

**How National Systems Differ in Their Constraints on Corporate Executives:
A Study of CEO Effects in Three Countries**

Craig Crossland

Donald C. Hambrick

The Pennsylvania State University
439 Business Building
University Park, PA 16802
(814) 863-0597
craigcrossland@psu.edu
dhambrick@psu.edu

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ABSTRACT

Do CEOs matter more in some countries than in others? Based on a theoretical consideration of three fundamental national-level institutions – national values, prevailing firm ownership structures, and board governance arrangements – we argue that CEOs in different countries face systematically different degrees of constraint on their latitudes of action, and hence they differ in how much effect they have on firm performance. To test these ideas, we apply a variance components analysis methodology to 15-year matched samples of 100 U.S. firms, 100 German firms, and 100 Japanese firms. Results provide strong, robust evidence that the effect of CEOs on firm performance – for good and for ill – is substantially greater in U.S. firms than in German and Japanese firms.

The question of whether managers have much impact on organizational outcomes is centrally important to a wide array of research agendas, including studies of executive compensation (Rajagopalan and Finkelstein, 1992), agency theory (Fama and Jensen, 1983), executive attributions (Meindl, Ehrlich, and Dukerich, 1985), and strategic decision processes (Bourgeois and Eisenhardt, 1988). Accordingly, a body of scholarship has been devoted to the question of whether, and under what circumstances, top executives – particularly chief executive officers (CEOs) – matter in affecting corporate performance (Hambrick and Finkelstein, 1987; Lieberman and O'Connor, 1972; Peterson, Smith, Martorana, and Owens, 2003). Such research has particularly identified how industry factors, agency conditions, the size of the firm, and CEO personality affect the degree to which CEOs can matter – and statistically do matter.

Missing from all this research, however, has been any attention to the idea that executive leeway also emanates from the “macro-environment,” or the broad social and economic system within which CEOs operate. Some macro-environments, or national systems, may allow CEOs of publicly-held corporations considerably more latitude of action, than do other national systems. In that vein, abundant anecdotal evidence suggests that America’s corporate leaders, compared to executives in other countries, are seen as mattering a great deal. They are the objects of celebrity and vilification (Hayward, Rindova, and Pollock, 2004), seemingly beyond what occurs in other countries. And they are paid far more, especially in incentive compensation, than their peers in other advanced economies (Conyon and Murphy, 2000).

Numerous reasons might be put forward to explain the extreme attention to, or “romanticization” of, American CEOs (Meindl et al., 1985), including the possibility of “America’s infatuation with celebrities” (Hayward et al., 2004: 647). But a more concrete, structural reason might exist as well: CEOs of American corporations may actually matter more,

or have more effect on corporate outcomes, than do CEOs in other countries. It can reasonably be argued that CEOs in the United States have fewer constraints on their actions (Hambrick and Finkelstein, 1987) than do their peers elsewhere. An array of interconnected factors – including national values of individualism and tolerance for uncertainty, a prevailing ownership structure of widely dispersed, well-diversified shareholders who seek share price maximization while having little concern for firm failure, and governance arrangements that tend to give CEOs great power – all align to provide the CEOs of American firms relatively greater latitude of action. Compared to CEOs in other countries, American CEOs have considerable discretion to add and drop product lines, reallocate strategic resources, open and close facilities, hire and fire employees, and reorganize – thus allowing them to more readily put their distinctive marks on the performance of their firms. This is not to say that American CEOs are more talented, or perform better, than CEOs elsewhere, but rather that they simply have a bigger impact – for good and for ill – than their CEO counterparts in other advanced economies. This is the essential idea we explore in this paper, in a comprehensive test of the effect of CEOs on corporate performance in three national settings: the United States, Germany, and Japan.

We will not be asserting that all American CEOs face uniformly few constraints on their actions, or that all CEOs in other countries face identically strict limits. Rather, we will use prior literature to argue that there are pronounced, prevailing differences in the conditions constraining executives in different countries, while recognizing that these differences are not uniform or total. In this vein, we continue a tradition in the organizational sciences of using contextual categories as representations of underlying, more specific attributes that are known to differ generally – but not totally – across the categories (e.g., Finkelstein and Hambrick, 1990; Lawrence and Lorsch, 1967; Rumelt, 1974).

The examination of whether CEOs have much impact on organizational outcomes has been explored from various vantages over the past 30 years, but two main research thrusts provide important backdrops. Lieberman and O'Connor (1972) prompted a series of studies addressing the basic question of whether managers matter. Based on a sample of 167 U.S. corporations over a 20-year period, the authors found that after statistically accounting for the context within which CEOs operate – year, industry, and company – the effects of individual CEOs on firm performance (based on a variance components analysis) were relatively modest. Although the statistical magnitude of CEO effect differed somewhat across performance metrics, this study generally has been interpreted as demonstrating that “factors outside the control of any single individual drive organizational performance” (Podolny, Khurana, and Hill-Popper, 2005: 2). Lieberman and O'Connor's own interpretation of their results was somewhat more equivocal, as when they said, “The leadership effect on company performance does matter.” (1972: 123). Later studies adopted Lieberman and O'Connor's basic variance components analysis (VCA) methodology, while experimenting with varying types of samples and econometric refinements, all in an attempt to assess the degree to which managers affect organizational outcomes (e.g., Salancik and Pfeffer, 1977; Thomas, 1988; Weiner and Mahoney, 1981).

A second stream of research has attempted to move the question away from *whether* managers matter generally, to a consideration of *when* managers matter the most (and the least). Hambrick and Finkelstein (1987) introduced the concept of managerial discretion, defined as latitude of action, as a way to reconcile polar views about managerial effects. The authors argued that sometimes managers matter a great deal, sometimes not at all, and often somewhere in between, depending on how much discretion they possess. Among the environmental factors affecting discretion, Hambrick and Finkelstein identified a set of industry characteristics, including degree of

regulation and product differentiability, which have been used in later studies to gauge the amount of discretion conferred by the environment (e.g., Hambrick and Abrahamson, 1995; Rajagopalan and Finkelstein, 1992). But, again, the important idea that CEO discretion is a function of macro-environmental factors, such as the national setting, has not been considered.

In the next section, we review prior research on how executive leadership affects organizational outcomes. We then develop our theoretical argument, proposing that an integrated set of conditions in the United States – including national values, prevailing corporate ownership profiles, and governance arrangements – all align to confer less constraint on CEOs of American firms than exists in two other major economic systems: Germany and Japan. We then hypothesize that these differences in macro-environmental constraint will be manifested in a larger “CEO effect” (à la Lieberman and O’Connor, 1972) on the performance of U.S. firms than of Japanese or German firms. Next, we present our empirical project, which is based on industry- and size-matched samples of 100 U.S. firms, 100 Japanese firms, and 100 German firms over the 15-year period, 1988-2002. Using two complementary VCA techniques, and examining four different performance indicators, we find consistent evidence of a larger CEO effect in the U.S. than in Germany or Japan. We then conduct supplementary analyses to shed additional light on our findings, and we conclude with a discussion of the results, implications for theory and practical affairs, and ideas for future research.

The choice of studying executive effects in the U.S., Germany, and Japan is based upon three factors. First, these three countries had the largest economies in the world during the study period (Barfield, Heiduk, and Welfens, 2003); therefore, they are of great consequence on the world stage. Second, and relatedly, the scale of these three countries’ economies meant that they were subject to pressures of global integration and homogenization (Artis, Kontolemis, and

Osborn, 1997), thus putting our theory to a relatively stringent test. If significant differences in CEO effects can be found in these three globally-central settings, then such differences can be expected to be even more pronounced between more economically peripheral settings. Third, considerable research has been dedicated to documenting and understanding the economic and social systems of the three countries in this study, providing a reliable foundation on which to investigate CEO constraint in the three contexts.

PRIOR RESEARCH ON EXECUTIVE EFFECTS

Two Polar Views

Do CEOs matter? One view, the “strategic choice” perspective, argues that an organization’s characteristics – its strategy, structure, processes, and in turn performance – are greatly subject to the influence of powerful human agents, particularly its top executives (Andrews, 1971; Child, 1972). A substantial stream of research has flowed from the premise that managers, including CEOs, are of consequence to their organizations (Gupta and Govindarajan, 1984; Miller and Droge, 1986; Zajac, 1990).

On the other side are theorists who assert that executives are greatly constrained by environmental forces, by their organizations’ own histories and cultures, and by the requirement to adopt socially-legitimized strategies and structures (DiMaggio and Powell, 1983; Fligstein, 1987; Hannan and Freeman, 1977). According to this view, executives may try to create the illusion that they are making bold choices; but, because they are greatly hemmed-in by a web of external and internal constraints, leaders are in fact sharply limited in what they can do.

