Opening the Black Box: Internal Capital Markets and Managerial Power

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Abstract

We analyze the internal capital markets of a multinational conglomerate to determine whether more powerful unit managers enjoy larger allocations. We use a new dataset of *planned* and *actual* allocations to business units to show that, although all unit managers systematically over-budget capital expenditures, more powerful and better connected managers obtain larger shares of cash windfalls and increase investment about 40% more than their less powerful peers. Results survive robustness tests and are not explained by differences in managerial abilities or an endogenous allocation of managers across units. Our findings support bargaining-power theories and provide direct evidence of a source of capital allocation frictions.

Keywords: Internal Capital Markets, Corporate Investment, Capital Budgeting, Managerial Power, Agency, Influence Activities, Corporate Politics

JEL Classification Code: D80, G31, G34, L25

How do firms allocate resources across business units? Do units with better investment opportunities receive larger capital allocations and invest more? Do units run by more powerful or better connected managers enjoy bigger investment budgets? In this paper, we seek to answer these questions with direct evidence from a newly constructed dataset, drawn from the internal accounting system of a large multinational conglomerate, containing information about *planned* and *actual* capital allocations to business units.

The modeling of internal capital markets has made substantial progress. Stein (2003) and Maksimovic and Phillips (2007) provide comprehensive reviews of the bright and the dark sides of internal capital markets, aspects initially studied by Gertner, Scharfstein, and Stein (1994). The efficiency view of internal capital markets emphasizes the bright side. This view holds that capital allocation is the result of pooling internally generated cash flows and subsequently distributing funds optimally to units (Weston (1970), Williamson (1975), Matsusaka and Nanda (2002), Maksimovic and Phillips (2002)). In these models, capital allocation is determined mainly by the unit's investment prospects. Through winner-picking methods, internal capital markets add value, as the firm makes larger allocations to units with greater investment opportunities (Stein (1997)).

A second view highlights the dark side of internal capital markets. The origin of this idea can be traced back to Coase (1937) who suggested that power within a hierarchy may impact internal firm policies. The proponents of this view argue that units run by more powerful or better connected managers may get allocations larger than what is justified by the investment opportunities they provide (Meyer, Milgrom, and Roberts (1992), Scharfstein and Stein (2000), Rajan, Servaes, and Zingales (2000), Wulf (2009)). In these bargaining-power models, unit CEOs prefer larger capital allocations (for rent-seeking or empire-building

reasons) and wield influence in an attempt to obtain more funds for their units. Influence activities are costly and inefficient because resources are spent trying to affect allocations and because the resulting investment decisions may not be optimal.[1]

Although there has been theoretical progress in the modeling of internal capital markets, empirical evidence is scarce. The current situation is similar to that in the literature on internal labor markets, a literature described by Baker and Holmstrom (1995, p. 259) as being in a phase of "too many theories, too few facts" and in need of "studies of personnel records, supplemented by interviews and institutional facts." As in that literature, Schoar (2002) and Maksimovic and Phillips (2002, 2007) also argue for the need to look *within* the corporation to understand governance structures and their connection to resource allocation and management decisions throughout the entity.[2] In this paper, we take these recommendations with an approach similar to that in Baker, Gibbs, and Holmstrom (1994a, 1994b), who use internal labor data from a large firm to test internal labor market theories. We put together new data for a multinational conglomerate and analyze in detail its capital allocation process and the means by which more powerful and better connected business-unit managers use the process to obtain larger allocations after cash windfalls at headquarters.[3]

[1] Some inefficient internal capital markets models focus on the firm CEO as the source of the agency problem. These models predict that CEOs try to allocate more capital to units from which they can obtain higher private benefits of control (Stulz (1990)), expect future favors, or help them get entrenched (Shleifer and Vishny (1989)).

[2] The need to look within firms has also been recognized in the management accounting literature. Ittner and Larcker (2001, p. 396), for example, write that "greater use of detailed data from a single or small number of organizations is also recommended. [….] such studies may provide the only means for obtaining the quantity and level of data needed to answer many managerial accounting research questions."

[3] Our approach to looking within the corporation is also taken by Gopalan, Nanda, and Seru (2007), who examine the means by which internal capital markets in Indian business groups help support financially weaker firms, by Cremers, Huang, and Sautner (2010), who look at capital allocation data in a banking group, and by Seru (2010), who looks at R&D productivity in conglomerates.

Our analysis relies on two new databases. The first, drawn from the proprietary records of the internal management accounting system of the conglomerate, contains five years of data on planned (i.e., budgeted) and actual (i.e., realized) capital allocations for each of the firm's twenty business units, which operate under five divisions. In addition to the data on capital expenditures, we collected data on planned and actual marketing and R&D expenditures, as well as on assets, sales, sales growth, EBIT, cash flows, and personnel. To our knowledge, this is the first such dataset used in the internal capital markets literature. Most of the variables in our dataset are rarely available even at divisional level.[4] An additional advantage of our data is that it allows us to analyze individual business units. As in most other conglomerates, the divisions of our firm lack operating activities themselves and act mostly as organizational umbrellas for the underlying business units. Business units are the real centers of economic activity in the typical conglomerate: they originate budget requests, receive capital allocations, make investments, and initiate production.

We complement this data with a second dataset of measures of managerial power and connections for the forty-three business-unit CEOs working at the conglomerate over the five-year period of our analysis. We construct six indices of managerial power and connections. An initial set of measures is based on management profile data from BoardEx and ZoomInfo, data we cross-check and complement with information from annual reports, social networking web pages, and a systematic web and newspaper search.[5] These measures

[4] Segment reporting rules such as US-GAAP (SFAS 131/ASC 280) and IFRS (IAS 14/IFRS 8) require firms to report divisional information only on assets, sales, liabilities, depreciation, income, and capital expenditures. In practice, firms do not publish data by business unit and do not provide information on their budgets or investment plans. See Villalonga (2004) for a discussion of additional potential problems of using divisional data to study internal capital markets.

[5] BoardEx data has been recently used in Cohen, Frazzini, and Malloy (2008), whereas ZoomInfo data is used in Cohen, Frazzini, and Malloy (2009).

proxy for managers' career at the firm, their social network at the workplace, and the similarity of their personal profiles to that of the CEO.[6] We also take a survey of business-unit CEOs, a survey we designed ourselves, to put together a second set of measures of managerial power and connection. The survey, which contains both self-constructed questions and questions previously used in the management and sociology literature (Podolny and Baron (1997), Forret and Dougherty (2001, 2004)), makes it possible to construct measures capturing a unit manager's networking activities and his or her connections to executive management.

