

MANAGEMENT AND OWNERSHIP EFFECTS: EVIDENCE FROM FIVE COUNTRIES

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Despite the growing recognition in the corporate governance literature that the relationship between ownership concentration and profitability is context dependent, this issue has not yet been subjected to direct empirical investigation using a single cross-national sample. This study empirically examines the ownership concentration-performance relationship across the nations of Canada, France, Germany, the United Kingdom, and the United States. Essentially, we argue that the correlation (if any) between ownership concentration and firm profitability differs across countries in a systematic way determined by the national system of corporate governance. Results indicate that important and statistically significant differences do in fact exist across the countries studied. © 1998 John Wiley & Sons, Ltd.

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INTRODUCTION

In *The Competitive Advantage of Nations*, Michael Porter notes the importance of ownership structure and corporate governance in determining corporate strategy:

Company goals are most strongly determined by ownership structure, the motivation of owners and holders of debt, the nature of corporate governance, and the incentive processes that shape the motivation of senior managers. The goals of publicly held corporations reflect the characteristics of that nation's capital markets. (1990: 110)

Recent surveys of corporate governance have clearly demonstrated that countries differ profoundly in terms of the institutional contexts in

which corporate governance relationships are embedded (Fukao, 1995; Charkham, 1994; Daniels and Morck, 1995; Bishop, 1994; Roe, 1993; Jenkinson and Mayer, 1992; Rao and Lee-Sing, 1996; Porter, 1992).

Broadly speaking the literature tends to identify two general systems of corporate governance. One, associated with the United States and the United Kingdom, is characterized by relatively passive shareholders, Boards of Directors that are not always independent of managers, and active markets for corporate control. The other, associated with Continental Europe and Japan, is associated with coalitions of active shareholders (often other companies or banks), Boards of Directors (BODs) that are more independent of management, and limited markets for corporate control. These differences likely affect the goals and performance of public companies.

There is little empirical evidence regarding the effect of national differences in corporate governance on firm performance. In this study we explore this issue by examining the relationship between ownership concentration and firm prof-

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itability in five countries: the United States, the United Kingdom, Germany, France, and Canada. Essentially we argue that the correlation (if any) between ownership concentration and firm profitability differs across countries in a systematic way determined by the national system of corporate governance.

We focus on the relationship between ownership concentration and firm performance because it has been so widely studied. Originally motivated by the separation of ownership from control (Berle and Means, 1932), and more recently by agency theory (Fama and Jensen, 1983; Jensen, 1989), these studies begin with the premise that managers and owners (shareholders) may have divergent interests. Specifically, it is argued that shareholders wish to maximize profits while managers may prefer various self-interested, nonprofit-maximizing strategies and that concentrated ownership obviates the problems created by these divergent interests (Demsetz and Lehn, 1985). Following from this logic, the core hypothesis in the separation of ownership and control literature is that concentrated ownership is associated with higher profitability.

Indeed, there have been dozens of such studies examining the relationship between ownership concentration and firm performance beginning in the 1930s and continuing to the present time (Bentson, 1985). In a recent review of these studies, Short (1994: 206) concludes that 'the majority of studies find some support for the managerial hypothesis that owner controlled (OC) firms should report higher profitability measures than manager controlled firms (MC) ...' Earlier surveys by Hunt (1986) and Vining and Boardman (1992) arrive at similar conclusions.

Most of the studies cited by Short used U.S. data and most of these have found that owner-controlled firms outperform firms where effective control rests in the hands of management. However, few studies examining non-U.S. firms were cited by Short, and among those that were, supporting evidence was decidedly more mixed. In particular, the cited evidence from France and Germany did not indicate strong support for the hypothesis that concentrated ownership is positively related to corporate performance.

While there has been some recognition that the ownership concentration–profitability relationship may not be applicable in all national contexts, there has been no direct test of this proposition

using a single cross-national sample. The primary purpose of this study is to determine whether the relationship between ownership concentration and profitability varies across countries in ways that are related to national differences in corporate governance.

This paper contributes to the empirical literature in one other way: we are more explicit in specifying the microprocesses that may result from managerial discretion. Specifically, we distinguish between short-run tactical behavior resulting in cost escalations and long-run strategic behavior resulting in profit reduction (often the result of poor diversification decisions). This distinction is used to specify and estimate the relevant equations.

THEORETICAL BACKGROUND

Agency theory suggests that the interests of principals and agents will not coincide. In the absence of either appropriate incentives, or sufficient monitoring, agents will be able to exercise their discretion to the detriment of principals (Alchian and Demsetz, 1972; Jensen and Meckling, 1976; Eisenhardt, 1989). In the context of the modern corporation, agency theory has been applied to the relationship between managers and shareholders. The argument is that owners wish to maximize profits, but that their designated agents (managers) may have neither the interest nor the incentive to do so (Berle and Means, 1932). As such, corporate performance depends in part on the ability of owners to effectively monitor and control managers.

The nature of managerial discretion

The literature has identified two broad manifestations of managerial discretion that may create agency costs. The first is that managers engage in short-run cost-augmenting activities designed to enhance their nonsalary income, or to provide other forms of on-the-job consumption (Williamson, 1964; Jensen and Meckling, 1976). This type of behavior reduces corporate profits by increasing costs. For example, Jensen and Meckling argue that the managerial tendency to cost-pad is inversely related to their ownership stake in the firm. This occurs because as management's right to residual income decreases, they

appropriate income from other corporate sources in the form of assorted perks.

A second manifestation of managerial discretion occurs when managers indulge their needs for power, prestige, and status (Baumol, 1959) by making long-run strategic choices designed to maximize corporate size and growth rather than corporate profits. In essence, managers overinvest in size and/or growth-enhancing assets (Marris, 1964; Grabowski and Mueller, 1972; Jensen, 1988). The most commonly cited example of such self-interested strategizing occurs when managers overdiversify (Amihud and Lev, 1981). In this case, firm profits are reduced by accepting projects whose anticipated returns are poor.

Although short-run cost augmentation and self-interested strategizing reflect two quite different processes, they both predict that where managerial discretion is present, firm profitability will be reduced. The fact that they lead to the same predicted effect on profits may have led empirical researchers to ignore the important differences between them. We explore the implications of these differences below.

Constraints on managerial discretion

According to the classical separation of ownership and control perspective, a dominant or majority shareholder has both the incentive and ability to monitor management so that the firm is managed in a manner consistent with profit maximization. The incentive to monitor is high because the majority shareholder has a claim on all residual profit (Alchian and Demsetz, 1972), and the ability to monitor is high because the dominant shareholder can often control the BOD (Tosi and Gomez-Mejia, 1989; Fama and Jensen, 1983; Salancik and Pfeffer, 1980). When the BOD is under the control of a dominant shareholder, the costs of organizing a coalition to oppose existing management are avoided. In contrast, when shareholdings are widely diffused, neither the incentive nor the ability to monitor agents is present and so managers are afforded a greater degree of discretion which allows them to not maximize profits (and shareholder wealth). Thus, concentrated ownership is a powerful constraint on managerial discretion.

Research grounded in the separation of ownership and control thesis therefore typically makes the simplifying assumption that managerial

discretion is essentially a negative function of ownership concentration. As such, individual, organizational, and environmental factors (Hambrick and Finkelstein, 1987) other than ownership concentration which may impact upon managerial discretion are typically ignored. Nevertheless, even though modern corporations are often characterized by diffused ownership, managers are not necessarily able to engage in discretionary behavior (Oviatt, 1988).

There is much literature devoted to an analysis of the various constraints on managerial discretion and their impact on the power of top management (Finkelstein, 1992). These constraints may be classified as internal, or external (Walsh and Seward, 1990). Internal constraints largely emanate from the BOD and are exercised on behalf of shareholders (owners). Internal constraints reflect the composition and powers of the BOD, including the ease by which shareholders can appoint or remove Board members, and the rules governing voting. External constraints pertain to the role of markets in monitoring and disciplining managers. The most widely noted external constraint is the market for corporate control (Jensen, 1989), but other market-related constraints arise from managerial labor markets, product markets, and financial markets.

Consider the internal constraint represented by the BOD and its composition. A Board that represents shareholder (or stakeholder) interests can effectively monitor managers by virtue of its proximity to sources of information. Also, because the BOD is a relatively small body, monitoring costs are low (Kesner, 1987; Baysinger and Hoskisson, 1990; Baysinger, Kosnik and Turk, 1991). Needless to say, the efficacy of internal constraints is dependent on the BOD acting in the interests of shareholders (or stakeholders), an assumption which may not always be justified (Herman, 1981). Unless board members are significant shareholders, their incentive to monitor is low and will not approach that of a dominant, or majority shareholder.¹ In

¹ In contrast to the classical agency theory position, recent evidence suggests that Boards may still be vigilant monitors even in the absence of dominant shareholder. Indeed, Finkelstein and D'Aveni (1994) suggest that vigilant boards comprised of independent outsiders may have a strong incentive to monitor managers when they are shareholders. Further, even in the absence of share ownership, Board members have their personal reputations as directors at stake, which provides

countries where workers or other stakeholders are represented on the BOD, the incentive as well as the ability to monitor can also be quite high.