The Variance Components Analysis Studies

Several studies have sought to directly address how much effect executives have on corporate performance. The first, and the model for others, including ours, was Lieberman and

O'Connor's (1972) widely-noted study of 167 U.S. firms over a 20-year period. The authors used a VCA methodology, in which they first calculated the total variance in each of their three performance variables – sales, profit, and profit margin (profit/sales) – over the entire set of 3340 firm-years. Then they extracted, or partitioned, the variance attributable to three contextual factors – year, industry, and company; next they extracted the variance attributable to the CEOs; and, finally, any remaining variance was considered unexplained. As an example, they found that 2% of variance in profit margin was due to year, 28% to industry, 23% to company, and 15% to CEO – leaving 32% unexplained. Subsequent studies also employed a VCA methodology, finding that between about 5% and 20% of variance in profit margins, for instance, was due to CEO effects (Bertrand and Schoar, 2003; Thomas, 1988; Weiner, 1978; Weiner and Mahoney, 1981).

Before proceeding, it is useful to define and elaborate on the term “CEO effect.” In this stream of research, and in our paper, a CEO effect within a particular sample is *the proportion of variance in a firm-level outcome variable that is statistically associated with, or can be attributed to, the presence of individual CEOs in the sample*. The term “effects” -- as in year effects, industry effects, and firm effects -- is commonly used in VCA research (e.g. Brush and Bromiley, 1997; Rumelt, 1991; Schmalensee, 1985). We will describe the statistical aspects of VCA in our methodology section, but a qualitative portrayal will be helpful at this point. Consider a data set that reports the annual return on assets (ROA) for each of 100 firms (20 firms from each of five industries) over 15 years. This 1500-cell matrix has a grand mean of \bar{x} and a grand variance of s^2 . Some of the variance can be explained by contextual conditions. For example, each calendar year may explain some variance, as a reflection of macro-economic conditions. Industry membership will explain more variance, as some industries are systemically

more (or less) profitable than others. And there will be some “firm effects,” as a reflection of persistent differences in resource endowments, scale, and other relatively stable attributes of the individual companies in the sample. Thus, knowing the year, industry, and company associated with all the data points probably allows us to explain considerable variance in performance.

The question then arises as to whether additional variance is traceable to the CEOs who are in place for each firm-year. Each firm-year, then, is assigned to the CEO in place that year, akin to (but not technically the same as) creating a dummy variable for each CEO in the sample. A “CEO effect” will be observed to the extent that individual CEOs have distinctive and persistent patterns of performance during their tenures. Namely, for CEOs to “matter” in a statistical sense, they must deliver performance that diverges from what contextual conditions would predict, and this divergent performance must show a persistent pattern (a hallmark tendency) for each CEO throughout his/her tenure. Thus, each CEO’s entire tenure is assessed to determine his/her distinctive performance tendency, which in turn is used to explain variance in the full sample of firm-years.

Unlike studies that examine the relationships between specific CEO characteristics (such as personality, functional background, or age) and organizational outcomes, the VCA studies identify the overall effect of discrete CEOs on organizational outcomes (typically performance). If CEOs are interchangeable, completely imitative, or highly constrained in their actions, then the CEO effect in a VCA study will be correspondingly low. If, on the other hand, CEOs vary widely and are allowed to pursue distinctive and radical strategies, which in turn allows individual CEOs to put their distinctive marks on the performance of their firms, then the CEO effect will be greater.

Contextual Conditions Moderate Executive Effects

In contrast to those studies that have examined the overall degree to which CEOs matter to corporate outcomes, others have followed the logic of Hambrick and Finkelstein (1987) by addressing the contextual conditions that enhance (or restrict) executive effects. Some of these investigations have examined how organizational factors serve to shape, or moderate, the degree to which executives matter to corporate outcomes. For instance, Miller, Kets de Vries, and Toulouse (1982) showed that CEO locus of control was more strongly associated with organizational strategy and structure in small firms than in large firms.

Other studies have examined how industry characteristics moderate the effects of top executives. For example, Finkelstein and Hambrick (1990) used industry characteristics to identify high-, medium-, and low-discretion industries; they found, as hypothesized, that executive demography was more strongly associated with strategic outcomes in high-discretion than in low-discretion settings. Research has also shown that CEOs operating in high-discretion settings tend to receive higher salaries and a greater proportion of incentive-based compensation than those operating in low-discretion settings (Finkelstein and Boyd, 1998). However, in the several works that have examined how environmental factors constrain executives (e.g., Halebian and Finkelstein, 1993; Hambrick, Geletkanycz, and Fredrickson, 1993), environment has always been equated with industry. There has been no consideration of the role of higher-order, macro-environmental forces on managerial constraint (or its obverse, latitude of action). As such, there has been no attention to the important question of whether managers matter more in some macro-environments than in others.

HOW EXECUTIVE EFFECTS DIFFER UNDER THREE NATIONAL SYSTEMS

We introduce the term *national system* to collectively describe the complex milieu of inter-related social and economic factors, or institutions, that characterize the nation-state within

which a firm is principally located, or headquartered. Examples of such factors are national values, corporate governance practices, legal systems, and government regulations. We will argue that national systems greatly shape the decision making scope available to CEOs of public companies.

A wealth of research, primarily in anthropology (e.g., Levinson and Malone, 1980) and economic sociology (e.g., Hall and Soskice, 2001; Whitley, 1999), has verified that people's perceptions, preferences, and behaviors differ systematically between societies, including between nations. In the organization sciences, researchers have similarly confirmed, for example, that national differences exist in perceptions of effective leadership (House, Hanges, Javidan, Dorfman, and Gupta, 2004) and organizational practices (Adler and Jelinek, 1986; Triandis, 1994; see Aguinis and Henle, 2003, for a review). According to North's (1990) widely-noted framework, a combination of informal and formal institutions in a country guide individuals and organizations in dealing with uncertainty, deciphering the environment, and taking appropriate actions. Informal institutions consist of those unwritten, yet still influential, societal fundamentals such as norms, conventions, and values. Formal institutions, which are typically concrete manifestations of the nation's informal institutions, consist of political rules and procedures, economic rules and procedures, and other explicit constraints on behavior.

In this paper, it is not possible to consider every element of national systems that might affect how much impact executives have on corporate performance. Instead, we will describe in some detail how three distinct, but interrelated institutions – encompassing both the informal and formal – differ across the countries we are examining, and how these differences can be expected to affect the degree of leeway, or discretion, that corporate executives possess. The three institutions we will consider are national values, corporate ownership structures, and board

governance arrangements. National values, or the deeply-held preferences shared by a society's members, are fundamental informal institutions. Corporate ownership structure, a formal institution, deals with the matter of how – and by whom – public company shares are owned. Board governance, also a formal institution, involves the mechanisms by which the assets and activities of public firms are overseen.

We choose to focus on these institutions for two reasons. First, we are guided by the strength of prior evidence of their differences between countries, and their direct relevance, or logical link, to the degree of discretion corporate executives are allowed or encouraged to exert. Second, these institutions provide a parsimonious representation of the relevant institutional business environments within which firms from different countries operate. While there is still no widely agreed-upon model of all elements of the institutional environment, Guisinger (2001) offers an eight-factor taxonomy of “geovalent” (institutional) elements: econography, culture, legal system, income profile, political risk, tax systems, exchange rates, and government restrictions. Of these elements, three (econography, income profile, and political risk) are less relevant to this study because of our focus on large, well-developed economies. Two other elements (tax systems and exchange rate) are also less relevant as their impact is felt mostly by multinational firms operating across national borders. Of the remaining three elements, we use the institution of national values to represent culture, and ownership structure and board governance institutions to represent legal systems and government restrictions.

National Values

Cultural values exert strong influences on individual actions and perspectives (Huang and Van De Vliert, 2003). Accordingly, the actions of senior corporate executives are taken not within a contextual vacuum, but within an environment of social mores, norms, and expectations.

Consistent cross-national differences in cultural values will thus lead to significantly different degrees of constraint on executive decision making and behavior (Davis, Schoorman, and Donaldson, 1997). We expect the cultural values of individualism vs. collectivism and uncertainty avoidance to be especially important and relevant in shaping CEO discretion.