Before we look at the effects of managerial power on capital allocation, we analyze the firm's financial characteristics and its investment behavior. Throughout the period of analysis, there is no indication that the firm is financially constrained or in need of cash to finance investment opportunities. The firm also exhibits characteristics similar to those documented for other conglomerates. Consistent with the numbers in Lang and Stulz (1994) and Berger and Ofek (1995), the conglomerate discount of our firm averages 15% over the sample period. The business units of the conglomerate also overinvest and show a sensitivity of investment to Tobin's Q lower than that of matched stand-alone firms, as posited by Berger and Ofek (1995), Rajan, Servaes, and Zingales (2000), and Ozbas and Scharfstein (2010). These results suggest that the conglomerate may be exposed to frictions in internal capital allocation similar to those to which conglomerates analyzed in the aforementioned papers are exposed.

[6] Several of these measures are similar to those used in papers such as those by Berger, Ofek, and Yermack (1997), Ryan and Wiggins (2004), Cohen, Frazzini, and Malloy (2008), Fracassi (2008), Landier, Nair, and Wulf (2009), and Bandiera, Barankay, and Rasul (2009).

For a better understanding of the causes of frictions in internal capital allocation, we start by analyzing the budget allocation process at our conglomerate. Bower (1970, p. 305) describes capital allocation within firms as a political process and argues that "top management must manage its influence on [such] political processes." Similarly, Jensen (2003, p. 380) contains vivid descriptions of how power and negotiations influence the budgeting process. He writes that "the budgeting process frequently consumes six months of management time in negotiations, planning, and target-setting." Our access to internal firm documents helps us open up this "black box" and provide a detailed picture of the stages of the allocation process and the role played by unit managers. During the budgeting stage, business-unit CEOs provide initial allocation plans negotiated through organized and extensive interaction with senior management before they are approved. Although the general unit budget is approved and investments below a threshold can be carried out, making large expenditures still requires additional justification and approval during the execution stage. But this final stage of the process is shorter and less formalized and it leaves more room for discretion and favors.

The main contribution of our paper is that it documents empirically the role of managerial power and connections in this process and their effects on actual capital allocations. We provide some of the first empirical evidence on two main fronts. First, we compare approved planned capital allocations (i.e., budgets) and actual allocations and show that managers use the standardized budgeting process to build buffers into their budgets. Business-unit managers systematically over-budget capital expenditures and end up investing

less than their approved allocation nearly 85% of the time. These empirically documented findings corroborate previous research based on interviews and laboratory experiments.[7]

Second, we show that, although all unit managers try to use their excessive capital budgets to justify additional spending, units run by more powerful and better connected managers obtain higher *actual* capital allocations at times of financial slack in the firm. To measure financial slack, we use the method of Blanchard, Lopez-de-Silanes, and Shleifer (1994), who analyze firms' behavior after unexpected cash windfalls. During our sample period, the conglomerate experiences eight substantial cash windfalls resulting from the sale by headquarters of equity stakes in other companies whose lines of business are largely unrelated to those of the units.[8] Although the business units did not consider the windfalls in their previously submitted and approved planned capital budgets, some of the additional cash is available, *ex post*, for their investments, thereby creating financial slack.

Actual investment rates across all units increase on average by about 40% in quarters in which there are cash windfalls. But this increase is far from homogenous, and a large share of the variation is accounted for by the power and the connections of the units' CEOs. For six different indices of power and connections, we find that more powerful unit managers get significantly larger shares of the windfalls for their own units and increase their actual investments on average 40% more than their peers do. These magnitudes are estimated after controlling for proxies for investment opportunities and unobserved business-unit heterogeneity. Results are robust to alternative specifications.

[7] Dunk and Nouri (1998) provide a review of this literature. Studies using surveys include those by Onsi (1973), Merchant (1985), or Dunk (1993). More recently, Van der Stede (2000), for example, uses questionnaires to measure over-budgeting. Studies using laboratory experiments include Young (1985), Chow, Cooper, and Waller (1988), and Waller (1988) or Stevens (2002).

[8] The windfalls are very large: they are equivalent, on average, to 53% of the conglomerate's annual cash flow and 252% of its annual capital expenditures.

An advantage of focusing on the effect of power and connections on the distribution of windfalls rather than on planned capital budgets is that it mitigates reverse causality problems; after all, it could be that historically high planned capital allocations could themselves be a source of intra-organizational managerial power. An additional advantage of our method is that by looking at the difference between actual and planned investment, we control for the investment opportunities of the units, opportunities that should be reflected in the planned capital budgets. A final advantage of our data is that it allows us to address two additional potential concerns. First, we show that the results are not driven by endogenous allocation of powerful managers to the units with best investment opportunities. Second, we provide evidence that our measures of power do not seem simply to proxy for managerial ability.

An explanation consistent with our findings is that approval of investments is easier to come by when the conglomerate is awash in cash and planned budgets are not yet fully spent. Such approval is more likely for units run by more powerful and well-connected managers. We provide evidence of one of the channels through which powerful managers obtain such larger allocations. This evidence lends weight to bargaining-power theories, which posit that capital allocations are based partly on power and connections.

Our results complement the work of Rajan, Servaes, and Zingales (2000), who show that diverse firms, which are more susceptible to power struggles, allocate more resources to units with few investment opportunities and that of Duchin and Sosyura (2010), who show that the influence of division managers affects investment efficiency and firm value. It is also related to that of Xuan (2009), who studies how job histories of CEOs affect capital allocations to divisions. Our paper likewise complements that of Graham, Harvey, and Puri

(2010), who survey CEOs and CFOs in an attempt to elucidate the factors affecting the distribution of capital across corporate divisions. Finally, we provide evidence corroborating several studies that describe the ways in which political activity, lobbying, and persuasion affect capital budgeting (Pfeffer and Salancik (1974), Covaleski and Dirsmith (1986), Hirst and Baxter (1993)) and the ways in which middle managers try to convince their superiors, on both formal and informal occasions, of their need for bigger budgets, and fight to wield influence over allocation decisions (Lukka (1988), Lumijärvi (1991)).