An essential characteristic of internal constraints is that the responsibility for monitoring falls to insiders (e.g., owners, or the BOD) who are directly charged with the responsibility for corporate governance. What is common to the external constraints is that they rely on a variety of markets or market-based measures to align the competing interests and thus, when effective, render monitoring of managers unnecessary. In the case of external constraints, shareholders are essentially transferring monitoring responsibility to markets. In the case of the market for corporate control, managers who do not maximize returns to shareholders will see their firms acquired and themselves displaced in favor of more proficient managers (Jensen, 1989).

CONSTRAINTS IN A CROSS-NATIONAL CONTEXT

Institutional contexts do generally differ across countries (Hamilton and Biggart, 1988; Estrin and Perotin, 1991; Porter, 1992). Although many constraints on managerial discretion are operative in developed market economies, within each country a particular nexus of constraints will emerge. In terms of corporate governance, these cross-national differences have been quite extensively documented (Fukao, 1995; Charkham, 1994; Daniels and Morck, 1995; Bishop, 1994; Roe, 1993; Jenkinson and Mayer, 1992).

There is some agreement in the literature that a distinction can be made between the Anglo-American model of corporate governance and that of Continental Europe and Japan. The former is characterized by relatively passive shareholders and institutional investors, BODs that are not always independent of management, and more active markets for corporate control; the latter is characterized by coalitions of active shareholders and stakeholders, BODs that are more independent of management, and limited markets for corporate control.

We summarize the most salient differences in

them with an incentive to be vigilant monitors (Fama and Jensen, 1983).

Table 1 for the five countries that comprise our sample: the United States, the United Kingdom, Canada, France, and Germany).² Each element in Table 1 comprises a distinct research topic, well beyond the scope of this paper. While there may be some disagreement about the evaluation of a particular cell, or even which cells are included, our purpose is to illustrate the factors that have led to the distinction between the Anglo-Saxon and Continental European systems of corporate governance.³

In the United States and the United Kingdom shares in most large firms are relatively widely held, such that the largest shareholder holds a modest stake in the company. In both the United States and the United Kingdom, the largest shareholders are increasingly institutions, particularly pension and mutual funds which invest on behalf of individuals. However, in the United States, some 50 percent of all shares are held by individuals, double the percentage in the United Kingdom (*The Economist*, 2 December 1995: 107). In both countries, shareholders tend to be passive, or what Roe (1994) calls 'distant shareholders.' Fukao (1995) provides an extensive list of factors that restrict the ability of institutional shareholders in the US to become actively involved in management.

In France, Canada and Germany, the ownership of firms is less widely dispersed than in the US or UK. Ownership concentration is particularly apparent in Germany and Canada, where the majority of large firms have a dominant shareholder (Fukao, 1995; Khemani, 1988; Schneider-Lenne, 1992). Of the 400 largest Canadian companies, 382 are controlled by a single shareholder, and many of the very largest firms are controlled by families (Price Waterhouse, 1989a; Khemani, 1988). In Germany, some 85 percent of the larg-

² We set out to study all the G7 countries. However, we were unable to secure sufficient data for Italy and in the course of our research we decided that Japan represented a sufficiently special case that it warranted more detailed examination. That left the five countries noted in the text.

³ One apparent omission is executive compensation, but this is noted under shareholder powers. Executive compensation schemes are designed to align the interests of managers and owners by providing the appropriate incentives to maximize profits (Murphy, 1985; Tosi and Gomez-Mejia, 1989). Another is product market competition. Despite differences in market size and domestic competition, all five countries are members of a free-trade zone, so that foreign competition is relatively intense in all cases. Globalization of markets has likely made this factor relatively similar across countries.

Table 1. Cross-national comparison of corporate governance

	U.S.	U.K.	Canada	France	Germany
Ownership dispersion	Very high	High	Low	Medium	Low
Ownership identity	Individuals Pension Mutual funds	Pension Mutual funds	Family Corporate	Corporate State	Banks Corporate
Board of directors	Managers Outsiders	Managers Outsiders	Owners Managers Outsiders	Owners Workers	Owners Workers
Shareholder powers	Low	Low	Moderate	High	High
Takeover	High	High	Moderate	Low	Low
Financing	Equity	Equity	Equity/debt	Debt/equity	Debt

This table is designed to indicate the salient comparative features of corporate governance structures across countries. Therefore it highlights differences rather than absolute characteristics. For example, all companies in all countries rely on a mix of debt and equity financing. Our entries indicate the relative importance of each in a cross-national context. More detailed discussions are found in Fukao (1995), Charkham (1994), Bishop (1994), Daniels and Morck (1995), Roe (1993), Jenkinson and Mayer (1992), and Milgrom and Roberts (1992).

est firms have a dominant shareholder who has an ownership stake exceeding 25 percent (*The Economist*, 21 January 1995: 71).

France and Germany are characterized by different types of owners; in France by nonfinancial corporations and the state; and in Germany by nonfinancial corporations and banks (Jenkinson and Mayer, 1992). Although the majority of French firms are not owned by the government, and although there has been considerable privatization in France, the French government still retains ownership positions in several of that country's key sectors. Relative to the other four countries, the extent of state ownership in France is distinctly high.

German banks play an important role in the German economy. German banks typically hold both large debt and equity positions in that nation's largest corporations. The influence of German banks is augmented by the fact that shareholders typically deposit their shares with these financial institutions. The banks collect dividends for the individual investor, and are given the shareholder's proxy. This contributes to a relatively high degree of ownership concentration (Edwards and Fischer, 1994).

The role of the BOD flows in part from the structure of ownership (Li, 1994). In Germany and France, the composition of the BOD reflects the institutions (other firms, banks, government) that are the major shareholders. In addition Ger-

many requires large public corporations to adopt a two-tiered board. The executive board is comprised of managers, while the nonexecutive, supervisory board is elected, half by shareholders and half by employees. The German system allows for a clear distinction between executive and nonexecutive (monitoring) functions (Charkham, 1994). In France, firms have the option of choosing a one- or two-tiered system, although the latter has been rarely used (Fukao, 1995). Workers' representatives have the right to attend meetings, but do not vote. Thus, in France and Germany the BOD represents the various stakeholders in large firms (Jenkinson and Mayer, 1992).

In contrast, BODs in the United States and the United Kingdom are typically comprised of executives (managers) of the firm itself as well as outside directors who have no ownership stake in the company. Shareholder involvement is minimized, particularly in the United States, by the need to avoid obtaining inside information that would legally limit their ability to trade shares (Fukao, 1995).

In terms of the BOD, Canada appears to represent the middle ground between the Anglo-American and Continental European models. As a consequence of its concentrated ownership structure, Canadian boards tend to have significant shareholder representation, and it is often the case that the positions of CEO and chair are split

(Daniels and Morck, 1995). However, the Canadian model is not one based on stakeholders since banks, suppliers, and employees are not typically represented.

Shareholders have different powers across countries in terms of their control over the BOD. In France and Germany it is relatively easy for shareholders to nominate members to the (supervisory) board, while in Canada, the United States, and the United Kingdom it is difficult. In the latter countries, either a proxy fight must be launched, or a sizeable shareholding is required in order to nominate board members. Likewise, it is possible for shareholders to remove board members by direct vote in France and Germany, but not in the other countries. Fukao (1995) also contends that in the United States and to a lesser extent the United Kingdom executive compensation is not under the effective control of a corporation's owners. Fukao goes on to contrast this with Germany, where employee representation on supervisory boards restrains the ability of managers to pay themselves excessive salaries.

Fukao (1995) concludes that the above considerations indicate that shareholder powers are generally higher in France and Germany than in the United States or the United Kingdom. Again, Canada appears to be somewhere in between. Although Canadian rules and regulations are similar to those in the United States and the United Kingdom, Canada's high levels of ownership concentration suggest that *de facto* shareholder powers are somewhat higher.

The threat of a corporate takeover can be a powerful constraint on executive behavior since top managers are likely to lose their jobs subsequent to a merger (Jensen, 1989). However, the extent to which the takeover constraint is operative is a function of both public policy regarding mergers and acquisitions as well as the degree to which ownership structures permit hostile takeovers.

Legislation is on the books in most countries which permits authorities to review and prohibit mergers. The powers of the French government are especially sweeping in this regard. Despite the active market for corporate control in the United States, federal antitrust regulation has traditionally curtailed horizontal merger activity (Montgomery and Wilson, 1986; Porter, 1987). In contrast, the Canadian government has taken a much more *laissez faire* position on horizontal

mergers and even the new Competition Act is more relaxed regarding mergers (Khemani and Shapiro, 1994). In Canada and France, mergers which involve foreign entities taking over a domestic concern may be subject to special reviews, and this limits the market for corporate control in these countries.

However, the most important differences in the operation of the market for corporate control emerge not from public policy differences, but from differences in corporate ownership and control. In Canada, Germany, and France the concentration of ownership and the degree of intercorporate holdings make hostile takeovers more difficult. This is particularly so in Germany, where bank ownership severely restricts the market for corporate control so that hostile takeovers are very rare (Jenkinson and Mayer, 1992). In general, markets for corporate control are most active in the United States and the United Kingdom (Fukao, 1995; Jenkinson and Mayer, 1992).