An extensive literature within organization science addresses the issue of cultural values. In chronological order, the most prominent cultural value systems are those of Hofstede (1980; 2001), the Chinese Culture Connection (1987), Schwartz (1994), Trompenaars and Hampden-Turner (1998), and the recent GLOBE project of House and colleagues (2004). Despite its shortcomings (e.g. Schwartz, 1994), Hofstede's typology remains the most influential within the organization sciences (Kirkman, Lowe, and Gibson, 2006). Thus, we base our analysis of cultural values on Hofstede's typology.

Individualism versus collectivism, or the degree to which a society prefers autonomous versus interdependent actions, is highly relevant to executive discretion. In individualistic cultures, stakeholders are more likely to tolerate, and give primacy to, idiosyncratic executive decisions. Further, executives will tend to be higher in self-reliance and will make decisions more unilaterally. In contrast, collectivistic societies (including their powerful stakeholders) will expect executives to be concerned about, and to consult, their in-group more thoroughly prior to making decisions. Accordingly, executives will tend to make more consensus-based decisions that incorporate social compromises (Hofstede, 2001; Smith, Dugan, and Trompenaars, 1996). At a minimum, such executives will be sharply limited in their ability to take any unilateral decisions that might harm or offend any part of the collective (such as layoffs, reorganizations, or outsourcing). But even less affrontive actions (such as product repositioning, diversification, or major advertising programs) will also be subject to group input and approval.

Of the 53 countries in Hofstede's (1980) original data, the U.S. ranked first in individualism with a raw score of 91, Germany ranked fifteenth with a score of 67, and Japan ranked twenty-second with a score of 46 (second-lowest among major industrialized countries). Therefore, we can expect that U.S. executives, who are embedded in a culture of extreme individualism, will have a significantly greater effect on corporate outcomes than will executives in Germany and Japan, who are embedded in more collectivistic societies.

Uncertainty avoidance is the degree to which members of a culture dislike the unpredictable; cultures that score high on uncertainty avoidance typically employ rules, conventions, and rituals that are intended to minimize unpredictability (Hofstede, 2001; House, Wright, and Aditya, 1997). In a summary of prior research, Sully de Luque and Javidan (2004) reported that in countries scoring high on uncertainty avoidance, people tend to be risk-averse, resistant to change, and intolerant of rule-breaking. Accordingly, we can anticipate that a national value of uncertainty avoidance constrains executive influence, insofar as stakeholders have less tolerance for unexpected, unconventional, or risky executive actions. A societal tendency toward uncertainty avoidance will be more associated with incrementalism in company initiatives than with quantum initiatives that carry substantial risk and ambiguity.

Of 53 countries studied by Hofstede (1980), Japan ranked seventh in uncertainty avoidance with a raw score of 92, Germany ranked twenty-ninth with a score of 65, while the U.S. ranked forty-third with a score of 46. Just as is the case for individualism vs. collectivism, differences in uncertainty avoidance among the three countries suggest that U.S. managers will have a greater impact on corporate outcomes than German and Japanese managers.¹

¹ Hofstede's original typology included two more dimensions that we do not include in our framework. The concept of "power distance," or the degree to which a society accepts unequal power distribution, may indeed have a theoretical link to executive discretion. However, the three countries we are examining are clustered too tightly on the power distance dimension to allow us to predict any differential effects. (Out of 53 countries assessed by

This overall pattern leads us to conclude that *national values in the U.S. allow a greater CEO effect on firm performance than do national values in either Germany or Japan*. See Table 1 for a summary of the key points of our theoretical argument.

 Insert Table 1 about here

Ownership Structure

Ownership concentration – the degree to which a public firm’s shares are held by only a few owners – differs substantially across countries in ways that greatly shape executive discretion. If we assume that ownership of a public firm provides some control over that firm, then a shareholder’s amount of control will be related to the proportion of firm ownership. Accordingly, agency theory posits that, if public firm ownership is widely dispersed, the owners of firms will tend to have relatively weak influence, compared to the firms’ hired executives, over corporate policies and practices (Berle and Means, 1932; Jensen and Meckling, 1976). Recent empirical research suggests that this view of public firm ownership applies primarily to the U.S. and that ownership concentration (and, thus, executive discretion) actually varies considerably across regions and countries (e.g. Claessens, Djankov, and Lang, 2000; La Porta, Lopez-de-Silanes, and Shleifer, 1999).

In the U.S., public firms overwhelmingly have widely dispersed share ownership (Lee and O’Neill, 2003), to the point where the academic definition of a “blockholding” is often as low as five percent of shares (e.g. Bethel and Liebeskind, 1993). Although institutional investors account for a substantial portion of the stockholdings of U.S. firms, it is exceedingly rare for a

Hofstede, Japan ranked thirty-third, the U.S. ranked thirty-eighth, and Germany ranked forty-second). Future research might examine countries that differ more widely in their power distance scores. The remaining Hofstede dimension, masculinity vs. femininity, does not seem to have a close link to executive discretion – as judged by its definition (Hofstede 2001: 287): “Masculinity stands for a society in which gender roles are clearly distinct... Femininity stands for a society in which social gender roles overlap.”

specific institutional investor to own more than two or three percent of a company's shares (Useem, 1993). Some institutional investors do appear to be trying to increase their scope of influence within firms (Carleton, Nelsen, and Weisbach, 1998; Del Guercio and Hawkins, 1999), but the wide dispersion of U.S. firm ownership continues to make this difficult (Parrino, Sias, and Starks, 2002; Useem, 1993). While other methods of corporate control do exist (e.g. hostile takeovers (Schneper and Guillén, 2004)), the widely dispersed shareholdings that are typical for U.S. firms tend to give CEOs considerable discretion in terms of the actions they can pursue.

In contrast, public firm ownership in the German system tends to be stable and highly concentrated (Dietl, 1998). Banks play a central role in the German governance system, typically controlling over 25% of the votes of large companies, through both shareholdings and debtholdings (Organization for Economic Cooperation and Development, 1995). Thus, a German firm's equity is often concentrated in the hands of a small number of banks that also have loans outstanding to that same firm (Jürgens, Naumann, and Rupp, 2000), leading to a "profitable debtor" model in contrast to the shareholder wealth maximization model of the U.S. (Dore, 2000). German banks, the most prominent owners of firms, act more like other organizational stakeholders, such as employees and managers, in their concern for avoiding losses or failure – due to the negative effects of those losses on debt repayment (Gorton and Schmid, 1996). Therefore, the most influential owners of German companies actively constrain executives' strategic choices toward relatively low-risk investments (Roe, 1993).

Ownership of Japanese public firms is also typically stable and concentrated. As in the case of Germany, this results in greater constraint on the decision making latitude of senior executives, although the process by which this occurs is slightly more involved. First, in comparison with U.S. firms, the largest single shareholder of a given Japanese firm tends to own

a greater proportion of firm shares (La Porta et al., 1999), leading to greater shareholder control. Second, Japanese public firm ownership tends to be concentrated not only in the hands of single entities but in the collective hands of firms within a business group, or *keiretsu* (Gerlach, 1992)². These equity-based networks of affiliation exert considerable control over member firms, limiting the choice of products, markets, suppliers, and customers available to senior executives (Berglof and Perotti, 1994; Kim, Hoskisson, and Wan, 2004). Furthermore, successful firms within a business group are often expected to support poorly performing firms (Sheard, 1994). As identified by one study, “Management control is held hostage in the keiretsu coalition to ensure commitment to efficient, cooperative behavior” (Douthett and Jung, 2001). Research has also shown that intra-group business performance variation tends to be lower than inter-group performance variation (Lincoln, Gerlach, and Ahmadjian, 1996), further suggesting a constraining influence of the business group structure. Finally, even those firms without explicit membership in a business group are still affected by the complex pattern of equity linkages within the Japanese economy (Gedajlovic and Shapiro, 2002; Gerlach, 1992). While the senior executives of non-keiretsu firms may not experience direct ownership-based constraint, the pervasiveness of the keiretsu form means that many of these firms’ suppliers and customers will, which in turn limits the strategic options available. Therefore, similar to Germany, ownership concentration will restrict the latitude of action of Japanese company executives (see Table 1).

² While the existence of inter-corporate cross-holdings in Japan is widely recognized, the nature of the Japanese business group system is complex. Best known are the horizontal, or financial, *keiretsu*, which consist of a main bank, an insurance company, a number of large trading companies, and subsidiaries of these firms. There are 6 main financial *keiretsu* (Dai-Ichi Kangyo, Fuyo, Mitsubishi, Mitsui, Sanwa, and Sumitomo), each of which have roots in the pre-WWII *zaibatsu* groups, and a number of smaller groups (e.g. the Tokai and Industrial Bank of Japan groups). There are also vertical business groups, which consist of a large trading company (e.g. Toyota or Honda) and its network of suppliers. Approximately 40-50% of Japanese public firms (Douthett and Jung, 2001) and almost all major industrial firms (Aoki, Patrick, and Sheard, 1994) belong to a financial business group. Intra-group cross-holdings are usually high; across the six largest groups, for example, 20% or more of member firm shares are held by other member firms (Dietl, 1998: 143).