The paper is organized as follows. Section I describes the conglomerate, its capital budgeting process, and our planned and actual allocation data. This section also presents the evidence for systematic over-budgeting of capital needs. Section II presents our evidence on the effects of managerial power and connections on the allocation of cash windfalls. Section III analyzes the robustness of the results and discusses alternative explanations. Section IV concludes.

I. The Conglomerate and its Capital Allocation

A. Organizational Structure of the Conglomerate

Our firm is a major international conglomerate with business around the world. It has production plants in more than fifteen countries on four continents and has more than 100,000 employees. The organizational structure of the firm takes the multidivisional M-form[9] and the conglomerate operates with a headquarters, five product divisions, and twenty

[9] The M-form structure involves "the creation of semi-autonomous operating divisions (mainly profit centers) organized along product, brand, or geographic lines" (Williamson (1981, p. 1555)). The alternative is a

business units (see Figure 1).[10] Headquarters coordinates central corporate functions, especially corporate strategy, internal capital allocation, outside financing, M&A, investor relations, and legal affairs. It also holds and manages equity stakes in corporations outside the conglomerate. The executive board, chaired by the CEO, is located at headquarters and has the ultimate responsibility for the firm.[11]

[FIGURE 1 HERE]

The five product divisions beneath headquarters have no separate operating activities themselves and act as umbrellas under which the business units operate. The divisions cover five distinct industry sectors and are run by division CEOs who have no direct operating responsibility; instead, they coordinate the activities of the business units. As in most conglomerates, the business units are the real centers of economic activity within the firm; they are responsible for investment, production, and sales. All of the units do business beyond the borders of the country where the firm is headquartered. The number of business units in a division ranges from one to eight, as illustrated in Figure 1. The divisions and their business units have no access to the external capital market and hence cannot raise debt or equity. The division and business-unit managers are not part of the executive board.

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centralized, functionally departmentalized or unitary (U-form) structure. The M-form was pioneered in large format by the US conglomerates Du Pont and Sloan.

[10] The conglomerate has two other business units which are not included in our analysis. Neither unit can be compared with the twenty other units in the sample. One of these two units is a pure consolidation unit, which aggregates miscellaneous activities. This unit does not participate in the planning process and does not have a consolidated budget. The other unit is a service unit that does not make investments. As neither was a real business unit, neither had a business-unit CEO over the entire sample period. Annual sales and total assets of each of these two units amount to less than 1% of the aggregate sales and assets of the other twenty units combined.

[11] The firm did not change its CEO during the sample period of our analysis.

B. Financial Characteristics of the Conglomerate

To ensure that the conglomerate is similar to other big conglomerates, we compare a set of its financial variables with those of other large conglomerates. As comparison firms, we look at all non-financial conglomerates in the Dow Jones 30 and the Euro Stoxx 50.[12] We do so also to show that our firm is unlikely to be financially constrained and in need of cash to finance investment by its units. Panel A of Table I shows that our conglomerate's aggregate investment rate, calculated as capital expenditures over total assets, is similar to those of the median conglomerate in the Dow Jones 30 and the lower-end conglomerates in the Euro Stoxx 50. Apart from having relatively low leverage and high cash holdings, the conglomerate also has a relatively high dividend payout ratio. Its dividend was constant for the first three years of our sample and increased substantially in both 2005 and 2006. Furthermore, the firm initiated a share repurchase program in 2005 and paid out nearly to €1.4 billion to its shareholders. Taken together, these circumstances suggest that our firm is unlikely to be financially constrained. As argued in Hovakimian and Titman (2006), these considerations are important, as the cash windfalls, which we exploit in the next section, could be considered not exogenous to the business units' investments if the firm were financially constrained.

[TABLE I HERE]

For a further comparison, we calculate the firm's conglomerate discount. Using the method of Berger and Ofek (1995), we find that the conglomerate discount is 15% over the

[12] For this comparison, we consider all non-financial firms that operate at least in two different segments as conglomerates.

sample period.[13] This figure is comparable to those documented for other large US and European conglomerates (Berger and Ofek (1995), Lang and Stulz (1994), Hoechle et al. (2010), Glaser and Müller (2010)). In fact, our conglomerate comes close to matching the 13-15% discount found for the average US conglomerate in Berger and Ofek (1995).

In Panels B and C of Table I, we follow the classic papers in the internal capital markers literature and show some of the potential causes of such a discount. Instead of using divisional data, we use our more detailed business-unit information. Panel B compares the annual investment rates of the business units and those of matched stand-alone firms operating in the same industry as the units.[14] We find that the business units of the conglomerate invest more than comparable stand-alone firms. The evidence is in line with the arguments in Jensen (1986) and Stulz (1990), who suggest that overinvestment in conglomerates is a potential source of the value loss from diversification.

Panel C compares the sensitivity of the investments of business units and that of matched stand-alone firms. We use a specification drawn from Ozbas and Scharfstein (2010) and pool data for the business units and matched stand-alone firms. We then run regressions of investment on investment opportunities (imputed Tobin's Q), cash flow, a dummy that equals one if an observation is from a unit of the conglomerate, and the interaction of the

[13] To obtain this figure, we take the approach suggested by Berger and Ofek (1995) to compare our conglomerate and matched focused firms. For each of the five divisions, we collect data on all publicly-listed stand-alone firms doing business in the same three-digit SIC code. We then calculate the conglomerate's excess value (EV) defined as EV=ln(MV/IV). MV, the firm's market value, is defined as the market value of equity plus the book value of debt. IV, the firm's hypothetical imputed value, is defined as the sum of the imputed hypothetical values of each division. The hypothetical division values are calculated as the division sales times the median value of the market value-to-sales ratio of a division's matched publicly-listed stand-alone firms.

[14] Matched stand-alone firms are firms that operate in the same industries as the business units based on four-digit NAICS codes. They are considered stand-alone if the first two (in robustness checks also the first three) digits of the first and secondary SIC codes are identical. We rely on SIC codes to identify focused firms as secondary NAICS codes are not available. The number of business units included in the analysis is less than twenty, as matched stand-alone firms are not available for all business units.

dummy and the first two variables. As Ozbas and Scharfstein (2010) find for divisions, we find that business units exhibit lower sensitivity of investment to Tobin's Q, which suggests that their investment is generally less responsive to measures of investment opportunities than is that of stand-alone firms.[15]

Taken together, the numbers in Table I suggest that the financial characteristics, the diversification discount, and the general investment behavior of our conglomerate are similar to those of other conglomerates. In the next section, we attempt to open the "black box" of the conglomerate's capital allocation process for a better understanding of how resources are distributed and to identify potential sources of frictions in internal capital allocation.