The need for external sources of financing can also present a powerful constraint on managerial behavior (Milgrom and Roberts, 1992). The fact that managers must periodically go outside the firm for financing may serve to lessen both cost padding and self-interested strategizing. The extent to which managers face a financing constraint is largely a function of disclosure requirements (i.e., the amount of information managers must disclose to outside investors) and the nature of the debt and equity contracts (Williamson, 1985).

In general, firms in the United States, the United Kingdom and, to a lesser extent Canada and France, are relatively more reliant on equity as sources of funds. One consequence has been that disclosure rules are more stringent in these countries, particularly the United States. France and Canada also have quite comprehensive disclosure requirements. German disclosure requirements are rather lax and lag far behind other Western nations in this regard (Euromoney, 1990; Price Waterhouse, 1988, 1989a, 1989b, 1990, 1991a).

Summary

Although the concentration and identity of owners as well as the nature of the constraints faced by managers vary quite markedly across national contexts, two pairs of countries apparently share

similar characteristics. Relative to firms in the United States and the United Kingdom, firms in France and Germany are more concentrated and stable in terms of ownership and have boards that better represent owners' interests. Moreover, the more concentrated ownership structure of French and German firms, the important role German banks and the French firms play as shareholders, and the influence of workers minimize the use of take-overs as an external constraint. Conversely, firms in the United States and the United Kingdom rely more heavily on take-over markets and equity markets as means of influencing or displacing managers. However, in the United States and United Kingdom internal constraints are relatively weak because of high levels of ownership dispersion and BODs that are responsible to management, not shareholders.

The contrast between the United States and the United Kingdom, where control relies more on selling a company, to Germany and France (and Japan), where control relies more on direct interaction between shareholders and management, leads Fukao to conclude that corporate control practices tend to represent two distinct 'philosophies' (1995: 34). Others arrive at the same conclusion, but apply different names to the two philosophies. Charkham (1994: 360) refers to 'networked' and 'high tension' systems to distinguish Germany and Japan from the United States and the United Kingdom, and places France somewhere in between. Nickell (1995) refers to Type I and Type II systems; Jenkinson and Mayer (1992) to 'insider' and 'outsider' systems; Rybczynski (1986) to 'bank oriented' and 'market oriented' systems; and *The Economist* (10 February, 1996) calls them 'stakeholder' and 'shareholder capitalisms'.⁴

We prefer to use terminology consistent with the analysis of internal and external constraints on managerial discretion developed earlier. Thus, the main constraints on managerial behavior in France and Germany appear to be internal, rather than external to the firm. That is, in those coun-

tries constraints mainly emanate from the various stakeholders in the firm. External constraints are relatively more powerful in the United States and the United Kingdom, where markets, particularly markets for corporate control, are relied upon. These conclusions are summarized in Figure 1.

Canada appears to be a country that does not easily fit into a simple dichotomous world. In the context of this study Canada appears to be a unique case. As a small open economy with fairly permissive merger policy (Caves, Porter, and Spence, 1980), Canadian managers are likely to face powerful outside constraints on their discretion. However, the concentrated nature of corporate ownership in Canada indicates that Canadian managers will face powerful internal constraints as well. In Canada, both external and internal constraints are relied upon through the combination of an open economy, an active market for corporate control and large numbers of closely held firms (Caves *et al.*, 1980). Given that both types of constraints are operative it is not surprising that there is little empirical evidence indicating that managerial discretion has been important in Canada (Shapiro, Sims, and Hughes, 1984; Daniels and Morck, 1995).

There are no firms from countries with neither internal nor external constraint mechanisms represented in our sample. Indeed, we believe that there are few countries that could be characterized in this way. One possible example is China, where there is both a limited market for corporate

		EXTERNAL CONSTRAINTS	
		STRONG	WEAK
INTERNAL CONSTRAINTS	STRONG	CANADA	FRANCE GERMANY
	WEAK	UNITED STATES UNITED KINGDOM	

Figure 1. Comparative governance structures

⁴ Of course, there exist differences in opinion regarding whether such simple dichotomies can be applied to all countries. As noted, Charkham (1994) tends to classify France somewhat differently. It would appear to be the case that Germany (and Japan) and the United States can be more clearly distinguished along these simple lines, and some authors (Roe, 1994) do restrict themselves to comparing only these countries.

control as well as limitations on internal constraints created by ownership restrictions. Such an arrangement is likely unstable in a market environment with private property. In such a case we would expect that some arrangement for monitoring managers would evolve, as suggested by Demsetz and Lehn (1985).

GENERAL HYPOTHESES

In this section we summarize and synthesize the theoretical and comparative institutional literature on corporate governance in order to generate a set of general, testable hypotheses. Our hypotheses refer to the degree to which national differences moderate the relationship between ownership concentration and profitability in a systematic way. These hypotheses are made specific in the subsequent section.

Our empirical tests and hypotheses are based on the relationship between firm performance (profitability) and ownership concentration, a relationship emerging from the literature on the separation of ownership from control. The basic hypothesis in that literature, tested many times, is that profitability is a positive function of ownership concentration because shareholders with large stakes in the firm have both the incentive and ability to monitor managers. In order to draw comparative inferences from this relationship, the role of other constraints on managerial discretion must be introduced.

Ownership concentration is but one dimension of corporate governance; there are other dimensions that may serve to limit managerial discretion and enhance firm performance. Using the typology of Walsh and Seward (1990), we have characterized these as internal and external constraints. The degree to which the constraints are binding shapes the ownership concentration–performance relationship. If one or more of these constraints forces managers to maximize profits, then ownership dispersion is irrelevant and one should find no relationship between ownership concentration and profitability.

We assume that a positive relationship between ownership concentration and profitability exists only if internal and/or external constraints do not exist, or operate imperfectly. When internal and external constraints are effectively present, mana-

gerial discretion is limited even in the absence of a dominant shareholder.

The recent literature on comparative governance structures suggests that the internal/external constraint dichotomy can be usefully extended to describe cross-national differences. Earlier, we concluded that in general the Anglo-American model relies more heavily on external constraints, while the Continental European model relies more heavily on internal constraints.

The conclusion that there are two basic models of corporate governance is probably not controversial, although some (including ourselves) would suggest that not every country fits well into one or the other model. More controversial is the question of which of these models is more effective. On this question there is much opinion, but little evidence. Walsh and Seward provide a systematic analysis of internal and external constraints in the United States, but stop short of concluding that one is more effective than the other. They do, however, note that 'in a well-functioning market, it should be less costly to implement control changes internally rather than through external corporate control contests' (1990: 442).

We contend that the most important of the external constraints, the market for corporate control, has serious limitations. Markets do fail, and the market for corporate control is subject to several potential market failures: information asymmetries, transaction costs, and strategic deterrence (Besanko, Dranove, and Shanley, 1996). Information asymmetries arise because corporate insiders are typically more informed than shareholders and other potential acquirers, and this asymmetry is greater the more dispersed are the shareholders and the more strict are the insider-trading rules that limit the provision of information to shareholders. Potential acquirers are unlikely to have access to full information regarding the actions of managers. This is true of internal constraints as well, but is exacerbated in the case of outsiders or small shareholders. Even if information is fully available, takeovers are an extremely expensive solution. The transaction costs of effecting a change in ownership are very high, and therefore can deter such actions. These costs effectively limit both the number of potential acquirers and the number of potential targets. Potential targets have also been limited by the widespread strategic use of anti-

takeover devices, thus deterring potential acquisitions. In addition, since takeovers tend to occur in waves, the use of the takeover market as a means of disciplining managers may not be available at all times. The recent emphasis on the composition of the Board and the related attempts to impose a minimum level of external representation suggest that many believe that market-based constraints have not been powerful enough to fully constrain managers.⁵

While it is true that all constraints are likely imperfect in their ability to constrain managers (Walsh and Seward, 1990), the failures associated with the market for corporate control seem particularly acute. Because this is the most important of the external constraints, we assume that external constraints are in general less effective in constraining managers than are internal constraints.

The preceding lines of argument allow us to formulate general hypotheses regarding the manner in which ownership concentration affects profitability across countries. We assume that ownership concentration will be important only when other constraints (both internal and external) are not binding, or are not effective. We conclude that France and Germany are characterized by a relative reliance on internal constraints, and we assume that these are more effective than external constraints. Thus, in general:

Hypothesis 1: In countries characterized by internal constraints, ownership concentration will be unrelated to profitability. This hypothesis holds for France and Germany.

On the other hand, relative reliance on external

constraints characterizes the United States and the United Kingdom, and we assume these to be less effective than internal constraints. Thus:

Hypothesis 2: In countries characterized by external constraints, ownership concentration will be positively related to profitability. This hypothesis holds for the United States and the United Kingdom.

Although Canada is a country that superficially resembles the United States and the United Kingdom, with its reliance on external constraints, the concentrated nature of corporate ownership in Canada suggests that internal constraints are powerful in that country. The importance of internal constraints leads to:

Hypothesis 3: In countries characterized by both internal and external constraints ownership concentration will be unrelated to profitability. This hypothesis holds for Canada.

RESEARCH DESIGN AND SPECIFIC HYPOTHESES

In order to make our general hypotheses more concrete, we specify and estimate an empirical model linking ownership concentration and profitability. We begin by addressing the problem of how to specify the relevant equation(s).