A recent multi-country study by La Porta et al. (1999) provides an indication of how ownership concentration differs across the U.S., Germany, and Japan. These authors examined the proportion of firms from each country that were closely held, defined as those firms that had one or more owners that controlled at least 20% of shares. For medium-sized firms (with revenues of about \$500 million), the authors found that 10% of U.S. firms, 70% of Japanese firms, and 90% of German firms were closely held. As these figures only incorporate single shareholders, and don't take into account Japan's unique business group structure, the Japanese figures are in actuality even higher.

In sum, we conclude that *firm ownership structures in the U.S. allow a greater CEO effect on firm performance than do ownership structures in either Germany or Japan.*

Board Governance

In a national system that places primary emphasis on shareholder value, such as the United States (Guillén, 2000), the boards of public companies theoretically provide the mechanism for shareholders to influence the actions of those companies (Shleifer and Vishny, 1997). Although U.S. company boards ostensibly exist as monitoring tools of shareholders, this potential constraint on executive discretion is greatly blunted by two common practices. First, in approximately 80% of US companies, the CEO chairs the board that is supposed to monitor him or her, significantly enhancing executive leeway to pursue radical or distinctive actions (Dalton and Kesner, 1987; Finkelstein and D'Aveni, 1994). Second, the CEO typically has a substantial role in appointing, or at least approving, individual board members (Lorsch and MacIver, 1989). Moreover, evidence also suggests that board members who do attempt to assert their authority will experience "social distancing" by other boards upon which they sit, subsequently reducing the likelihood of future governance activism (Westphal and Khanna, 2003). Although some

U.S. CEOs no doubt face greater constraint from their boards than do others (Dietl, 1998), the prevailing condition is one of relatively limited constraint on executive choice – at least as compared to Germany and Japan.

Public company boards in Germany also provide the primary means through which key stakeholders attempt to influence company decision making; but, unlike the U.S., board governance in Germany is relatively powerful. German public companies have a two-tiered board system, with a managerial (executive) board and a supervisory board (Gorton and Schmid, 1996). The CEO-led managerial board (somewhat akin to a U.S. top management team) oversees company operations, while the supervisory board, comprised of shareholder, debtholder, and employee representatives, oversees the managerial board. No company executive, not even the CEO, is permitted to sit on the supervisory board, thus strongly reducing the CEO's control over that board (Dore, 2000). Creating even further constraint, fully half of the supervisory board members must be employee representatives (in firms with more than 2,000 employees) (Dinh, 1999). Potential strategic actions that may negatively affect company employees, such as downsizing, widespread outsourcing, or changes in employment practices, will therefore meet considerable resistance in German firms (Roe, 1993).

In Japanese firms, the board of directors itself provides variable, but generally few, constraints on a CEO's behavior. Japanese boards serve a mostly ceremonial role (Ahmadjian, 2003) and are heavily populated with company managers; Charkham (1994: 85) reports that approximately three-quarters of board members tend to be insiders. However, there are still several board-related constraints on the chief executive's actions. First, the main executive decision making body in Japanese firms (the *Jomukai*, or top management committee), which is comprised of a subset of the most senior executive board members, does possess a substantive

role, with its decisions expected to be a product of substantial consensus (Aoki et al., 1994; Charkham, 1994). Second, particularly for those firms with membership in a financial business group, some constraint occurs via informal keiretsu-level influences, particularly through the top executive of the main bank (the group's most central firm and biggest lender to keiretsu firms) (Weinstein and Yafeh, 1995). Main bank executives typically expect to be informed of, and have input into, major strategic decisions such as large-scale changes in capital structure or entry into new markets, which reduces the autonomy of keiretsu firm executives. Thus, although board governance in Japanese firms tends to be weaker than in Germany, there are still several important mechanisms constraining CEO discretion.

In sum, we conclude that *board governance practices in the U.S. allow a greater CEO effect on firm performance than do governance practices in Germany or Japan.*

Inter-relatedness of National Institutions

Although we have discussed three national institutions separately, they are almost surely inter-related, even causally so. For instance, we can reasonably expect that strong individualistic values in a country will engender governance arrangements that allow individual leaders to have considerable effect, as in the U.S. Conversely, a collectivistic society will tend to put in place governance constraints that assure the inputs and influence of multiple parties, such as in Germany. Similarly, we can see a logical linkage between the national value of uncertainly acceptance and a prevailing ownership structure of widely dispersed shareholdings, as in the U.S. In contrast, Japan's preference for uncertainty avoidance leads logically to the creation and prevalence of *keiretsu*, which are meant to buffer and protect member firms from external exigencies.

Thus, the inter-related, complementary (Whitley, 2005) nature of these national institutions is not an accident, but instead may be viewed as a natural outcome of path-dependent processes (cf. Deeg, 2005; Mahoney, 2000). The greater executive latitude inherent in U.S. ownership structures and corporate governance system appears to have arisen at least in part from the more individualistic values of the American citizenry, politicians, regulators, and business managers who have shaped these arrangements over time. On the other hand, the more pervasive checks and balances in the German and Japanese governance systems, and the correspondingly stronger voice of multiple organizational stakeholders can be argued to be a result of the more collectivist and uncertainty avoiding values of those who created and now maintain these economic systems. This inter-related path-dependence, and the consistency in the overall pattern of our theoretical arguments, leads to our central hypothesis:

Hypothesis: The variance in firm performance attributable to CEOs will be greater in U.S. firms than in German and Japanese firms.

We provide a highly comprehensive test of this hypothesis, using four different operationalizations of performance, including both accounting-based and market-based measures. We also test each of these dependent variables using two distinct but complementary methodologies, resulting in a total of eight unique tests of the hypothesis. In addition, we offer several supplementary analyses, again across multiple variables, concerning both temporal elements and potential operative mechanisms that drive the central relationship described in our hypothesis.

METHODS

Sample

This study used annual data over the 15-year period, 1988-2002, for an industry- and size-matched sample of 300 public companies, 100 from each of three countries: Japan, Germany, and the United States. The timeframe was constrained because German companies did not prepare consolidated accounts according to uniform standards until 1988 (a change stipulated by the introduction of the European Union 4th and 7th directives and the corresponding updating of Germany's Commercial Code) (Baetge et al., 1995). The closing year, 2002, was the latest for which complete data were available. The matched-trio design was important, because the three countries differ greatly in the mix of industries represented among their publicly-listed firms. For example, the U.S. has a large number of petroleum and other natural resource firms, while Japan and Germany have very few such firms. Random sampling would have yielded highly noncomparable sets of firms for the three countries.

We began the sample construction by generating a pool of German companies, because there are considerably fewer public companies in Germany than in the other two countries. For example, in 1995, the midpoint in our sample, Germany had only 9% as many listed, domestic firms as there were in the U.S., and only 30% as many as there were in Japan (World Bank, 2004). Using the Worldscope database, we identified every public German company that was in continuous operation between 1988 and 2002.^{3,4} Then, to accommodate the need to control for

³ In this regard, our methodology is consistent with earlier work in this area using VCA (e.g. Thomas, 1988). We recognize that including only continuously-operating firms introduces the possibility of survivor bias to our sample. However, allowing for deletions, or dropouts, introduces a more serious problem, since the three countries differ substantially in the rates of corporate failure or liquidation, as well as takeovers (e.g. Schneper and Guillén, 2004).

⁴ One of the criticisms of Lieberman and O'Connor's work concerns their omission of any firms engaging in major mergers and acquisitions (Hambrick and Mason, 1984). Because corporate restructuring is a primary means through which top executives might influence firm performance, we did not exclude such firms from our sample (providing the firm was recognized as a consistent entity throughout the sample period by the relevant stock exchange).

industry, we limited the German sample only to those industry categories (as defined by Worldscope) that had at least six firms. This screen yielded a set of 127 companies in eight industry categories: construction; chemicals; drugs, cosmetics, and health care; electrical and electronics; financial services; food and beverages; machinery and equipment; and utilities.