C. Internal Capital Allocation: Process and Data

C.1 Internal Capital Allocation Process

To better understand the mechanics of capital allocation we asked our firm to grant us access to internal company documents describing the internal budgeting, allocation, and execution processes and to provide us detailed data on planned and actual allocations. We were given access to information describing the details behind the budget creation and allocation processes of the firm, especially on (1) the elaboration of budgets; (2) the time lines of budgeting meetings; (3) the managers who participate in these meetings; and (4) the

[15] We also carry out an analysis at division level following the method suggested by Shin and Stulz (1998), to further compare the conglomerate of our study with those of other studies that rely on divisional data. We thereby analyze the conglomerate's internal capital market by regressing the investment of a division on its own cash flow, proxies for divisional investment opportunities, and the aggregate cash flow of the other divisions. We also use sales growth and imputed divisional Tobin's Q as measures of investment opportunities. Our estimates are consistent with those documented for the average conglomerate in Shin and Stulz (1998). The estimates show that the firm operates an active internal capital market as a division's investment is related to the cash flow available at *other* divisions. Moreover, the investment of a division depends much more on its own cash flow than on the cash flow of the firm's other divisions, which suggests that the internal capital market does not fully insulate a division's investment from its own operating cash flows.

procedures for approving investments. With these documents, and several interviews of managers—unit CEOs, controllers from headquarters, and unit controllers—involved in the budgeting process, we were able to put together the details of the full internal capital allocation process of the conglomerate.

The general strategy of the firm is developed by the executive board and serves as the foundation for capital allocation and other major corporate decisions. The internal capital allocation process itself consists of two general stages: a budgeting (or planning) stage and a realization (or execution) stage. The steps of these two stages can be visualized in Figure 2 and the exact details of the full process are described in Appendix A-3.

[FIGURE 2 HERE]

In the budgeting or planning stage (Panel A of Figure 2), the firm transforms the general corporate strategy into planned capital allocations (budgets). The transformation is completed in a two-phase process supported by the elaboration of two documents for each business unit: (1) the strategic outlook, and (2) the annual capital allocation plan.

The goal of the first phase of budgeting is to develop a three-year strategic outlook for each business unit through discussions about the long-term strategy of the unit. In January of each year, business-unit CEOs begin identifying long-term growth and investment opportunities for their units. These business plans are then presented by the business-unit CEOs to the respective division CEOs. In February, negotiations take place over these opportunities; preliminary decisions on the business plans are made by the division CEOs in March. Each division CEO and his business-unit CEOs then present the three-year business plans of their units, using standardized forms, to the executive board and negotiate revisions and adjustments. The negotiations are coordinated, scheduled, and structured by corporate

control at headquarters, a centralized support service which also checks and analyzes the plans. In April, after negotiation with the executive board and the unit managers, the executive board makes a final decision on the figures in the strategic outlook. The strategic outlook includes general targets for planned investments and required resource allocations for all units. This document serves as the foundation for the internal capital allocation process. As described, the process is highly institutionalized and structured; decisions are made for the three-year period starting in January of the subsequent year.

The second phase of budgeting consists of the elaboration of a more detailed annual capital allocation plan for each business unit. This plan is a one-year investment plan containing detailed resource allocations. The annual plan of a unit is equivalent to a detailed breakdown of the capital allocation in the strategic outlook setting more concrete investment budgets.[16] This plan also translates into a complete set of unit balance sheets and income statements, which are subsequently aggregated and consolidated at division and at firm level. Debate over the annual allocation plan gets underway in June; division CEOs draw on the strategic outlook to prepare investment and allocation targets for the coming year. In July, business-unit and division CEOs then negotiate these allocation plans and make any necessary adjustments. Preliminary budget decisions are made in August. As in the strategic outlook, again on standardized forms, the division and business-unit CEOs present the capital allocation plan to the executive board, and a second round of in-depth joint negotiations and revisions takes place in September and October. As in the strategic outlook, the negotiations

[16] Appendix A-7 presents a time-line of the budgeting stage at our firm during the years of our analysis. The figure shows details of the calendar and overlap between the strategic outlook and the annual capital allocation phases of the budgeting stage. The figure also reports the years for which we have planned and actual accounting data available.

are coordinated, scheduled, and structured by corporate control. Finally, in October or November, the executive board decides on the investment budgets for the coming year. The divisions and business units then receive the approved plan and prepare the implementation for the coming year.

It is during the realization or execution stage (Panel B of Figure 2) that concrete investments are made and the corresponding cash outflows are processed. Decisions here are made much more quickly than they are during budgeting. All investments (buying or replacing small machines or IT, for example) below a specific investment threshold can be made, quickly and easily, with simple procedures at the discretion of the business units. The thresholds depend on the divisions and on their capital intensity varying from 0.7 to 2.3 % of the mean total assets of the business units. Although the annual capital allocation plan is the basis for investments by the business units, the firm requires additional approvals for the execution of any project in the plan that involves investments in tangible or intangible fixed assets that exceed the investment threshold. If the proposed investment exceeds the threshold, the business unit must prepare, for approval by the division CEO and the executive board, an investment memo that contains (1) a document to be signed by the executive board, (2) a document describing the investment, and (3) a net present value calculation. The project description should explain the reason for and the risks of the investment and a discussion of alternatives. Each business unit must show that the investment will generate *at least* a positive NPV. For this reason, the company has constructed an NPV calculator, a spreadsheet provided by headquarters that all units must use to evaluate projects.[17] Though important, the

[17] As the discount rate for the NPV calculation, the firm uses a project-specific weighted average cost of capital (WACC), provided by headquarters. The input on interest rates, cost of debt, and country risk premiums used

NPV of a project is not the only relevant approval criterion. In fact, when it comes to deciding which positive NPV projects are to be carried out, other more loosely defined criteria, such as the strategic fit of a project, its cash-flow structure, or the past performance and reputation of the business-unit CEOs behind the project, also play an important role. Taking into account such a range of aspects to approve the execution of investments is not specific to our firm. The recent CEO survey by Graham, Harvey, and Puri (2010), confirms that actual allocation decisions in many firms are also based on cash-flow timing, market share, previous returns, and even on manager reputation, manager confidence, and gut feel. After taking into account all factors, the executive board makes a decision on the proposed investment and informs the business unit of its final decision by automated email. The business unit may then go forward with the investment by placing an order, signing a letter of intent or contract, or making a payment. Headquarters allocates the necessary funds.