Most empirical studies have analyzed the relationship between profitability (π) and ownership concentration (OWN) by estimating an equation of the general form $\pi = F(OWN, X)$, where X is a vector of control variables such as industry and firm size. Expressed in linear form (and suppressing the error term) the equation may be written as:

$$\pi = \alpha + \beta * OWN + \delta * X \quad (1)$$

The hypothesis is that $\beta > 0$. In some versions a squared ownership term is included, an issue developed below.

The problem with Equation 1 is that ownership concentration is used as a general measure of the extent of managerial discretion, but it does not distinguish between cost-augmenting and self-interested strategizing results of managerial discretion. While both types of behavior are more

⁵ The relative effectiveness of the constraints may also differ according to the nature of managerial behavior. External and internal constraints may be equally effective in monitoring cost-augmenting behavior because the ability to monitor is easier. Cost-augmenting expenditure, such as corporate jets are both more visible and discernible through publicly available information such as financial statements and news reports. However, internal constraints may be superior where self-interested strategizing is more of a concern. The evaluation of strategic conduct, at least in the short term, is not so easily discerned from financial statements and published news reports. To the extent that insiders are better able to discern both the intentions of managers and the context in which strategic decisions are made, insiders will have a 'thicker' (Geertz, 1973) understanding of managerial activities. Thus, markets may be less effective in monitoring strategic decisions.

likely when ownership is relatively dispersed (assuming that the constraints are not binding), the OWN term is in a sense measured with error and its coefficient may be biased towards zero and could even be negative (as some studies have found).

The argument may be illustrated as follows. Consider a model in which corporate performance (π) is determined by both short-run cost-augmenting behavior (C) and self-interested strategizing (I), as well as by other factors (X). Thus, $\pi = f(C, I, X)$. However, both C and I are functions of ownership concentration, $C = g(OWN)$ and $I = h(OWN)$, each having a separate impact on performance. If one estimates an equation such as Equation 1, the two effects are confounded since OWN represents both C and I.

We can specify a version of Equation 1 that attempts to disentangle these two effects. We follow the traditional approach with respect to cost escalation; that is, we take it as unobservable and therefore assume that cost escalation is a function of ownership concentration, so that, $C = g(OWN)$ as above. We initially assume a simple proportionate relationship, $C = \beta_1 * OWN$. The implied relationship is negative since the capacity for managers to escalate costs in order to provide themselves with perks is reduced when ownership is concentrated, other things equal.

While many profit-reducing activities are also unobservable, there is one that is observable and has been documented in the literature: diversification. There is evidence that diversification is negatively related to ownership concentration (Amihud and Lev, 1981; Hansen and Hill, 1991) and so we assume that self-interested strategizing occurs primarily through the vehicle of excessive diversification. We follow this literature in assuming that excessive diversification is related to ownership concentration in the sense that unmonitored managers (in firms with low ownership concentration) will diversify in ways inconsistent with profit maximization. Specifically, we assume that the ratio of excessive diversification (DIVE) to total, observed diversification (DIV) is given by:

$$DIVE/DIV = d_0 + d_1 * OWN$$

As ownership concentration increases, managers are more constrained in their investment behavior and are less able to undertake diversification

activity aimed at maximizing their own utility. As a consequence, d_1 is expected to be negative while d_0 must be positive.⁶

For estimation purposes, we multiply both sides by DIV, which is observable, so that:

$$DIVE = d_0 * DIV + d_1 * OWN * DIV$$

These steps allow us to amend Equation 1. In general we seek to estimate an equation of the form $\pi = f(C, I, X)$. Our proxy for C is $\beta_1 * OWN$ and our proxy for I is $d_0 * DIV + d_1 * OWN * DIV$. In linear form and after substitution our amended equation is:

$$\begin{aligned} \pi = a + \beta_1 * OWN + \beta_2 * OWN * DIV \\ + \beta_3 * DIV + \delta * X \end{aligned} \quad (2)$$

Since cost-augmenting behavior ($\beta_1 * OWN$) decreases profitability, and since β_1 is negative, we expect $\beta_1 > 0$: the same prediction as the existing literature. Likewise, since excessive diversification ($d_0 * DIV + d_1 * OWN * DIV$) reduces profitability and since d_1 is negative, we also expect $\beta_2 > 0$, a result suggesting that any negative diversification effects are reduced by concentrated ownership. Finally, we expect that $\beta_3 < 0$ since d_0 is positive. This too is consistent with the existing literature.

For the purposes of this paper, we are interested in the ownership terms. The presence of significant ownership effects is indicated by $\beta_1 > 0$ and $\beta_2 > 0$. That is, ownership concentration increases profits directly ($\beta_1 > 0$) and reduces the negative effects of profit-reducing diversification ($\beta_2 > 0$).

Recent empirical evidence suggests that the relationship between performance and ownership concentration may be nonlinear in nature (Morck, Shleifer and Vishny, 1988). A nonlinear relationship is suggested if at low levels of ownership concentration the costs of monitoring exceed the benefits (which must be shared with other shareholders), while the reverse is true at higher

⁶ Assume that OWN is scaled such that it varies between 0 and 1, where a value of 1 indicates that the firm is wholly owned by a single person. If OWN = 1 we expect that managers will be completely monitored and so no excessive diversification will be possible, that is, DIVE = 0. Thus, DIVE/DIV = 0 = $d_0 + d_1 * 1$. Since $d_1 < 0$, d_0 must be positive (and equal in absolute value to d_1).

levels of ownership concentration. This argument suggests that the relationship between ownership concentration and profitability may initially be negative, but will become positive as concentration increases. The interactive specification in Equation 2 is consistent with a nonlinear relationship between π and OWN if DIV is itself a function of OWN. However, given the possibility that the nonlinear relationship between π and OWN persists, even after inclusion of the interactive term, we also estimate the following model:

$$\begin{aligned}\pi = \alpha + B1 * \text{OWN} + B2 * \text{OWN}^2 \\ + B3 * \text{OWN} * \text{DIV} \\ + B4 * \text{DIV} + \delta * X\end{aligned}\quad (3)$$

In the case of Equation 3, significant ownership effects will exist if $B1 < 0$ and $B2 > 0$ (reflecting the argument above), but the combined effect is positive over a significant range of firms, and/or if $B3 > 0$ (as before).

Our specific hypotheses may now be summarized in terms of Equations 2 and 3. Our general hypotheses suggest that ownership effects will be present in the United States and the United Kingdom, but not in France, Germany, or Canada. The resulting specific hypotheses based on our model are found in Table 2.

DATA AND VARIABLES

Sample selection and data collection

The sample consists of 1030 medium to large-sized publicly traded, private sector (not state-owned) firms (minimum assets, US \$50 million). The sample is drawn from five countries (Canada, France, Germany, the United Kingdom, and the United States), 11 industrial sectors (Automobile (AUTO), Food and Beverage (FOOD), Chemicals (CHEM), Construction (CONS), Electrical (ELEC), Machinery (MACH), Electronic (TRON), Oil and Gas (OIL), Pulp and Paper (PAPR), and Retailing (RETL)) and spans 6 years: 1986–91. U.S. firms make up 60.7 percent of the sample, followed by U.K. firms (12.9%), German firms (9.6%), Canadian firms (8.8%), and French firms (8.0%). Thus the U.S. sample is considerably larger than the others, which are in turn of roughly equal size. The sample was restricted to industries where sufficient representation from each of the five countries was possible.

The large representation of U.S. firms might be attributable to three factors. First, the large absolute size of the U.S. economy means that more firms are likely to meet the U.S. \$50 million cut-off. Second, the rigorous disclosure requirements imposed upon U.S. firms by the SEC means that sufficient financial and ownership data are more likely to be available for those firms. Finally, public (government) sector ownership is more common in Canada, France, Germany, and the United Kingdom than it is in the United States and this study considers only private sector (i.e., not state-owned) firms. As such, the medium to large-sized state-run enterprises that are a more salient feature of Canada, France, Germany, and the United Kingdom than the United States is another contributing factor to the large representation of U.S. firms.

The data source for financial and strategic variables was the *Disclosure-Spectrum-Ownership* (WorldScope-Disclosure, 1991) data base, and this source established the number of observations and the basic sample. However, it does not include ownership data and this had to be collected from other country-specific sources. Canadian ownership data were collected from *The Financial Post Survey of Industrials*; French data from Dun and Bradstreet's *France 30,000*; German data from Commerzbank's *A Guide to Capi-*

Table 2. Summary of specific hypotheses

	OWN	OWN * DIV	OWN2
U.S., U.K.	POSITIVE ($\beta_1 > 0$)	POSITIVE ($\beta_2 > 0$)	
U.S., U.K.	NEGATIVE ($\beta_1 < 0$)	POSITIVE ($\beta_3 > 0$)	POSITIVE ($\beta_2 > 0$)
Germany, France, Canada	ZERO ($\beta_1 = 0$)	ZERO ($\beta_2 = 0$)	
Germany, France, Canada	ZERO ($\beta_1 = 0$)	ZERO ($\beta_3 = 0$)	ZERO ($\beta_2 = 0$)

OWN refers to ownership concentration, DIV to the degree of diversification, and OWN * DIV to their interaction. Entries in the table refer to the expected sign of the estimated coefficients on these terms.

tal Links in German Companies; U.K. data from *The European Companies Handbook* (Price Waterhouse, 1991b); and U.S. data from the *Disclosure-Spectrum-Ownership* (WorldScope-Disclosure, 1991) data base. Ownership data for most firms could only be obtained for 1991.

