984 and 1986, respectively. Distinguished Experts are drawn from the ranks of politicians, civil servants, lawyers, professors, and former directors. For Germany, some of the seats in the Distinguished Experts and Large Shareholders categories are included in the Industrial Firms and Financial Intermediaries categories.

Table 2
Descriptive Statistics

A. Variables In The Profitability Regression

Variable	Mean	Median	Standard Deviation
PROFITABILITY	11.3	10.9	7.10
CV_{CFA}	2.22	1.49	3.83
FIXED	3.71	3.60	1.91
LEVERAGE	5.99	6.14	1.53

B. Variables In The Probit Equation

Variable	Mean	Median	Standard Deviation
	(1)	(2)	(3)
LISTING	0.545	1.000	0.500
N^{MB}	3.064	2.833	1.606
N^{SB}	5.052	2.167	1.924
NON-FRENCH	6.210	0.000	15.470
SIZE	5.626	5.626	0.782

Table 2 (continued)
Descriptive Statistics

Notes To Table 2:

Data are from a stacked panel for 672 observations for 112 firms for the period 1992-1997. In Panel A, PROFITABILITY is the return on assets equal to before-tax profits plus financial expenses divided by TA, where TA is total assets less depreciation; CV_{CFA} is cash flow, equal to operating income plus depreciation, divided by TA; FIXED is material assets less depreciation all divided by TA; LEVERAGE is TA less stockholders equity all divided by TA. In Panel B, LISTING is an indicator variable equal to one when the firm has been listed on the stock exchange since 1984, 0 elsewise; N^{MB} is the number of seats on the management board; N^{SB} is the number of seats on the supervisory board; NON-FRENCH is an indicator variable equal to one when the firm is majority owned by a foreign investor and this investor is headquartered in a country that does not follow the French legal tradition as determined by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998); SIZE is the natural logarithm of TA.

Table 3
Probit Estimates Of Equation (6)

	Dependent Variable: LARGEST$_{40}$		
	Voting Rights VR	Cash Flow Rights CR	Intersection (VR$\cap$CR)
	(1)	(2)	(3)
LISTING	-0.098	-0.108*	-0.076
N^{MB}	0.006	0.036	0.037
N^{SB}	-0.022	-0.005	-0.011
NON-FRENCH	0.002	0.011**	0.007**
SIZE	0.051	-0.037	-0.033
CONSTANT	0.051	-0.059	-0.074
Count R^2	0.652	0.804	0.786
N(obs=0)	30	81	82
N(obs=1)	82	31	30

_____

Notes To Table 3:
The parameter estimates are the marginal effects (dP/dx) conditional on Y=1, where Y = {LARGEST$_{40}$VR, LARGEST$_{40}$CR, LARGEST$_{40}$VR$\cap$CR} and Z are instruments orthogonal to profitability shocks; Z = {LISTING, N^{MB}, N^{SB}, NON-FRENCH, SIZE, CONSTANT}. A ** denotes significance at the 5% level, and a * denotes significance at the 20% level. Standard errors are computed from the analytical derivatives. Count R^2 is the number of times the estimated model generates a correct prediction relative to the total number of observations, where a prediction is correct if the absolute value of the difference between the estimated and actual values is less than 0.5 (Maddala, 2001, p. 329). N(obs=0) [N(obs=1)] is the number of observations for which the dependent variable equals 0 [1].

Table 4
Four-Step Estimates Of The Corporate Control Variable From Equation (7)

	Voting Rights VR	Cash Flow Rights CR	Intersection (VR∩CR)
	(1)	(2)	(3)

A. Dominant Shareholder

LARGEST$_{40}$	0.119	0.039	0.057
	[0.196]	[0.930]	[0.321]
	73%	*28%*	*27%*

B. Large Individual Shareholders (LIS)

LIS$_5$	-0.042	-0.024	-0.042
	[0.270]	[0.376]	[0.270]
	50%	*71%*	*50%*

LIS$_{10}$	-0.052	-0.039	-0.062
	[0.155]	[0.173]	[0.106]
	37%	*51%*	*35%*

LIS$_{20}$	-0.100	-0.059	-0.100
	[0.059]	[0.096]	[0.059]
	25%	*39%*	*25%*

LIS$_{40}$	-0.130	-0.103	-0.130
	[0.212]	[0.112]	[0.212]
	12%	*19%*	*12%*

Table 4 (continued)
Four-Step Estimates Of The Corporate Control Variable From Equation (7)

	Voting Rights VR	Cash Flow Rights CR	Intersection (VR∩CR)
	(1)	(2)	(3)

C. Administrative Office (AK)

AK$_5$	0.086	0.126	0.116
	[0.262]	[0.145]	[0.157]
	49%	*17%*	*16%*
AK$_{10}$	0.088	0.175	0.159
	[0.353]	[0.169]	[0.186]
	48%	*16%*	*15%*
AK$_{20}$	0.088	0.199	0.185
	[0.381]	[0.175]	[0.769]
	47%	*15%*	*14%*
AK$_{40}$	0.001	0.109	0.068
	[0.990]	[0.508]	[0.569]
	43%	*13%*	*12%*

D. Networks

To be computed in the next draft

Table 4 (continued)
Four-Step Estimates Of The Corporate Control Variable From
Equation (7)

Notes To Table 4:

The estimates are computed using the four-step method developed in Section 3. The table reports point estimates, p-values for a two-sided t-test of the null hypothesis that the coefficient is zero, and the percentage of observations that equal or exceed the cutoff value. The estimated model also includes a constant and dummies for the following industries: chemicals, construction, consumer goods, electronic, foods, information and communication technology, metal, paper, publishers, retail, and services. The corporate governance variables appearing in the table are selected as follows. The corporate governance variables are sorted into contrasting classes based on cutoffs ranging from 5%, 10%, 20%, and 40%. For a given cutoff and corporate governance variable, the percentage of observations for the 112 firms is represented by θ. Estimates are reported in the table if the contrasting classes both have at least 15% of the sample; that is, $0.85 > \theta > 0.15$ for either the voting rights or cash flow rights variable. For example, the first row of the table shows that, based on a cutoff value of 40%, the dominant shareholder in 73% of the firms holds at least 40% of the voting rights. Based on the same cutoff, the dominant shareholder in 28% of the firms holds at least 40% of the cash flow rights. Thus, the criterion is met by both the voting rights and cash flow rights variables. When the cutoff value is lowered to 20%, the dominant shareholder controls voting rights in excess of 20% in more than 85% of the firms, and cash flow rights in excess of 20% in less than 15% of the firms. Thus, the inclusion criteria for θ is not satisfied, and no results are reported in the table.