After generating the German sample, we identified matching companies in Japan, the second-most restrictive setting. For each German company, we sought to identify the Japanese company that, as listed by Worldscope in 1988, was in the same industry category as the German company and closest to its size, in terms of revenues. Only 103 of the German companies had suitable Japanese matches. We then repeated this matching process by identifying the U.S. firms that in 1988 were the closest counterparts to the German firms, readily identifying 103 suitable matches. Because German companies, the basis of our matched sample, tend to be smaller than U.S. companies, the average size of the companies in our combined samples – with 1988 revenues of US\$600 million – is smaller than if, say, the *Fortune 500* had been sampled.

As an indication of the aggregate accuracy of the matching process, the average ratio of 1988 revenues for each pair of country samples were as follows: U.S./German = 1.19, Japanese/German = 1.18, and U.S./Japanese = 1.07. While these ratios are not precisely 1.0, as would occur with perfect matching, they are relatively close to that figure. Moreover, the fact that the American firms are somewhat larger than those from the other two countries (with the German firms being slightly smaller, on average, than the Japanese firms) actually creates a more stringent test our hypothesis, because managerial discretion, or a CEO effect, has been found to be inversely related to company size (Finkelstein and Hambrick, 1990) – thus potentially biasing results away from finding a heightened CEO effect in the U.S. firms.

Identifying the CEOs

The next step was to determine the top executive in each firm for each year from 1988 to 2002, for a total of 4635 firm-years. Because it was not always possible to determine the exact date of CEO turnover, we recorded the CEO for a particular year as the one who was in office at the end of the year. In addition to company annual reports, we used several sources to gather CEO data. U.S. data were collected from Moody's/Mergent Industrial Manual, Standard and Poor's Register of Corporations, Directors and Executives, and the Dun and Bradstreet Reference Book of Corporate Management. Japanese data were collected from Moody's/Mergent International Manual, and Toyo Keizai's Japan Company Handbook and Japan Company Datafile. German data were collected from Moody's/Mergent International Manual, and Bayerische Hypotheken-und-Wechselbank's *Wegweiser Durch Deutsche Aktiengesellschaften* (Guide to German Stock Corporations).

It is useful to note the differences in the nomenclature of the CEO position across the three countries. Although earlier studies of U.S. companies used the titles of both president and chairman to determine the top executive (e.g. Lieberman and O'Connor, 1972), by the start of our study's timeframe (1988) the term chief executive officer was in practically universal use. Hence, it was not problematic to determine the CEOs in the U.S. sample. In Japan, the top executive is the *shacho* (president). About half of all Japanese firms also have a separate chairman, or *kaicho*, whose power varies somewhat but who typically has little executive influence (Kaplan, 1994a).

The German situation is more complex. German public companies have a two-tiered board system, with a *Vorstand* (managerial board) and an *Aufsichtsrat* (supervisory board). In German law, executive power actually lies with the *Vorstand*, rather than with any one individual. Thus, the closest equivalent to the U.S. CEO and the Japanese *shacho* is the

Vorstandsvorsitzende (chairman of the managerial board) (Kaplan, 1994b). However, not all managerial boards have a designated chairman (particularly smaller companies), instead having a *Sprecher* (speaker), a somewhat weaker executive position. Therefore, if a single executive was identified in a position of leadership (chairman or speaker), he or she was coded as the CEO.

In a small number of cases, German firms do not nominate a single leader at all and instead take executive decisions as a group. This situation occurred in 81 out of 1545 firm-years (5.2%). Although “collective CEOs” such as these are a recognized, if uncommon, occurrence in German firms (Dore, 2000), including these firm-years would be inconsistent with our aim of evaluating CEO discretion, which has never been explored at the group level. Thus, we removed from our sample all 81 German firm-years without a designated leader, as well as their corresponding observations from the other two country samples. As three of the 103 German firms did not nominate an executive leader at any stage during our sample, we removed these three firms entirely (as well as the corresponding Japanese and U.S. firms), leaving us with 100 firms (and 1464 firm-years) per country.⁵

Overall, there were 222 CEOs in the U.S. sample, 274 in the German sample, and 286 in the Japanese sample. This variation in the number of CEOs per country results in an unbalanced data panel (Searle, Casella, and McCulloch, 1992: 254) and tends to bias our results *away* from the hypothesized direction, as somewhat more frequent CEO turnover in the German and Japanese samples affords greater potential for a statistical CEO effect. Thus, any results supporting our hypothesis will not be an artifact of the differing numbers of CEOs in each country sample.

⁵ Because the German secondary sources required considerable interpretation, we directly contacted (by e-mail) all German companies to corroborate our coding of the CEOs. Of the 53 replies we received, only one contradicted our initial coding. Thus, we are confident that our approach allowed us to determine whether or not a particular managerial board had nominated a leader.

Sample Consistency with Prior Research on Formal Institutions

Our arguments concerning the impact of national systems on CEO discretion relied on prior research that documented the prevalence of different formal institutions in the three countries. It is useful to verify that our samples differed in the way prior research suggests. We were able to gather such evidence for three key variables.

First, the prevalence of CEO duality differed across the three country samples. In the U.S. sample, the CEO was also board chair in 74 percent of all firm-years. In the Japan sample, CEO duality occurred in 46 percent of all firm-years. As CEO duality is proscribed by German law, there was no incidence of this practice in the German sample.

Second, we argued above that Japanese firms are often constrained by their memberships in keiretsu. Using Dodwell's *Industrial Groupings in Japan* for the year 1995, the midpoint of our panel, we determined that 50 percent of the Japanese firms in our sample were members of formal business groups. This proportion is consistent with prior studies of Japanese firms (e.g., Charkham, 1994; Dietl, 1998; Gerlach, 1992).

Finally, we sought to determine whether our samples exhibited differences in ownership concentration in line with prior research. As noted earlier, La Porta et al. (1999) found that about 10 percent of mid-sized U.S. firms (as largely describes our firms) had at least one owner that controlled 20 percent or more of the firm's stock. Examining the Wharton Research Data Services *Blockholders* data set for 1996, we found that 8 percent of the U.S. firms in our sample had such a major owner. La Porta et al. found that 70 percent of mid-sized Japanese firms and 90 percent of mid-sized German firms had at least one major owner, as defined above. We did not conduct such an analysis, because gathering these data for the Japanese and German samples would be a prohibitive undertaking; however, there is little reason to believe that our Japanese

and German samples would have differed much from La Porta et al.'s figures. And the close match between our U.S. sample and La Porta et al.'s findings provides additional evidence that our sampling procedure yielded firms that generally differed across the three countries in ways that prior research has documented.

Dependent Variables

For all 4392 firm-years, we obtained data on return on assets (ROA: net income divided by total assets), return on sales (ROS: net income divided by sales), sales growth (sales in year i minus sales in year $i-1$, divided by sales in year $i-1$), and market-to-book (MTB: market value divided by book value of common equity). Encompassing both accounting-based and market-based measures of performance, ROA, ROS, and MTB have been widely used in prior studies of CEO effects (e.g. Bertrand and Schoar, 2003; Thomas, 1988). We also included sales growth, so as to have a measure of marketplace effectiveness. These measures have been found to be highly relevant as performance indicators in all three countries being studied (e.g. Kang and Shivdasani, 1995; Kaplan, 1994a, 1994b). While we believe it is important to include a market-based measure, MTB, we recognize that it may be more difficult to find distinct CEO effects using this variable, because some changes in market values attributable to new CEOs are likely to occur when the market becomes aware of the pending successions, rather than when the new CEOs actually take office (which might differ by months or even years).

Analysis

Research design. There are several feasible analytical approaches that might be used to address the question of whether CEOs matter more in some countries than others. One possibility would be to undertake an event study, comparing the movement of stock prices upon the announcement of new CEOs in different countries. The primary problem with this approach

is that it can only be applied in the relatively rare cases when the announcement of a change in CEO is abrupt and unexpected, as when unexpected deaths or dismissals occur (McWilliams and Siegel, 1997). This approach might ultimately be feasible, but it is exceedingly difficult to execute in a cross-country study. A second approach would be to identify some specific CEO attributes, such as functional background, education, or age, and then determine (via multivariate analysis) whether their associations with some outcome variables (such as company strategy and performance) differed statistically across countries. The major drawback of this approach is that, even though it would shed light on the importance of specific CEO attributes, it would fall very short of revealing the overall effect of discrete leaders in different countries.

A third approach, and the one favored to date in research on CEO/leadership effects, is to use variance components analysis (VCA). There are several benefits to this approach. First, VCA can be used to evaluate the statistical importance of a category of effects, without having to identify and measure all the myriad elements that make up that category. Second, VCA can be used to assess CEO effects for both accounting-based (backward-looking) and market-based (forward-looking) measures of performance. Finally, the widespread use of VCA in prior studies of CEO effects allows our investigation to be directly reconciled with prior ones. For these reasons, we used variance components analysis⁶.