Variable measurement

Ownership concentration (OWN)

A variety of measures of ownership concentration have appeared in the literature. In this study we measure ownership concentration by the percentage of shares outstanding held by the largest shareholder. The square of OWN is referred to as OWNSQ.

This measure is among the most widely employed in the literature and is the most widely available and accurate measure to obtain across countries, and is easy to interpret. For these reasons we chose it over other measures, both continuous and discrete. Discrete (threshold) measures are not considered because there is no consensus on the appropriate threshold of stock concentration to distinguish between owner and manager-controlled firms (Kaulmann, 1987). The problem of selecting an owner-controlled/manager-controlled threshold is particularly acute when employing a cross-national sample because thresholds are likely to vary across countries. In order to evaluate the comparability of the OWN variable with other ownership measures, two other continuous measures of ownership were calculated (the percentage of shares held in blocks of 5%, or more (Bethel and Liebeskind, 1993; Rediker and Seth, 1995), as well as a Herfindahl index of stock concentration (Demsetz and Lehn, 1985). The OWN measure used here is correlated at $r = 0.84$ ($p < 0.001$) with the 5 percent block measure and also highly correlated at $r = 0.81$ ($p < 0.001$) with the Herfindahl measure. These correlations between alternative continuous measures of ownership are consistent with those reported by Demsetz and Lehn (1985) and more recently by Rediker and Seth (1995), who report a correlation of $r = 0.95$ between the OWN measure used in this study and the 5 percent blockholder measure. These results strongly indicate that alternative continuous measures of ownership are highly correlated.

Because ownership information is available for

1 year only, we take the 1991 level of ownership concentration as the best available estimate for all years. While not ideal, this approach allows pooled cross-sectional analysis over a period that includes periods of both expansion and contraction. There is some evidence that ownership concentration is stable over time, a result which is not unexpected given that significant shareholdings are likely to be sold in blocks, leaving another shareholder with a concentrated ownership stake.⁷

Return on assets (ROA)

ROA is measured as the ratio of net income to total assets. This is the dependent variable in all equations.

Diversification (DIV)

Worldscope lists the 4-digit SIC industries in which the firm operates. It does not list the revenues generated within each industry, but does list them in order of importance. Thus, it is possible to measure diversification by a simple SIC count. This is, however, a somewhat crude measure (Hill and Snell, 1988) and for this reason we measured diversification using the weighting method proposed by Caves (1975) and employed by Caves *et al.* (1980) and Pomfret and Shapiro (1981).

$$DIV = \sum P_i * d_{ij}$$

where i = a firm's primary market segment
 j = a firm's secondary market segment
 d_{ij} = 0 if the firm operates in only one 4-digit industry
 = 1 if j is in the same 3-digit industry as i
 = 2 if j is in the same 2-digit industry as i
 = 3 if i and j are in different 2-digit industries

P_i = a weight imputed to each industry, assumed

⁷ See Morck *et al.* (1988) for both theoretical and empirical support of the idea that ownership concentration is stable over time and Gedajlovic (1993) for evidence that it is stable in Canada over the time period considered in this paper.

to decline geometrically: 1, 2, 4, 8, 16. For example, if a firm operates in two industries, the revenues are assumed to be distributed in a 2:1 ratio, that is a 2/3 weight is attributed to the first SIC code and a 1/3 weight to the second SIC code. If the firm operates in three industries, the weights would be 4/7, 2/7 and 1/7.

The DIV measure is similar to a standard Herfindahl measure of diversification, except that the industry weights are imputed from a geometric series rather than being taken from actual line of business data. This measure does account for the various elements of diversification noted by Palepu (1985) in that it accounts for the number of product market segments in which the firm competes, it factors in the distribution of sales across the segments, and it incorporates a measure of relatedness.⁸ This variable could only be calculated for 1 year, 1991, and is therefore assumed to be constant over the relevant period. The interaction between DIV and OWN is referred to as OWN * DIV.

The following variables constitute additional exogenous variables, previously subsumed under the X-vector in Equations 2 and 3. These variables have been chosen to control for factors other than ownership concentration and diversification which have been found in the literature to affect profitability.

Growth (SALESG)

The growth rate of firms is included to measure demand conditions facing the firm, as well as product cycle effects. Firms in relatively fast-growing markets (and/or in the growth phase of the product cycle) are expected to experience above-average profitability. Inclusion of a growth term has become common in the industrial organization literature, originating with Hall and Weiss (1967) and Shepherd (1972). A more recent example in a related context is provided by Markides (1995: Ch. 8), who finds a positive relationship between profitability and growth. The variable employed is measured in terms of

changes in year-to-year sales, $SALESG = 1 - Sales_t/Sales_{t-1}$.

Firm size (LASSETS)

The size of a firm is included to account for the potential economies of scale and scope accruing to large firms. If present, these would produce a positive relationship between firm size and profitability. This argument also has its roots in the early industrial organization literature (Baumol, 1959; Hall and Weiss, 1967; Shepherd, 1972), and Markides (1995) again provides a more recent example. Firm size is measured by the logarithm of total assets.

Geographic scope (FASSETS)

The degree to which firms operate abroad is included as an exogenous factor and is measured as $FASSETS = (\text{foreign assets/total assets}) * 100$. The literature on the Multinational Enterprise suggests that MNEs, or their subsidiaries, tend to possess firm-specific assets that provide them with performance advantages (Caves, 1996). Thus, it might be expected that firms with significant foreign operations would be more profitable (Jung, 1991; Grant, 1987; Morck and Yeung, 1991).

Industry effects (INDUSTRY)

Industry effects account for the nature of the competitive environment in which a firm operates, for example the number and size dispersion of industry rivals and the rate of growth of the industry. In order to capture these effects, a series of industry indicator variables is created and each firm is allocated to an industry according to the firm's primary activity. Schmalensee (1985), Montgomery and Wernerfelt (1988) and Rumelt (1991) all use indicator variables to capture industry effects.

Temporal effects (YEAR)

A firm's year-to-year performance will be affected by general economic conditions and business cycle conditions. As suggested by Rumelt (1991), the effects of the general business climate are controlled for as an exogenous factor by including a series of five indicator variables, one for each year in the period 1986-90.

⁸ It was possible to calculate the Herfindahl measure of diversification in some cases (553) because revenues were listed by type of business. The correlation coefficient between this measure and DIV is 0.84. The correlation between DIV and a simple count of industries is 0.8.

SPECIFICATION AND ESTIMATION

The models to be estimated are Equations 2 and 3, where π is measured by ROA, OWN and DIV are as defined above, and the X-vector consists of SALESG, FASSETS, LASSETS, as well as dummy variables for industry affiliation (INDUSTRY) and year (YEAR).

The data are pooled over the 6-year period 1986–91. Because the panel is relatively short in years, but broad in terms of the cross-section of firms, heteroscedasticity was deemed an important issue. All estimates are therefore ordinary least squares with heteroscedastic consistent standard errors calculated according to White's method. The indicator variables for each year account for serial correlation.

The model was first estimated by pooling all data from all countries and was then estimated on a country-by-country basis. Chow tests indicated that pooling was not appropriate and so results are presented for each country.

With one exception, we report the same equation for each country. The exception is the OWN term. For each country we ran the model with and without the squared term and test for its inclusion using a standard F -test. The result is that the nonlinear specification was confirmed for the United States, Germany, and France, while the linear (OWN only) was confirmed for the United Kingdom and Canada. The results are reported accordingly.

A variety of alternative specifications involving the inclusion or exclusion of other variables (primarily because of some multicollinearity) were examined, but these do not alter the basic results unless otherwise noted and we therefore report only the most general equation.

RESULTS

Descriptive statistics are found in Table 3. The means indicate that, for our sample, mean size is not very different across countries, nor is the mean level of diversification except for the U.S. sample, which is on average much less diversified. Ownership concentration varies greatly across countries, with the United States and the United Kingdom least concentrated and Germany the most. Average growth rates, average profit rates, and average degree of foreign diversification also differ considerably across countries.

The explanatory power of the regression equations is very similar across countries. There is some multicollinearity between OWN * DIV and DIV or OWN, but deletion of the former does not alter the results in terms of either DIV or OWN. The regression results (excluding those for the industry and year dummy variables) are summarized in Table 4 and we organize our discussion around this table. Full results can be found in Table 5.

The coefficients of primary consequence to this study are those for the ownership concentration terms (OWN and OWNSQ) and for the interaction of diversification and ownership concentration, OWN * DIV. The signs on these terms clearly differ across countries, suggesting that the constraints on managerial discretion do vary in effectiveness across countries. Strong ownership effects are found in the United States, weaker effects in Germany, traces of effects in the United Kingdom, and no effects at all in Canada or France.

Given that there are intercountry differences in the way that ownership concentration affects profitability, can these differences be explained by the systematic cross-national differences in governance structures summarized in Figure 1 and formalized in the specific hypotheses summarized in Table 2? Not completely. These hypotheses suggest that no ownership effects of any kind should be found in Germany, France or Canada (albeit for slightly different reasons). This is certainly true for France and Canada. For these countries the coefficients of OWN and/or OWNSQ are not different from 0 and the coefficient of OWN * DIV is also not different from 0. In Canada and France more concentrated ownership does not enhance profitability either directly or indirectly through its effect on diversification. We interpret this as meaning that neither cost-augmenting nor self-interested strategizing are affected by ownership concentration in Canada or France.