C.2 Internal Capital Allocation Data

The process described above provides the basis for a better understanding of our capital allocation data. This data comes from the internal management accounting system and covers quarterly data on *planned* (i.e., budgeted) allocations and monthly data on *actual* (i.e., realized) capital allocations for each of the twenty business units from 01/2002 to 12/2006. Appendix A-7 reports the years for which we have planned and actual accounting data. Our data on planned allocations is taken from electronic files containing the annual capital allocation plans produced in the second phase of budgeting. Our data on realized allocations

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for the calculation of the WACC is provided by the corporate treasury, at headquarters. Tax rates are provided by the corporate tax department, also at headquarters.

is taken from electronic files created by corporate control and is based on actual reporting by the business units. Once aggregated, this data is used by the firm to put together its external financial reporting.

[TABLE II HERE]

Panel A of Table II presents statistics for the data on planned allocations, whereas Panel B shows statistics for data on realized allocations. Both panels show averages for the business units in each of the five divisions. The exact definitions of all variables are presented in Appendix A-1; all variables are calculated on quarterly observations. Since we have twenty business units and twenty quarters, the maximum number of observations for planned data is four hundred unit-quarters. Although we lack some data for a few business units at the beginning of our sample period, the planned data on the main variables used in the paper, including capital expenditures, sales, EBIT, and total assets is available for at least 359 business-unit-quarters. The coverage of data for planned R&D and marketing expenditures, cash flows from operations, and personnel is not as wide, since these variables were collected only as of 2004 and not at all for two business units.

To compare data for planned and actual allocations, the table includes only observations that, for each variable, correspond to an exact match between the two forms of data.[18] Differences between the values for planned and actual allocations are shown in Panel C. Values for planned allocations do not match those for realized allocations exactly; the comparisons permit three particular observations. First, sales are overestimated at all business units, and EBIT is overestimated for the units of three of the five divisions. Second, actual

[18] Summary statistics across all unit-quarters for all available data are provided in Appendix A-4. Correlations are found in Appendix A-6.

sales growth and operational cash flows are not significantly different from planned values. Finally, and, for our analysis, most importantly, planned capital expenditures are statistically significantly higher than actual capital expenditures. This data suggests that business-unit managers across the firm use the standardized capital allocation process systematically to build slack into their budgets by over-budgeting for investments.[19]

To illustrate the systematic over-budgeting of capital expenditures, Figure 3 plots annual averages of planned and actual capital expenditures for each of the twenty business units. The graph shows that the units end up over-budgeting and investing *below* their investment plans 83% of the time. The management accounting literature has called this pattern "budgetary slack," not to be confused with financial slack. Our findings, the first to rely on hard data, corroborate those of previous research, which relies mostly on interviews or laboratory experiments to show that managers try to over-budget for their investments (Dunk and Nouri (1998), Onsi (1973), Merchant (1985), Dunk (1993), Young (1985), Chow, Cooper, and Waller (1988), Waller (1988), Stevens (2002), Davila and Wouters (2005)).

[FIGURE 3 HERE]

The documented pattern of over-budgeting is arguably costly, as it may keep funds available for all budgeted projects, which in turn may remain unused and be put into cash accounts earning returns below the cost of capital (Antle and Eppen (1985)). Moreover, it is problematic, as the budgeting process loses the "critical unbiased information that is required to coordinate the activities of disparate parts of an organization" (Jensen (2003, p. 379)). The

[19] We find no statisitically significant connection between over-budgeting and the power and connections of the business-unit CEOs, suggesting that building this slack is a conglomerate-wide pattern.

next section presents evidence that helps us better understand the behavior and incentives of managers that may be behind this pattern of over-budgeting.

II. The Effect of Managerial Power on Capital Allocations

The pronounced and consistent difference between planned and actual capital expenditures prompts questions about why unit CEOs would systematically ask for more capital than they actually invest. To understand this behavior, one must connect the internal capital allocation process and measures of managerial power. More specifically, we provide evidence in this section that managers use their overblown capital budgets to justify additional spending at times of financial slack. We show that more powerful and better connected business-unit CEOs obtain substantially higher actual capital allocations for their units when funds from cash windfalls are available.

A. Measuring Power and Connections in the Firm

There are forty-three business-unit CEOs working for the firm over the sample period. Only 45% percent of the managers are still employed by the firm; the rest have left or retired. Thirty-two of the managers worked as CEOs of only one business unit, nine as CEOs of two units, and two as CEOs of three units. So there is a total of fifty-six different manager-business-unit pairs for the forty-three CEOs and twenty business units.

To measure power and connections, we construct six indices capturing different dimensions of the strength and internal network of the forty-three different business-unit CEOs. Management profile data from BoardEx, ZoomInfo, social networking web pages (LinkedIn, Facebook, MySpace), annual reports, and systematic web and newspaper searches

are used in the construction of the first three indices. These indices are available for at least thirty-four of the forty-three unit managers. Despite a detailed search, the data for some components of the indices was not available for all managers. Table III presents averages of our six indices across unit managers, reported separately for each of the twenty business units and by division. Summary statistics for each of the variables used in the indices are also reported in Appendix A-2, and summary statistics for the indices across the full sample are reported in Appendix A-4. All variables and indices are standardized or constructed in such a way as to take values from zero to one.

[TABLE III HERE]

The first measure, *Career at the Firm*, proxies for a manager's career at the firm and for his or her social network at the workplace. It draws on the management and sociology literature, which has underscored the importance of social networks at workplaces (Podolny and Baron (1997)). It is formed by averaging three variables, each normalized to fall between zero and one: (1) the number of months over which a manager coincided at a unit of the conglomerate with a person who later became an executive board member; (2) the number of years a manager has been working at the firm; and (3) the number of years a manager has been working in a powerful position at the firm (division CEO, business-unit CEO, or head of marketing). A measure of employment networks similar to the one we use for our first variable is used by Fracassi (2008). For the second and third variables, we assume as in Ryan and Wiggins (2004) or Berger, Ofek, and Yermack (1997) that the power and connections of managers increase as their tenures lengthen and that this effect is particularly pronounced if they are in powerful positions. We thereby attempt to capture the span of the more general social networks of managers inside the company.