Analytical model. We estimated the following model separately for each country:

$$\eta_{ijkt} = \mu + \alpha_i + \beta_j + \gamma_k + \delta_t + \varepsilon_{ijkt}$$

In this formula, η_{ijkt} is firm performance in year i , in industry j , in company k , during the tenure of CEO t . η_{ijkt} is a linear combination of the grand mean (μ), a year effect (α), an industry

⁶ For examples of the use of VCA in organizational science research, see Chang and Hong (2002), Chang and Singh (2000), Khanna and Rivkin (2001), Lieberman and O'Connor (1972), Makino, Isobe, and Chan (2004), Mauri and Michaels (1998), McGahan and Porter (1997, 1999, 2002, 2003), Roquebert, Phillips, and Westfall (1996), Rumelt (1991), Schmalensee (1985), Thomas, 1988, Weiner, (1978), and Weiner and Mahoney, (1981).

effect (β), a company effect (γ), a CEO effect (δ) and an error term (ε_{ijkt}). Although some earlier studies (e.g. Rumelt, 1991) also include the transient year by industry interaction in their model, more recent research (e.g. McGahan and Porter, 1997) argues persuasively that this approach, while addressing one form of transient effect (transient industry effects), continues to omit others. Hence, we will instead calculate, for each model, the rate of first-order serial correlation in the residuals (ρ), which incorporates all sources of intertemporal (year on year) effects. To evaluate the robustness in our results, we estimated this model using two complementary, though distinct, methodologies: 1) a random effects model, using maximum likelihood estimation (cf. Makino et al., 2004); and 2) a fixed effects model, using simultaneous ANOVA estimation (cf. McGahan and Porter, 2002).

While the range of techniques and terminology used in VCA analyses can be somewhat confusing, the primary distinction is between random effects models and fixed effects models (Searle, et al., 1992). Several authors have found similar results using these two different approaches (e.g. McGahan and Porter, 1997), but they are distinct and there is no reason to necessarily assume that both will yield identical outcomes (Rumelt, 1991).

Random effects VCA models assume that the variance in the dependent variable is a linear combination of the variance due to each of the predictor categories plus error variance. A second assumption is that the effect of a category (e.g. industry) is randomly drawn from a population of all possible effects of that category. Furthermore, the variance apportioned to each category is calculated simultaneously; thus, the order in which categories are entered into the model becomes irrelevant. Several studies using VCA to explore the relative influence of corporate-level, industry-level, and company-level effects on firm performance have employed random effects models (e.g. Chang and Singh, 2000; Roquebert et al., 1996; Rumelt, 1991).

Methods used to estimate random effects models include quadratic least squares (e.g. Rumelt, 1991) and, more recently, maximum likelihood (e.g. Roquebert et al., 1996). Of the two approaches, maximum likelihood estimation invokes a slightly more restrictive assumption (that the population from which each category effect is drawn follows a normal distribution), but is preferred over least squares estimation when data are unbalanced⁷ (Searle et al., 1992: 254).

Fixed effects models are different in that they assume each individual cell in the dependent variable matrix is a linear combination of the relevant predictor variables plus error. The sum of all the effects of each predictor variable, across the entire database, forms the overall category effect. Category effects are estimated consecutively, i.e. all variance attributable to an initial category (e.g. year) is apportioned before any variance can be apportioned to a later category (e.g. industry). Therefore, order of category entry matters (see Weiner, 1978, for a discussion of this point). In our study, consistent with prior research, CEO effects are measured last. Essentially all published studies using VCA to evaluate CEO effects have assumed a fixed effects model (e.g. Lieberman and O'Connor, 1972).

Fixed effects models have typically been estimated using a form of least squares analysis, most commonly sequential ANOVA. We adopt a modified version of sequential ANOVA, called simultaneous ANOVA (McGahan and Porter, 2002). While sequential ANOVA does not estimate the covariance among categories, and instead attributes covariance between two categories to whichever is entered earlier in the model, simultaneous ANOVA estimates the covariance between different categories and adjusts the category estimates accordingly.⁸

⁷ As noted above, our data are unbalanced as there is variation in the number of CEOs per firm across countries in our sample.

⁸ We appreciate McGahan and Porter's (2002) introduction of the term "simultaneous" ANOVA to contrast with the more commonly used "sequential" ANOVA. However, we would like to clarify that, even when using simultaneous ANOVA, order of category entry is still relevant when a later category is fully nested within an earlier one (e.g. CEOs are nested within companies). Hence, "simultaneous" in this context is not the same as when using maximum likelihood estimation techniques, where order of category entry becomes irrelevant. See McGahan and Porter

For both analyses, we will present our results in the form of a table showing the proportion of variance in each performance indicator attributable to year, industry, company, CEO, and error effects. These estimates will be corrected for relative levels of serial correlation (ρ) within each model. To test for statistical significance of the differences between cross-national CEO effects, we will convert the CEO category estimates (for each country sample) from partial R^2 's into partial r 's (by taking their square root), and apply Fisher's z-test for differences between correlation coefficients. Fisher's z-test is a stringent test of significance (Bobko, 2001: 55), so any significant results will be conservative estimates of true differences in CEO effects.

RESULTS

Table 2 presents descriptive statistics and correlation coefficients for each performance variable, for each of the country samples. The means for the respective performance variables differed somewhat; for example, mean ROA was 6.85% in the U.S. sample, 3.37% in the German sample, and 1.99% in the Japanese sample. However, all the performance variables exhibited substantial variance, with standard deviations almost uniformly greater than the means, thus accommodating our focus on explaining variance in each variable in each country.

 Insert Table 2 about here

Tables 3 and 4 present the amount (in percent) of variance explained by the contextual variables and by the CEOs, using maximum likelihood and simultaneous ANOVA estimation,

(2002: 840, footnote 12) for a discussion of this point. Note also that this inherent nesting explains why we were required to estimate our model separately for each country and then compare the CEO effect in each, rather than, say, combining all data into a single model and estimating the significance of a country-by-CEO interaction. As CEOs are completely nested within their respective countries, no extra variance would be explained by such an interaction term.

respectively. It is important to note that, for our two estimation methods and for each performance measure in each country sample, the contextual variables explained less than 60% of variance, thus leaving ample variance to be potentially explained by the CEOs.

 Insert Tables 3 and 4 about here

In support of our hypothesis, we see in Table 3 considerable evidence that the variance in performance attributable to the CEOs was substantially greater in the U.S. sample than in the other two country samples. Turning first to ROA, the percent of variance explained by the CEOs was 30.44% in the U.S. sample, 23.91% in the German sample, and 10.33% in the Japanese sample. After converting these partial R^2 s into partial r 's, and applying Fisher's z-test, we find that the variance explained by the CEOs in the U.S. sample was significantly greater than in both the German sample ($p < .05$) and the Japanese sample ($p < .01$). Results for ROS also supported our hypothesis; the percent of variance attributed to the CEOs was 31.55% in the U.S. sample, 17.32% in the German sample, and 19.34% in the Japanese sample. This figure for the U.S. sample was significantly greater than for the other two country samples (both at $p < .01$).

Results for sales growth also conformed to the hypothesized pattern; U.S. CEOs (10.05%) accounted for significantly more performance variance than German (4.02%, $p < .01$) and Japanese (0.00%, $p < .01$)⁹. Finally, results for MTB were partially supportive; the U.S. CEO effect (35.26%) was significantly greater than the Japanese CEO effect (17.22%, $p < .05$), but not the German CEO effect (32.12%, ns).

⁹ The value 0.00% for Japan appears unusual but can be explained by the methodology used. Maximum likelihood estimation assigns the most likely value for the variance attributable to each factor, in relation to all other factors. When a particular factor explains exceedingly little or no variance, a zero score is sometimes assigned (Littell, Milliken, Stroup, and Wolfinger, 1996: 498).

Turning now to the results based on ANOVA, in Table 4, we observe a pattern similar to that of Table 3, although the results are slightly weaker. Also, the magnitude of CEO effects is lower across all countries and all variables. This diminished CEO effect is due to differences between the two methodologies used. While maximum likelihood estimation simultaneously apportions variance across all categories, and is influenced by the relative degrees of freedom in each category (enhancing CEO effects), results from simultaneous ANOVA are more dependent upon category entry order (dampening CEO effects). Neither set of results is necessarily a better reflection of the “true” CEO effect; both are simply method-specific estimates.