Our hypotheses suggest that ownership effects should be similar in the United States and United Kingdom. This is not quite what we find. For the United States, direct nonlinear ownership effects are found (the OWN coefficient is negative and significant; OWNSQ is positive and significant). For a nondiversified U.S. company (DIV = 0), profitability declines with ownership concentration up to an ownership concentration level of about 43 percent, more than twice the

Table 3. Descriptive statistics means and (standard deviations)

	U.S.	U.K.	Germany	France	Canada
DIV	0.53 (0.49)	0.97 (0.42)	0.92 (0.38)	0.94 (0.45)	0.94 (0.45)
OWN	18.96 (17.25)	21.00 (23.32)	68.48 (30.17)	46.89 (27.34)	48.76 (29.25)
OWNSQ	657.06 (1251.73)	983.98 (2229.95)	5598.12 (3893.53)	2944.07 (2938.32)	3231.74 (3095.79)
OWN * DIV	9.21 (14.79)	19.91 (26.50)	61.80 (40.19)	42.01 (32.31)	47.76 (37.54)
LASSETS	2.61 (0.77)	3.06 (0.65)	2.92 (0.60)	2.59 (0.57)	2.66 (0.57)
SALESG	13.25 (37.32)	6.63 (60.21)	8.20 (22.50)	14.51 (41.86)	13.46 (43.81)
FASSETS	12.68 (17.49)	2.13 (8.64)	0.39 (3.75)	6.03 (13.19)	18.84 (21.31)
ROA	7.92 (8.96)	11.02 (7.58)	5.26 (8.94)	7.62 (8.37)	6.32 (9.35)

Variable definitions: OWN is ownership concentration (share of the largest shareholder); OWNSQ is the square of OWN; DIV is weighted diversification; OWN * DIV is the interaction of OWN and DIV; LASSETS is the natural logarithm of total assets; SALESG is the growth of sales, 1986–91; FASSETS is foreign assets (assets abroad as a percentage of total assets); ROA is return on assets. Details regarding calculations are found in the text.

Table 4. Summary of regression results (dependent variable: ROA)

Variable	U.S.	U.K.	Germany	France	Canada
OWN	–	–(t)	–	0	0
OWNSQ	+	N.A.	+	0	N.A.
OWN * DIV	+	+(t)	+(t)	0	0
DIV	–	–	0	–(t)	0
LASSETS	+	–(t)	–	0	0
SALESG	+	+	+	+	+
FASSETS	–	0	–	+	0

+: coefficient is positive and statistically significant at 95% levels of confidence, two-tailed test; –: coefficient is negative and statistically significant at 95% levels of confidence, two-tailed test; 0: *t*-statistic approximates 0 (i.e. $1 > (t) < -1$), two-tailed test; N.A.: not in the equation; +(t): coefficient is positive and the *t*-statistic exceeds 1; –(t): coefficient is negative and the *t*-statistic exceeds 1.

U.S. mean, after which it becomes positive. For a U.S. company diversified at the mean level (DIV = 0.53), the turning point occurs at an ownership concentration level of about 33 percent, slightly less than twice the concentration mean and approximately one standard deviation above the mean. In the United States, concentrated ownership does not exert a positive marginal effect on profitability unless the firm is either highly concentrated, or highly diversified.

For the United States, direct positive ownership effects exist, but only for a relatively small number of firms. We interpret this as providing some confirmation that cost-augmenting managerial behavior is not rampant in the United States and that for most firms the market-based constraints common to that country are effective.

As we hypothesized, the interaction between diversification and ownership concentration (OWN * DIV) positively affects profitability in the United States. The negative effects of diversification in the United States are eroded by about 0.055 for each unit increase in ownership concentration and are eliminated at an ownership concentration level of about 36 percent. We take this as providing some confirmation that profit-reducing investment activity does take place, as hypothesized. The U.S. evidence is, on balance, consistent with our hypotheses.

Table 5. Regression results: Dependent variable ROA

Predictor	U.S.	U.K.	German	France	Canada
C	5.32***	12.86***	13.47***	8.99***	2.63
Y1	-0.11*	1.99*	0.82	1.64	-2.57**
Y2	0.42	5.76***	0.65	2.00*	-2.25*
Y3	1.00	4.31***	0.47	2.82***	0.82
Y4	0.03	0.75***	0.19	0.53*	-0.004
Y5	-0.95	2.40***	0.28	-0.28	-0.03
AUTO	0.74***	0.94	3.25***	-1.25	3.44**
FOOD	3.84***	2.65***	-2.60	-1.27	3.83**
CHEM	4.64	3.94***	4.13***	-2.10	6.02***
CONS	0.15	2.19**	-0.61	3.46*	4.93***
ELEC	1.28	3.92***	17.71***	-3.88**	4.40**
TRON	2.88***	5.63	1.69	-3.15**	2.14
MACH	1.36*	2.84**	0.89	-4.54**	4.23**
OIL	-2.67***	0.07	0.86	-4.71***	2.76
PAPR	3.40***	1.04	2.67**	-0.85	3.29**
RETL	1.14*	5.40***	1.29	-5.16***	3.18**
DIV	-1.99***	-4.39***	-1.63	-1.55	1.31
OWN	-0.13***	-0.06	-0.24***	-0.005	-0.004
OWN2	0.02***		0.02***	-0.003	
OWN * DIV	0.06**	0.04	0.04*	0.02	0.04
LASSETS	0.81***	-0.88*	-2.05***	-0.52	-0.45
SALESG	0.08***	0.04***	0.05*	0.08***	0.10***
FASSETS	-0.02**	-0.01	-0.62***	0.07***	-0.02
Adjusted R^2	0.20	0.22	0.23	0.25	0.26
F	27.65***	10.23***	8.61***	7.12***	9.12***

Standard errors shown are heteroscedastic-consistent estimates using White's method.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

C is the constant; Y1–Y5 are dummy variables for each year, 1986–90; AUTO–RETL are industry dummy variables; the other variables are as defined in Table 3 and the text.

The United Kingdom was hypothesized to be comparable to the United States. That is not the case. No nonlinear relationship between ownership concentration and profitability was found in the United Kingdom, and the coefficient on the OWN term is negative, but not significant. However, the coefficient on the interactive term, while positive, is not statistically significant and this is not consistent with our hypotheses. However, when the size term (LASSETS) is removed from the U.K. equation, the OWN * DIV coefficient remains positive, and the t -statistic rises to 1.76, nearly significant at conventional levels on a two-tailed test.⁹

If any country approximates the U.S. results it is Germany. In that country, direct ownership effects are nonlinear and both the OWN and

OWNSQ coefficients are significant (negative and positive respectively). The point at which ownership concentration exerts a positive effect for a nondiversified firm is at OWN = 70 percent, roughly the German mean. Thus, relatively more German firms are likely to lie in the positive range than would be the case in the United States. The OWN * DIV coefficient is positive with a t -statistic of 1.77, which would make it statistically significant at between 90 percent and 95 percent confidence levels (two-tailed test). This is clearly contrary to our hypothesis. However, it should be noted that no negative diversification effects are found in Germany, so that it is not clear what the interaction term actually implies. If the size term (LASSETS) is deleted, then DIV becomes significant and negative and OWN * DIV becomes significant and positive, again contrary to our expectations.

At the most general level, it is evident that the results do differ from country to country. The only variable whose coefficient is both of the

⁹ In this instance we might be entitled to a one-tailed test, since the hypothesis is clearly that OWN * DIV is positive. However, since we cannot be so unambiguous in all cases, we have chosen to use two-tailed tests throughout.

same sign and is statistically significant across countries is the firm's growth of sales (SALESG). Firms which grow faster are on average more profitable in all countries. Even so, the value of the coefficients varies considerably so that impact of growth on profitability differs across countries. Beyond this, there is very little in common across equations. Greater foreign diversification reduces profitability in the United States and Germany, enhances it in France, and has no impact in Canada or the United Kingdom. Larger size is advantageous in the United States but not in Germany, and has no impact in the other countries. Greater diversification reduces profitability in the United States and the United Kingdom, but has no impact on profitability in Canada, France, or Germany.

DISCUSSION AND CONCLUSIONS

Despite the integration of national economies and product, capital, and factor markets, countries differ markedly in terms of the institutional arrangements regarding corporate governance. The results reported in the previous section offer some confirmation of the importance of national context on corporate governance relationships. Our results do suggest that country effects exist in the ownership concentration-profitability relationship. Institutional differences across countries matter, but in ways that we have not been able to identify in a completely satisfactory manner.

The fact that the signs of most of the control variables entered into the regression equations reported in Table 4 differ markedly across countries offers an indication that institutional contexts may play a role in moderating important strategy-performance relationships as well. Of particular note are the collateral findings associated with the diversification-performance relationship.

Consistent with a very large body of literature with its genesis in the work of Rumelt (1974), we find a negative relationship between diversification and performance in the United States. Similarly, we find a negative relationship between diversification and performance in the United Kingdom. On the other hand, results for France, Germany, and Canada indicate that the negative relationship between diversification and performance does not generalize to the experience of

firms operating in other industrialized countries. That is, we find no significant relationship between diversification and performance in France, Germany, or Canada.