The second index, *CEO Similarity*, assesses the similarity of a manager's profile to that of the CEO of the firm (the firm had only one CEO during the sample period). It is formed by averaging the following four dummy variables: (1) a dummy equal to one if a manager speaks the native language of the CEO; (2) a dummy equal to one if a manager lives in the country in which the CEO lives; (3) a dummy equal to one if a manager went to the same university as the CEO; and (4) a dummy equal to one if a manager was a student in the same academic discipline as the CEO. The first two variables of the index are inspired by the work of Bandiera, Barankay, and Rasul (2009), who rely on workers' and managers' nationalities and the proximity of their dwelling places to assess the similarity of workers and managers. We assume that managers are more likely to be closer to the CEO if they speak the same language (which is not English) or live in close proximity to him (see Landier, Nair, and Wulf (2009) for similar measures). The latter matters as the firm is a multinational conglomerate with units around the world. The last two components measure personal connections via shared educational networks and academic backgrounds in an attempt to proxy, as in Cohen, Frazzini, and Malloy (2008), for the relationship of a manager and the CEO. The third index, *Power Index*, is formed by averaging the previous two indices.

The three remaining indices are drawn from responses to a survey we took with the support of the firm. The survey contained both questions we wrote and questions previously used in the management and sociology literature (Podolny and Baron (1997), Forret and Dougherty (2001, 2004)). In the summer of 2008, after several beta tests, we distributed a questionnaire to all forty-three current and former business-unit CEOs. We guaranteed that the survey answers would be analyzed with full confidentiality and anonymity for research purposes only, and that they would not be traceable. In total, twenty business-unit CEOs—a

response rate of about 47%—returned the survey.[20] The three survey-based indices are available for at least sixteen managers. The survey questions used to construct the indices and their summary statistics are reported in Appendix A-2 and summary statistics of the indices across the full sample are reported in Appendix A-4.

Our *Networker* index measures the extent to which managers engage in networking within the firm. The survey questions used to construct the index are similar to those in Forret and Dougherty (2001, 2004). The index is formed by averaging the following five dummy variables: (1) a dummy equal to one if a manager is a member of a fraternity; (2) a dummy equal to one if a manager is a member of a social club inside the firm; (3) a dummy equal to one if a manager regularly stops by the headquarters to say "Hello"; (4) a dummy equal to one if a manager regularly accepts highly visible work assignments; and (5) a dummy equal to one if a manager participated regularly in highly visible task forces or committees.

The fifth index, *Division CEO Connection*, measures how well a business-unit CEO is connected to his or her division CEO. The index is formed by averaging the following variables: (1) a dummy equal to one if a manager named the division CEO as a personal mentor; (2) a dummy equal to one if a manager lunches at least occasionally with the division CEO; and (3) a dummy equal to one if a manager meets the division CEO in person at least every two weeks. The survey question underlying item (1) is based on a question used in Podolny and Baron (1997), and the survey question underlying item (2) is based on a question used in Forret and Dougherty (2001, 2004). Finally, the last index presented in Table III is labeled *Connected Networker* and it is simply the result of averaging the previous

[20]As the firm supported our survey, we managed to get 65%—as opposed to only 22% of those who had left—of the unit CEOs who still worked at the firm to respond to our survey.

two indices. This index could be regarded as capturing an overall degree of the networking abilities of a manager.

For all six indices Table III shows substantial variation both within and across divisions. Some units seem to score consistently higher than others when it comes to the power of their CEOs. It shows, for example, that the average values for the power and connection measures of business units in divisions 1 and 2 are generally below the average for the entire firm, whereas the values for those of divisions 4 and 5 are generally above it. This pattern, however, is not uniform across all units in a division, as some business units in divisions 1 and 2, for example, still score relatively high on some power measures. Moreover, the table shows that there is considerable variation across the six measures within a unit, indicating that they may be capturing complementary aspects of power and connection.

[TABLE IV HERE]

Panel A of Table IV provides an initial view of the role of managerial power and connections. It shows that power and connections help explain differences in investment rates and it serves as a point of departure for the more formal analysis in the next section of the paper. The panel is constructed as follows. For each of the six indices of power or connections, Panel A shows business units separated into two subsamples. First, for each year and business unit we calculate the average value of each index. Second, we calculate the median values across the business-unit-years and split the sample. For each measure of power, a business-unit-year is in the high-power group if the power measure is above the median of the sample and in the low-power group if it is below it. The panel shows average investment rates for business units in the two subsamples and indicates whether the difference in investment rates is statistically different from zero. For each subsample, we also

show the investment rates of matched stand-alone firms. Panel A provides evidence along two dimensions. First, it suggests that units run by more powerful or better connected managers invest significantly more than units run by less powerful or less well-connected managers. Second, it suggests that units run by high-power managers also invest at statistically significantly higher rates than matched stand-alone firms. By the criterion of the index of *Career at the Firm*, for example, a powerful unit has an annual investment rate of 0.061, compared to only 0.033 for a unit with low power and compared to 0.400 of matched stand-alone firms.

B. Managerial Power and Planned Capital Allocations

To understand intra-firm capital allocation, the management accounting literature provides a different description and analysis of the budgeting (planning) and realization (or execution) stage for capital allocation (Hirst and Baxter (1993), Marshuetz (1985) Mukherjee (1988), Zaring (1996)). This literature also explains in depth how to design the budgeting stage to diminish the detrimental effects of managerial power and connections. Most authors agree that firms should try to set up a structured system of checks and balances to mitigate managerial influence activities.[21] Our conglomerate designed its budgeting stage, as described in Section I, with characteristics resembling those suggested in the literature to limit managerial influence activities during the planning phase.