Looking first at ROA, U.S., German, and Japanese CEOs accounted for 13.40%, 9.40%, and 4.64% of variance, respectively. The U.S. variance accounted for was significantly greater than the Japanese variance ($p < .01$), and marginally significantly greater than the German sample variance ($p < .10$). For ROS, U.S. CEOs accounted for 14.00% of variance, which was significantly greater than the 6.20% of variance accounted for by Japanese CEOs ($p < .01$), but not significantly greater than the 11.1% of variance accounted for by German CEOs. Results for sales growth supported our hypothesized pattern: U.S. CEOs accounted for 6.2% of variance, which was significantly greater than the CEO effect in the German (0.02%, $p < .01$) and Japanese (0.00%, $p < .01$) samples. Finally, results for MTB based on simultaneous ANOVA estimation were partly supportive of our hypothesis. While the variance attributable to U.S. CEOs (18.10%) was again significantly greater than for Japanese CEOs (7.50%, $p < .01$), it was no greater than the German CEO effect (18.10%).

In sum, then, our hypothesis received substantial support. Across two different estimation methods and four measures of firm performance, the amount of variance in

performance explained by CEOs was consistently greater in the U.S. sample than in either the German or Japanese samples.

DISCUSSION

The results of this study support our prediction that U.S. CEOs have a greater effect on firm performance than their German and Japanese counterparts. There was strong support for our hypothesis that the variance in firm performance attributable to CEOs would be greater in the U.S. than in Germany and Japan. This finding was robust to both dependent variable and analytical methodology. Thus, our results indicate the importance of considering how a CEO's effect on firm performance may be a function of conditions in the macro-environment, including national systems, in addition to more proximate industry-level factors such as are typically examined (Finkelstein and Hambrick, 1990; Hambrick and Abrahamson, 1995).

Other interesting findings emerged, the most notable being a substantial difference in CEO effects between Germany and Japan. Japanese firms lagged markedly behind both U.S. *and* German firms in the magnitude of CEO effects. In fact, the difference in CEO effect between Germany and Japan was sometimes even greater than that between the U.S. and Germany. While we predicted a larger U.S. CEO effect overall, we did not foresee that there would be such a large difference between Germany and Japan. This result strongly suggests that Japanese CEOs have by far the smallest effect of the three countries studied. Such a perspective is also consistent with recent arguments that Japanese firm strategies tend to show substantial homogeneity (Porter, Takeuchi, and Sakakibara, 2000) both within and across industries.

Although there are several possible explanations for these findings, we believe they may be ultimately traceable to the fundamental influence of national values on corporate decision-making and management (e.g. Triandis, 1994). Specifically, the low level of executive

discretion observable in Japanese firms corresponds with that country's very strong values of collectivism and uncertainty avoidance. As discussed earlier, the inter-related nature of the three national institutions addressed in this paper is unlikely to be a historical accident and is arguably an outcome of the systematic differences in national values among the U.S., Germany, and Japan. This interpretation suggests that cultural tendencies toward inclusiveness, consensus, and risk-aversion all impose inherent limitations on executive discretion in Japan. Terms often used to describe Japanese management, including *ringisho* (management by consensus) and *nemawashi* (prior consultation) echo this view (Abegglen and Stalk, 1985). Our results support the view that Japanese strategies and performance are inertial (Porter et al., 2000), and moreover that Japanese CEOs, compared to their U.S. and German counterparts, have a relatively small effect on the form or fate of their firms.

Supplementary Analysis on Strategic Choice Variables

Our central argument has been that national systems differ in how much constraint they place on a CEO's ability to affect firm performance. Clearly, though, a CEO does not affect performance directly, but does so through strategic actions. Hence, our implicit assumption has been that CEOs in low-constraint countries can more readily shape firm strategy. To investigate this assumption, we performed a supplementary analysis on the variance in strategic choice variables attributable to the CEO.

Among the strategic variables available in the Worldscope database, we selected those for which at least 90% of firm-year data were available for each country. This procedure left us with only three strategic choice variables: debt to equity (long term debt divided by total equity), fixed asset intensity (net property, plant, and equipment divided by number of employees), and total asset intensity (total assets divided by number of employees). This set of three strategic

variables is far more limited than is ideal, because of substantial amounts of missing data (for German and Japanese firms) for variables that strategy scholars often examine (e.g., R&D/sales, advertising/sales). Still, they provide a partial basis for considering CEO effects on company policy. Debt-to-equity reflects the company's policy about its capital structure. The two capital intensity measures (fixed asset and total asset intensity) reflect an unobserved array of policy/strategy choices, including business mix, automation, outsourcing, and labor arrangements. See Table 5 for the partitioning of variance in each of these variables.

 Insert Table 5 about here

As can be seen, the pattern of CEO effects observed for the performance variables was also reflected in the strategy variables; namely, for all three variables, U.S. firms showed the largest CEO effect, followed by German firms and then Japanese firms. Also, consistent with our main results, for the two capital intensity variables we found a smaller difference between the U.S. and German CEO effects than between the German and Japanese CEO effects. We should also note, however, that contextual factors – year, industry, and company – explained a large amount of variance in the three strategic choice variables for all three country samples, leaving relatively little variance to be explained by the CEOs. While a more complete set of strategy variables would be ideal, these results provide some evidence as to how international differences in CEO performance effects arise: The CEOs differ in their discretion over strategy and policy, with U.S. CEOs having the widest scope and Japanese CEOs the narrowest.

Supplementary Analysis on Convergence of Patterns over Time

We also attempted to investigate the possibility that CEO effects have changed over time. Echoing an ongoing debate concerning the degree of global convergence in national institutions

(e.g. Gordon and Roe, 2004), some organizational scholars have argued that there has been recent international convergence in the national factors that affect CEO discretion, (e.g. Aguilera and Jackson, 2003; Fiss and Zajac, 2004). However, in exploring this idea we found no consistent pattern in our data suggesting intra-country or inter-country changes in CEO effects over time, and thus no support for claims of either convergence or divergence. This lack of an apparent trend might be due to insufficient statistical power (we split our 15-year sample into two halves for the analysis); it might be because convergence is too recent to be detected in our timeframe; or it might be because claims of convergence have been overstated, i.e. convergence is not occurring at the rate or intensity that some have suggested. These different explanations can only be resolved by future studies, perhaps using methodologies other than ours.

Implications

Our results have several important implications for theory and research on cross-national organizational phenomena. Perhaps most important is the light we shed on differences in CEO romanticization (Meindl et al., 1985) in different countries. On the surface, there would seem to be little justification for the extreme romanticization of CEOs in the U.S., or for their extremely high levels of pay. A partial explanation, however, may be available in our results: U.S. CEOs matter more to company performance than do German and Japanese CEOs. As we emphasized earlier, the greater discretion of U.S. CEOs does not necessarily mean they are better CEOs or that their effect is always, or even mostly, positive. Their larger impact on firm performance variance includes a greater potential contribution to both positive *and* negative firm outcomes.

A second potential implication relates to the issue of national economic performance. Is the relatively great impact of U.S. CEOs a good thing, a bad thing, or neither, when it comes to its effect on the performance of the national economy? One might argue that this feature of

American business is largely beneficial, as greater individual effect on firm performance could engender greater levels of innovation, risk-taking, human drive, and accountability.

Alternatively, one might argue that a strong CEO impact puts firm strategy and performance, and, by extension, national economic growth, too strongly in the hands of short-term oriented, self-interested, humanly-finite individuals. We take an agnostic stance on this debate, but the results of this study clearly help to frame the tradeoffs involved.

These results also perhaps provide one explanation of why the executive labor market is not more globally-integrated (Conyon and Murphy, 2000), particularly in comparison with other global markets such as sports, entertainment, and even academia. Although industries themselves may be globalized (Teece, Rumelt, Dosi, and Winter, 1994), and individual firms may have global scope, there are substantial differences in what it means (or takes) to be a CEO under different national systems. One could argue, for instance, that CEOs in Japan have learned, through selection, training, and experience, how to lead their firms within heavy constraints on their discretion. To do this, Japanese CEOs must display considerable patience, seek multiple opinions, propose alternatives, initiate compromises, seek consensus, and act inclusively. In contrast, U.S. CEOs, who face far fewer constraints, may hone few of these skills and may even see such practices as greatly limiting their ability to fully discharge their responsibilities. Thus, the very skills that are essential to becoming a successful CEO in one country may act as a liability in another.

Limitations

Although this study provides considerable evidence of differences in executive effects in different countries, it also has limitations. First, due to the relatively small number of German public companies, we were able to collect only a moderate-size sample from each country;

moreover, some industries are represented by less than ten companies per country. Related to this issue, industries were defined somewhat broadly (at essentially the 2-digit SIC level), which may have had the effect of reducing the magnitude of industry effects observed.