Unfortunately, while the results reported here offer an indication that institutional context matters, they are less revealing of the microprocesses that underlie the observed differences. The methodological approach employed here was designed to shed light on these microprocesses by linking agency theory with the literature on comparative corporate governance. In distinguishing between two distinct sources of agency costs, managerial cost augmentation and self-interested strategizing, we also derived a new equation for estimating the profitability-ownership concentration equation.

This approach did result in a confirmation of our hypotheses concerning U.S. firms. That is, we found that among firms operating in the U.S. institutional context diversification did indeed result in profit reductions when ownership concentration was low. Specifically, we found that the ownership concentration-diversification interaction term is significant and positively related to performance. In contrast, direct ownership concentration effects are positive and significant, but are only present in firms with very high levels of ownership concentration. The results indicate that excessive diversification is a much more serious source of agency costs than generalized managerial cost padding (Williamson, 1964; Jensen and Meckling, 1976) in the United States. The largely external constraints on managerial discretion in the United States appear better suited towards curbing cost padding than self-interested strategizing.

In the United Kingdom, like the United States, managers are confronted with significant external and market-based constraints. However, unlike the United States, we could not find any ownership effects, implying that the internal constraints facing the U.K. manager are more effective at resolving agency problems than we had hypothesized. One possible explanation is that, like their continental counterparts, U.K. managers may face relatively strong internal constraints. Indeed, the higher levels of ownership concentration we found in U.K. firms relative to U.S. firms (Table 3) suggests that U.K. managers may face stronger internal constraints than their U.S. counterparts. Also, U.K. managers may face additional con-

straints from their Boards since U.K. directors are legally required to represent the interests of employees as well as shareholders (Clark, 1985). In this regard, the constraints facing U.K. managers may be similar to those of Canadian managers who face both strong external and strong internal constraints.

As predicted, we find that ownership concentration is unrelated to either cost padding, or self-interested strategizing in both France, where managers face strong internal constraints, and in Canada where managers face both formidable internal and external constraints.

The most puzzling set of findings reported here relate to German firms. *Ex ante*, it was expected that the strong internal constraints that characterize the German institutional context would render ownership concentration redundant in terms of limiting managerial discretion. Contrary to expectations, we find that in Germany ownership concentration does in fact limit both managerial cost padding and the negative consequences of excessive diversification. This may indicate that the German corporate governance landscape shares more in common with the U.S. context than is commonly believed, or understood. In particular, it might suggest that the role of German banks may be less important than many have thought. This result would be consistent with the views of Edwards and Fischer (1994), who also argue that the role of German banks has been exaggerated.

The results of this study indicate the need for further cross-national studies of strategy and corporate governance. On the one hand, the results do suggest that institutional context is a strong moderator of corporate governance and strategic behavior. On the other hand, the country-specific hypotheses developed earlier received only mixed support. As such, the most salient conclusion which may be drawn from this study is that institutional context matters, but that much more research directed at identifying the microprocesses that underlie these institutional differences is warranted and needed.

There are a number of possible reasons for our inability to identify the causes of the differences in the profitability–ownership concentration relationship across countries. For one thing, that relationship may be sensitive to factors other than the constraints we have identified. That is, there may be missing explanatory variables in each

equation. Similarly, the results may be sensitive to our choice of performance indicator (ROA). Although separate equations have been estimated for each country, thus minimizing the effects of cross-national differences in accounting methods, it is still possible that the results for a specific country are sensitive to the choice. In general, further investigation of specification and measurement issues is warranted.

The findings reported here offer a number of important implications for managers and public policy makers.

It may be the case that the common distinction between the Anglo-Saxon and Continental European countries is simply too broad to capture the effects on firm performance. Indeed our results might suggest that this typology is too general and that there is more cross-national variation in corporate governance structures than the typology indicates. This would in turn suggest some caution in attempts to harmonize national systems of corporate governance using one or the other 'philosophy' as a guide. We would therefore agree with Michael Porter, who argues that public policy makers should adopt a conservative approach to harmonization.¹⁰

From a managerial perspective, the results indicate that caution must be exercised in interpreting and generalizing results across national boundaries. Given the ongoing globalization of markets, it is vital that both public policy makers and business people who must operate in multiple national contexts know the extent to which business and economic relationships found in the United States are generalizable to other national contexts. Indeed, this study's core findings indicate that significant differences exist across countries in terms of the relationship between ownership concentration and firm performance. As such, it appears that the nature of constraints facing managers varies across institutional contexts. This implies that managerial discretion is driven by particular institutional features of a nation's institutional context. It might also imply that managerial discretion reflects a variety of institutional factors other than ownership concentration. Indeed, recent research on managerial discretion indicates that it is multidimensional in nature and reflects environment, organizational, and individ-

¹⁰ Porter's views are expressed in his comments to Fukao (1995: 92–95).

ual level factors (Hambrick and Finkelstein, 1987; Finkelstein, 1992). Further cross-national research exploring the impact of the institutional environment on the many factors that shape managerial discretion appears to be in order.

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REFERENCES

- Alchian, A. A. and H. Demsetz (1972). 'Production, information costs and economic organization', *American Economic Review*, **62**, pp. 777-795.
- Amihud, Y. and B. Lev (1981). 'Risk reduction as a managerial motive for conglomerate mergers', *Bell Journal of Economics*, **12**, pp. 605-617.
- Baumol, W. J. (1959). *Business Behavior, Value and Growth*. Wiley, New York.
- Baysinger, B. B. and R. E. Hoskisson (1990). 'The composition of boards of directors and strategic control: Effects on corporate strategy', *Academy of Management Review*, **15**, pp. 72-87.
- Baysinger, B. B., R. D. Kosnik and T. A. Turk (1991). 'Effects of board and ownership structure on corporate R&D strategy', *Academy of Management Journal*, **34**, pp. 205-214.
- Bentson, G. (1985). 'The self-serving management hypothesis: Some Evidence', *Journal of Accounting and Economics*, **7**, pp. 67-84.
- Berle, A. A. and C. G. Means (1932). *The Modern Corporation and Private Property*. Commerce Clearing House, New York.
- Besanko, D., D. Dranove and M. Shanley (1996). *Economics of Strategy*. Wiley, New York.
- Bethel, J. E. and J. Liebeskind (1993). 'The effects of ownership structure on corporate restructuring', *Strategic Management Journal*, Summer Special Issue, **14**, pp. 15-31.
- Bishop, M. (1994). 'Corporate governance', *The Economist*, 29 January (Survey), pp. 1-18.
- Caves, R. E. (1996). *Multinational Enterprise and Economic Analysis* (2nd edn.). Cambridge University Press, Cambridge, MA.
- Caves, R. E. (1975). *Diversification, Foreign Investment and Scale in North American Manufacturing Industries*. Economic Council of Canada, Ottawa.
- Caves, R. E., M. E. Porter and A. M. Spence (1980). *Competition in the Open Economy*. Harvard University Press, Cambridge, MA.
- Charkham, J. P. (1994). *Keeping Good Company: A Study of Corporate Governance in Five Countries*. Oxford University Press, New York.
- Clark, R. C. (1985). 'Agency costs versus fiduciary duties'. In J. W. Pratt and R. J. Zeckhauser (eds.), *Principals and Agents: The Structure of Business*. Harvard Business School Press, Boston, MA, pp. 55-80.
- Commerzbank (1991). *A Guide to Capital Links in German Companies*. Commerzbank AG, Frankfurt.
- Daniels, R. J. and R. Morck (1995). *Corporate Decision-making in Canada*. University of Calgary Press, Calgary.
- Demsetz, H. and K. Lehn (1985). 'The structure of corporate ownership', *Journal of Political Economy*, **93**, pp. 1155-1177.
- Dunn and Bradstreet (1991). *Dunn and Bradstreet's France 30 000*. Dunn and Bradstreet, Paris.
- Edwards, J. and K. Fischer (1994). *Banks, Finance and Investment in Germany*. Cambridge University Press, Cambridge, MA.
- Eisenhardt, K. (1989). 'Agency theory: An assessment and review', *Academy of Management Review*, **14**, pp. 57-74.
- Estrin, S. and V. Perotin (1991). 'Does ownership always matter?', *International Journal Industrial Organization*, **9**, pp. 55-72.
- Euromoney (1990). *The European Company Handbook*. Euromoney, London.
- Fama, E. F. and M. C. Jensen (1983). 'The separation of ownership and control', *Journal of Law and Economics*, **26**, pp. 301-328.
- Financial Post (1991). *The Financial Post Survey of Industrials 1991*. Financial Post, Toronto.
- Finkelstein, S. (1992). 'Power in top management teams: Dimensions, measurement and validation', *Academy of Management Journal*, **35**, pp. 505-538.
- Finkelstein, S. and R. A. D'Aveni (1994). 'CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command', *Academy of Management Journal*, **37**(5), pp. 1079-1108.
- Fukao, M. (1995). *Financial Integration, Corporate Governance, and the Performance of Multinational Companies*. The Brookings Institution, Washington, DC.
- Gedajlovic, E. (1993). 'A cross-national study of corporate governance, strategy and performance', unpublished doctoral dissertation, Concordia University, Montreal, Quebec, Canada.
- Geertz, C. (1973). *The Interpretation of Cultures*. Basic Books, New York.
- Grabowski, H. G. and D. C. Mueller (1972). 'Managerial and stockholder welfare models of firm expenditures', *Review of Economics and Statistics*, **54**, pp. 9-24.
- Grant, R. M. (1987). 'Multinationality and performance among British manufacturing companies', *Journal of International Business Studies*, **18**(3), pp. 79-89.
- Hall, M. and L. Weiss (1967). 'Firm size and profitability', *Review of Economics and Statistics*, **49**(5), pp. 319-331.
- Hambrick, D. C. and S. Finkelstein (1987). 'Managerial discretion: A bridge between polar views on organi-