[21] Piercy (1987), for example, lists the following organizational tools that provide management mechanisms with which to improve the budgeting process: a formal organizational structure, the control of flows of information, avoidance of social interaction between people involved in the budget setting (between controllers at headquarters and unit managers), and a rewards and sanctions system associated with budget outcomes. Maccarone (1996) provides related suggestions. Similarly, textbooks in both management accounting and finance provide detailed suggestions on how to structure the budgeting process to reduce the effects of influence activities and corporate politics in capital allocation (Anthony and Govindarajan (2007), Brealey, Myers, and Allen (2006)).

[TABLE V HERE]

Table V presents regressions of *ex ante* planned investment on our measures of power and connections, and a set of measures of investment opportunities.[22] We run these regressions to test more formally whether the mechanisms and structures used by our conglomerate in the budgeting process reduce the effect of managerial influence on capital allocation. The estimates show that planned investment is significantly related to measures of future growth opportunities and profitability, indicating that the budgeting process attempts to allocate funds to the units with the best prospects. These results are in line with neoclassical investment models that suggest that corporate resources should go to the units with the greatest growth opportunities (Maksimovic and Phillips (2002)). Interestingly, we are unable to detect a statistical relationship between our measures of power and *ex ante* capital allocations. These findings suggest that power and connections do not play a strong role in the normal capital budgeting stage (that is, for data for planned allocations). It is thus likely that the structured process described in Section I is able to neutralize managerial power in the budgeting or planning phase.

Managerial power and connections may not affect planned allocations and the budgeting stage, but one wonders if power is important in the realization (or execution) stage. Although a structured budgeting phase may be designed to minimize the effects of corporate politics on planned capital budgets, actual capital allocations in the realization phase may still

[22] Having access to planning data allows us to use the profitability measures actually used by the firm to assess future opportunities. We control for lagged values of planned EBIT divided by total assets, a measure of planned capital intensity, planned sales growth, and the lagged deviation of planned from actual EBIT. This regression setup is consistent with management accounting research in which, for example, budget adjustments as a result of spending variances are analyzed (Lee and Plummer (2007)). We include a fourth-quarter dummy, as some of the business units sell large fractions of their products in the fourth quarter. The regressions include lagged values of the power and connection indices, as power in the current period may affect budgets drawn up for the following period.

be distorted by power and connections. Appendix A-6 presents some evidence of the association between actual capital allocations and our power indices. The pair-wise correlations of our six power indices and actual allocations are between 0.28 and 0.41. We therefore need to take a closer look at the realization stage, a look that will also help us understand why managers have incentives to over-budget investments.

C. Cash Windfalls and Capital Allocations

Though it seems difficult to deviate much from planned allocations and, in particular, to exceed the plans, we argue and provide evidence that power may be particularly useful when large windfalls arise and *ad hoc* decisions need to be made. In other words, although the budgeting stage is formally structured to minimize the effects of power, the realization stage may allow managers to exercise influence after cash windfalls resulting allocation.

The theoretical basis for this conjecture comes from the normative budgeting literature. Based on an extensive literature review, Sisaye (1995) predicts *when* and *how* power is most likely to matter. He writes that "when resources are scarce, the resource allocation decisions give priority to technical and economic considerations" (p. 133). Capital budgeting in firms is then based on a "rational choice model for resource allocation decisions" (p. 133) and the allocations follow a formalized organizational process. By contrast, he continues, "a political approach [is] commonly used in conflictual organizational settings in which units bargain or compromise to receive a larger proportion of slack organizational resources" (p. 151).[23] Applied to our setting, Sisaye's analysis suggests that

[23] *Slack resources*, not be confused with *budgetary slack*, are resources in excess of those planned in the budgets.

resource allocation decisions after cash windfalls become a political process and may be affected by the power and connections of business-unit managers. Zaring (1996, p. 233) observes that "there is a lack of clarity about the way the models [used for capital budgeting] should incorporate environmental consequences—the unexpected as well as the expected," an observation that suggests practices such as those in place at the firm we study are not out of the ordinary.

In this section, we document empirically how managerial power and connections affect capital allocations for investment after exogenous cash windfalls. During the sample period, our conglomerate experienced eight large cash windfalls resulting from headquarters' sales of equity stakes in other companies. The equity sales occurred in six different quarters. Calculated across these six quarters, the average cash inflow from the windfalls comes to €938 million. In all eight cases, the stakes were considered non-strategic holdings whose sale allowed the firm to cut its exposure to those industries and exploit market opportunities. As illustrated in Figure 4, the cash windfalls are substantial and are therefore likely to have an impact on the operations of the conglomerate. Depending on the year, for example, the windfalls represent between 24 and 84% of the firm's total annual operational cash flow and between 160 and 403% of its total annual capital expenditures. Appendix A-5 provides more details of the windfalls.

[FIGURE 4 HERE]

The cash windfalls described provide a suitable scenario for testing the effects of power and connections on capital allocation for four main reasons. First, the impact of power on the distribution of windfalls rather than on planned capital budgets per se mitigates potential reverse causality problems; after all, historically high planned capital allocations

could themselves be a source of intra-organizational managerial power. Second, cash windfalls are largely exogenous to the divisions and their business units because the equity stakes are not part of the unit's assets,[24] they are held and managed by headquarters, and the decision to sell them is made by corporate headquarters alone. Finally as Table I shows, our firm is neither financially constrained nor in need of cash to finance investment opportunities. The sale of the stakes is therefore not endogenous in the sense that they do not seem to be sold to finance essential investment. Panel B of Appendix A-5 further dispel any notion that the equity stakes are sold primarily to raise capital for the financing of projects. The panel shows that only 19% of the money from the windfalls is used by the conglomerate for internal investments. Twenty percent of the money is paid out to the firms' shareholders in the form of dividends and share repurchases, and another 20% is used to increase cash holdings. [25]

In Panel B of Table IV we provide a simple analysis linking the investment rates of business units and the allocation of funds from cash windfalls. We split business units into two subsamples based on the difference between capital expenditures in cash-windfall and no-cash-windfall quarters. If the difference is large, it suggests that the capital expenditures of the business unit increase greatly when proceeds from cash windfalls are available; if it is small it suggests that they increase only little. A business unit belongs to the high-allocation

[24] The lines of businesses of the companies in which the equity stakes are sold are unrelated to those of the business units of the conglomerate in five of the eight cases. In the remaining three cases, the only relationship to the business of the units is that the equity stakes sold belong to firms which were suppliers to two of the conglomerate's units. Our results are robust to the exclusion of these two units from our analysis.