A further limitation relates to cross-national measurement equivalence. Although we selected our sample to reflect a period when there was the greatest comparability of the three countries' accounting systems, some international differences in accounting practice persisted during this time (Baetge et al., 1995). These differences prevent us from asserting that a particular performance value, say a return on assets of 6.5%, is exactly equivalent across each of the three countries. While we were able to mitigate some of the implications of this issue through the use of a variance-based methodology, and by analyzing the three samples separately, our conclusions are limited somewhat by international variation in accounting conventions.

Future Research

In addition to those areas identified above, there are several other fruitful possibilities for future research within this domain. First, we recognize that future studies employing larger samples and/or replicating these results with samples from other countries, e.g. France, Italy, and the U.K., would increase confidence in, and generalizability of, our conclusions. Second, as discussed above, an interesting area for future study concerns the possibility of cross-cultural convergence of executive discretion over time. One stream of international business research holds that national mores, customs, and practices are gradually becoming more similar (e.g. Meyer, Boli, Thomas, and Ramirez, 1997) or, some would say, more Americanized (e.g. Ritzer, 2004). While our study was inconclusive on this issue, future work on cross-national convergence (or divergence) in CEO effects will be important to pursue.

Third, although we argued that the elements of a national system are inter-related, future research could attempt to disentangle the relative contribution of the three theorized macro-environmental factors: national values, firm ownership structures, and governance practices. We surmised above that our results point to the primacy of national values in determining managerial discretion. Future work could attempt to specifically operationalize and then compare the importance of each factor (and possibly others) to determine the merit of this supposition.

CONCLUSION

Questions regarding the degree to which top executives matter to company performance continue to occupy the interest of business observers. In this study, we sought to shed light on one of the more intriguing puzzles within this domain: Why does America pay so much more attention to its individual business leaders, its corporate CEOs, than do other major industrialized nations such as Germany and Japan? Our argument was that there are national-level, macro-environmental factors that differentially shape how much effect CEOs from these three countries will have on company performance. And our results, consistent with our hypothesis, indicate at least one reason for the preoccupation with CEOs in the U.S.: They matter more – for better and for worse – to the performance of their firms.

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TABLE 1
Executive Constraint Under Three Different National Systems

Impact of National System Factor on Executive Constraint				
Country	National Values	Firm Ownership Structure	Board Governance	Overall Constraint
U.S.	Constraint is minimized by an individualistic and low uncertainty avoidance culture, which results in a greater range of possible executive decisions and permits decisions that have considerable means-ends ambiguity. Constraint: Low	Constraint is low in an economic system characterized by dispersed firm share ownership, which increases the relative power of firm managers and the risk-tolerance of owners. Constraint: Low	Constraint is reduced by the prevailing practice of CEO/board chair duality and the power of CEOs to influence board member appointments. Constraint: Low	Low
Germany	Moderate constraint arises from a culture displaying moderate levels of individualism and uncertainty avoidance, which allows some unilateral and unconventional decision making, but also requires considerable stakeholder consultation. Constraint: Moderate	Constraint is high in an economic system where firm ownership is concentrated and banks are often both debt holders and equity holders of a firm; this results in influential ownership and a focus on incremental, risk-averse decision making. Constraint: High	Constraint is increased by a two-tiered board system and heavy employee representation on the supervisory board, which results in considerable stakeholder consultation requirements concerning all major decisions. Constraint: High	Moderate-High
Japan	Constraint is increased by a collectivistic and high uncertainty avoidance culture, which is associated with expectations of consensus-based decision making and incremental, risk-averse decisions. Constraint: High	Constraint is increased by a business group (keiretsu) system in which concentrated intra-group ownership is common, leading to a reduced discretion and considerable risk aversion in strategic decision making. Constraint: High	Constraint is reduced by the heavy presence of insiders on the board and the board's mainly ceremonial role, but increased by intra-business group controls. Constraint: Moderate	Moderate-High

TABLE 2

Descriptive Statistics and Zero-Order Correlations for Performance Variables, by Country

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11
<u>United States</u>													
1. ROA (%)	6.85	6.78	----										
2. ROS (%)	7.05	7.34	.55**	----									
3. Sales Growth (%)	9.06	14.37	.30**	.19**	----								
4. MTB	2.55	1.93	.44**	.31**	.13**	----							
<u>Germany</u>													
5. ROA (%)	3.37	4.72					----						
6. ROS (%)	2.25	5.24					.72**	----					
7. Sales Growth (%)	6.78	19.09					.19**	.07*	----				
8. MTB	2.66	2.07					.11**	.13**	.06*	----			
<u>Japan</u>													
9. ROA (%)	1.99	2.83									----		
10. ROS (%)	1.91	5.20									.71**	----	
11. Sales Growth (%)	2.24	14.58									.18**	.12**	----
12. MTB	2.06	1.58									.28**	.14**	.14**

n for each variable = 1464 firm-years; * p < 0.05; ** p < 0.01

TABLE 3**Partitioning of Variance in Performance – Maximum Likelihood Estimation**

Variable	Country	Percent of Variance Attributable to:					
		Year	Industry	Company	CEO	Error	Total
ROA	U.S.	3.96	7.66	6.55	30.44	51.39	100.00
	Germany	1.69	5.77	17.70	23.91	50.92	100.00
	Japan	13.87	8.02	12.04	10.33	55.73	100.00
ROS	U.S.	3.03	8.17	14.59	31.55	42.66	100.00
	Germany	1.76	0.31	15.19	17.32	65.41	100.00
	Japan	5.69	4.64	8.87	19.34	61.46	100.00
Sales Growth	U.S.	5.31	0.00	6.09	10.05	78.55	100.00
	Germany	26.91	0.00	4.32	4.02	64.75	100.00
	Japan	44.76	0.22	0.00	0.00	55.03	100.00
MTB	U.S.	3.56	15.92	14.96	35.26	30.30	100.00
	Germany	1.86	3.15	35.22	32.12	27.66	100.00
	Japan	33.03	0.00	17.22	24.60	25.15	100.00

Note: As noted earlier, the value of 0.00% for the CEO effect on sales growth in the Japanese sample appears unusual but can be explained by the methodology used (see footnote 5 on p32 for further details). Also, the fact that year explains a very high percentage of variance in sales growth and MTB in Japan can be explained by the extreme macro-economic swings that occurred in Japan over the study period – greatly affecting annual sales growth and market values for all Japanese companies.

TABLE 4**Partitioning of Variance in Performance – Simultaneous AVOVA Estimation**

Variable	Country	Percent of Variance Attributable to:					
		Year	Industry	Company	CEO	Error	Total
ROA	U.S.	3.60	11.80	19.10	13.40	52.10	100.00
	Germany	1.40	9.00	23.80	9.40	56.40	100.00
	Japan	10.00	5.90	11.20	4.60	68.20	100.00
ROS	U.S.	3.00	14.80	23.30	14.00	44.90	100.00
	Germany	1.40	2.20	17.70	11.10	67.60	100.00
	Japan	6.30	5.80	15.10	6.20	66.60	100.00
Sales Growth	U.S.	5.40	0.30	11.20	6.20	76.90	100.00
	Germany	24.90	0.00	7.10	0.20	67.80	100.00
	Japan	37.60	0.10	0.20	0.00	62.10	100.00
MTB	U.S.	4.10	18.00	26.90	18.10	32.90	100.00
	Germany	0.08	8.20	41.30	18.10	31.60	100.00
	Japan	20.30	0.60	13.60	7.50	57.90	100.00

Note: Results are corrected for the serial correlation in error terms.

TABLE 5**Partitioning of Variance in Selected Strategy Variables – Maximum Likelihood Estimation**

Variable	Country	Percent of Variance Attributable to:					
		Year	Industry	Company	CEO	Error	Total
Debt-to-equity	U.S.	0.48	0.00	46.10	30.94	22.49	100.00
	Germany	0.82	7.18	57.05	16.51	18.43	100.00
	Japan	0.36	27.88	43.77	16.04	11.96	100.00
Fixed Asset Intensity	U.S.	3.47	29.17	38.91	19.39	9.06	100.00
	Germany	7.32	30.41	39.51	13.96	8.80	100.00
	Japan	1.87	29.72	60.06	4.78	3.57	100.00
Total Asset Intensity	U.S.	4.57	47.80	19.96	21.30	6.38	100.00
	Germany	4.66	43.54	31.58	14.41	5.80	100.00
	Japan	1.05	60.99	30.17	4.64	3.15	100.00