- zations'. In L. L. Cummings and B. M. Staw (eds.), *Research in Organizational Behavior*, Vol. 9. JAI Press, Greenwich, CT, pp. 369–406.
- Hamilton, G. G. and N. W. Biggart (1988). 'Market, culture and authority: A comparative analysis of management and organization in the far east', *American Journal of Sociology*, **94**, pp. S52–S94.
- Hansen, G. S. and C. W. L. Hill (1991). 'Are institutional investors myopic? A time series study of four technology-driven industries', *Strategic Management Journal*, **12**(1), pp. 1–16.
- Herman, E. S. (1981). *Corporate Control, Corporate Power*. University of Cambridge Press, New York.
- Hill, C. W. L. and S. A. Snell (1988). 'Effects of ownership structure and control on corporate productivity', *Academy of Management Journal*, **32**, pp. 25–46.
- Hunt, H. G. (1986). 'The separation of ownership and control: Theory evidence and implications', *Journal of Accounting Literature*, **5**, pp. 85–124.
- Jenkinson, T. and C. Mayer (1992). 'The assessment: Corporate governance and corporate control', *Oxford Review of Economic Policy*, **8**(3), pp. 1–10.
- Jensen, M. C. (1988). 'Takeovers, their causes and consequences', *Journal of Economic Perspectives*, **2**, pp. 21–48.
- Jensen, M. C. (1989). 'Eclipse of the public corporation', *Harvard Business Review*, **67**(5), pp. 67–74.
- Jensen, M. C. and W. H. Meckling (1976). 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of Financial Economics*, **3**, pp. 305–360.
- Jung, Y. (1991). 'Multinationality and profitability', *Journal of Business Research*, **23**(2), pp. 179–187.
- Kaulmann, T. (1987). 'Managerialism versus the property rights theory of the firm'. In G. Bamberg and K. Spreman (eds.), *Agency Theory, Information and Incentives*. Springer, Berlin, pp. 439–459.
- Kesner, I. (1987). 'Directors' stock ownership and organizational performance: An investigation of Fortune 500 companies', *Journal of Management*, **13**, pp. 499–507.
- Khemani, R. S. (1988). 'The dimensions of corporate concentration in Canada'. In R. S. Khemani, D. M. Shapiro and W. T. Stanbury (eds.), *Mergers, Corporate Concentration and Power in Canada*. Institute for Research on Public Policy, Halifax, pp. 17–38.
- Khemani, R. S. and D. M. Shapiro (1994). 'The administration of Canadian Merger Policy, 1986–1989', *The Antitrust Bulletin*, **XXXIX**(3), pp. 771–795.
- Li, J. (1994). 'Ownership structure and board composition: A multi-country test of agency theory predictions', *Managerial and Decision Economic*, **15**, pp. 359–368.
- Markides, C. C. (1995). *Diversification, Refocusing and Economic Performance*. MIT Press, Cambridge, MA.
- Marris, R. (1964). *The Economic Theory of Managerial Capitalism*. Macmillan, London.
- Milgrom, P. and J. Roberts (1992). *Economics, Organization, and Management*. Prentice-Hall, Englewood Cliffs, NJ.
- Montgomery, C. A. and B. Wernerfelt (1988). 'Diversification, Ricardian rents, and Tobin's *q*', *Rand Journal of Economics*, **19**, pp. 623–632.
- Montgomery, C. A. and V. A. Wilson (1986). 'Mergers that last: A Predictable Pattern', *Strategic Management Journal*, **7**(1), pp. 91–96.
- Morck, R., A. Shleifer and R. W. Vishny (1988). 'Management ownership and market evaluation: An empirical analysis', *Journal of Financial Economics*, **20**, pp. 293–315.
- Morck, R. and B. Yeung (1991). 'Why investors value multinationality', *Journal of Business*, **64**, pp. 165–187.
- Murphy, K. (1985). 'Corporate performance and executive remuneration', *Journal of Accounting and Economics*, **7**, pp. 11–42.
- Nickell, S. (1995). *The Performance of Companies*. Blackwell, London.
- Oviatt, B. (1988). 'Agency theory and transaction costs perspectives on the manager–shareholder relationship', *Academy of Management Review*, **13**, pp. 214–225.
- Palepu, K. (1985). 'Diversification strategy, profit performance and the entropy measure', *Strategic Management Journal*, **6**(3), pp. 239–255.
- Pomfret, R. and D. Shapiro (1981). 'Firm size, diversification, and profitability of large corporations in Canada', *Journal of Economic Studies*, **7**(3), pp. 140–150.
- Porter, M. E. (1987). 'From competitive advantage to corporate strategy', *Harvard Business Review*, **65**(3), pp. 43–59.
- Porter, M. E. (1990). *The Competitive Advantage of Nations*. Free Press, New York.
- Porter, M. E. (1992). 'Capital disadvantage: America's failing capital investment system', *Harvard Business Review*, **70**(5), pp. 65–82.
- Price Waterhouse (1988). *Doing Business in Germany*. Price Waterhouse, London.
- Price Waterhouse (1989a). *Doing Business in Canada*. Price Waterhouse, London.
- Price Waterhouse (1989b). *Doing Business in France*. Price Waterhouse, London.
- Price Waterhouse (1990). *Doing Business in the United States*. Price Waterhouse, London.
- Price Waterhouse (1991a). *Doing Business in the United Kingdom*. Price Waterhouse, London.
- Price Waterhouse (1991b). *The Price Waterhouse European Companies Handbook*. Analysis Corporation, London.
- Rao, P. S. and C. R. Lee-Sing (1996). 'Governance structure, corporate decision-making and firm performance in North America', *Industry Canada Working Paper Number 7*.
- Rediker, K. J. and A. Seth (1995). 'Board of directors and substitution effects of alternative governance mechanisms', *Strategic Management Journal*, **16**(2), pp. 85–99.
- Roe, M. (1993). 'Some differences in corporate structure in Germany, Japan and the United States', *Yale Law Journal*, **102**(8), pp. 1927–1947.
- Roe, M. (1994). *Strong Managers, Weak Owners*. Princeton University Press, Princeton, NJ.

- Rumelt, R. P. (1974). *Strategy, Structure and Economic Performance*. Harvard University Press, Boston, MA.
- Rumelt, R. P. (1991). 'How much does industry matter?', *Strategic Management Journal*, **12**(3), pp. 167-185.
- Rybczynski, T. M. (1986). *The Internationalization of the Financial System*. World Bank, Washington, DC.
- Salancik, G. R. and J. Pfeffer (1980). 'Effects of ownership and performance on executive tenure in U.S. corporations', *Academy of Management Journal*, **23**, pp. 653-664.
- Schmalensee, R. (1985). 'Do markets differ much?', *American Economic Review*, **75**, pp. 341-351.
- Schneider-Lenne, E. R. (1992). 'Corporate control in Germany', *Oxford Review of Economic Policy*, **8** (Autumn), pp. 11-23.
- Shapiro, D. M., W. A. Sims and G. Hughes (1984). 'The efficiency implications of earnings retentions: An extension', *Review of Economics and Statistics*, **66**, pp. 327-331.
- Shepherd, W. G. (1972). 'The elements of market structure', *Review of Economics and Statistics* **54**(1), pp. 25-37.
- Short, H. (1994). 'Ownership, control, financial structure and the performance of firms', *Journal of Economic Surveys*, **8**(3), pp. 203-250.
- The Economist* (1 February 1992). 'Bosses' pay: Worthy of his hire?', pp. 19-22.
- The Economist* (21 January 1995). 'Those German banks and their industrial treasures', pp. 71-77.
- The Economist* (2 December 1995). 'Investor types', p. 107.
- The Economist* (10 February 1996). 'Stakeholder capitalism', pp. 23-25.
- Tosi, H. L. and L. R. Gomez-Mejia (1989). 'The decoupling of C.E.O. pay and performance: An agency theory perspective', *Administrative Science Quarterly*, **39**, pp. 169-189.
- Vining, A. R. and A. E. Boardman (1992). 'Ownership versus competition: Efficiency in public enterprise', *Public Choice*, **73**, pp. 205-239.
- Walsh, J. P. and J. K. Seward (1990). 'On the efficiency of internal and external corporate control mechanisms', *Academy of Management Review*, **15**(3), pp. 421-458.
- Williamson, O. E. (1964). *The Economics of Discretionary Behavior: Managerial Objectives in a Theory of the Firm*. Prentice-Hall, Englewood Cliffs, NJ.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. Free Press, New York.
- WorldScope-Disclosure (1991). *Industrial Company Profiles*. Disclosure Press, Bethesda, MD.