[25] A related question is why the conglomerate's shareholders do not demand full payout of the cash windfalls. Part of the explanation may be the standard free cash-flow argument of Jensen (1986). Apart from having relatively low leverage, the firm is widely held and does not have block-holders owning above 5% of the shares. Additionally, the conglomerate operates in a country that, according to the investor protection indices by La Porta et al. (1998) and Djankov et al. (2008), is considered to have rather weak anti-director and anti-self-dealing rights.

subsample if the difference in allocation between cash-windfall and no-cash-windfall quarters is above the median and it belongs to the low-allocation subsample if the difference is below the median. Panel B shows that units where the difference in allocation from cash-windfall to non-cash-windfall quarters is large have investment rates almost twice as high as those of units that receive little from the windfalls; the investment rates are also substantially higher than those of matched stand-alone firms. This simple analysis suggests that investment rates may be connected to the distribution of cash windfalls.

D. Allocation of Cash Windfalls and Managerial Power

Figure 5 shows that cash windfalls seem to be associated with changes to actual unit investment. Although actual investment is generally less than planned investment, actual capital expenditure is substantially closer to the planned budgets during cash-windfall quarters. This effect is statistically significant at the 1% level and uniform across all cash-windfall quarters. If managerial power matters for the allocation of cash windfalls, more powerful or better connected managers should receive a larger share of the windfalls. In other words, the investments ultimately made by their units exceed planned investments by more than the investments ultimately made by units run by managers who, as it were, are less likely to spend an afternoon on the links with executive managers from headquarters or to wax nostalgic with the CEO of the conglomerate for their long-gone days at the old *alma mater*.

[FIGURE 5 HERE]

To investigate this hypothesis formally, the regressions reported in Table VI use the difference of actual minus planned capital expenditures over total assets as the dependent variable. This measure is similar to the one in Rajan, Servaes and Zingales (2000) but instead

of using industry average expenditures, our analysis exploits the availability of business-unit planned investment data. If planned allocations already reflect the investment opportunities of the business units, our analysis has the advantage that it partially accounts for differences in investment opportunities across units. All regressions in Table VI also account for unobserved business-unit heterogeneity and year fixed effects. Regressions include a fourth-quarter dummy, as some of the business units sell substantial fractions of their products towards the end of the year.

[TABLE VI HERE]

The first three specifications in Table VI analyze the impact of of cash windfalls and proxies of investment opportunities before introducing our measures of managerial power. Consistent with the pattern presented in Figure 5, the regression estimates in column 1a show that the cash windfalls move actual investments close to those planned.

The estimates in column 1b show that investment opportunities, as proxied by sales growth and EBIT over assets, have a significant positive impact on how close to each other actual and planned investments are. In particular, units with better opportunities are able to make more of the investments budgeted for, whereas those with fewer opportunities seem not to make as many budgeted investments. A one-standard-deviation increase in sales growth, for example, implies an increase of 0.0015 (i.e., 15%) of actual minus planned capital expenditures over assets. This change is equivalent to a 13% increase of the standard deviation of our dependent variable. These results are in line with neoclassical investment models (Maksimovic and Phillips (2002)), which suggest that corporate resources should go to the units with the highest growth opportunities and that units with better opportunities should therefore be closer to their plans. Specification 1b also shows that past deviations of

EBIT from its plan are also a significant determinant of the proximity of actual and planned investments: business units that were farther away from their EBIT plans in the past are less able to spend their entire investment budgets. This finding is consistent with the evidence in the accounting literature, which suggests that the so-called profitability planning variances, that is, differences between actual and planned EBIT, affect next-period actual capital allocations (Anthony and Govindarajan (2007), Balakrishnan, Sivaramakrishnan, and Sprinkle (2009)).

Specification 1c includes both the cash-windfall variable and investment opportunities proxies. Estimates show that although the impact of sales growth weakens, while the significance of EBIT and its past deviations from plan remain strong. Controlling for investment opportunities reduces the statistical significance of cash windfalls to 10 percent, but its magnitude remains virtually intact. A cash windfall of €938 million, which equals the average cash windfall in a cash-windfall quarter, increases the difference of actual minus planned investment over assets by 0.0041. Holding fixed planned investment, this estimate suggests that actual investment increases by about this number.[26] Relative to an average quarterly business-unit investment rate of 0.01, calculated across all no-cash-windfall quarters, our calculation says that the windfall leads to a substantial 41% increase in investment (see Table VI Panel B).

The increase in capital expenditures in cash-windfall quarters is far from homogenous from unit to unit; and some of the heterogeneity can be explained by different degrees of power and connections of business-unit managers. Columns two to seven of Table VI include

[26] We can assume a fixed planned investment rate as the cash windfalls were not incorporated in the annual capital allocation plan.

the cash-windfall variable, our power or connection indices, and interactions of the two. The indices vary from regression to regression and are named in the columns above each regression. The estimates show that, controlling for investment opportunities and business-unit heterogeneity, managerial power and connections have a significant impact on the allocation of cash windfalls. For all six indices we find that units run by more powerful or well-connected managers receive a substantially larger share of the windfalls, as indicated by the positive and significant coefficient of the interaction terms. Figure 6 complements this evidence providing a set of partial scatter plots based on the regression results of Table VI. These plots show that our results are not driven by outliers.

[FIGURE 6 HERE]

The estimated economic effects of power and connections on the cash-windfall distribution are large. Suppose the firm experiments a windfall of €938 million in a quarter. How do different degrees of managerial power or connection affect the difference between actual and planned investments? To illustrate these economic effects, Panel B of Table VI reports the changes in investment using the estimated coefficients of the regressions. Using, for example, *Career at the Firm*, we find that the investment rate of a unit run by a CEO with a power index at the twenty-fifth percentile of the distribution increases investment by only 0.0002 after a windfall. This change corresponds to an increase of 2% relative to the average non-cash-windfall quarterly investment rate of 0.01. If, by contrast, a unit is run by a powerful CEO with a power index at the seventy-fifth percentile, investment increases by 0.0039, which corresponds to a substantial 39% increase relative to the average non-cash-windfall quarterly investment rate. The economic effects are similar and sometimes even larger for the other five indices. These effects are also displayed in Figure 7. Across all

indices, more powerful and better connected unit managers increase their actual investments on average 40% more than their peers do.

[FIGURE 7 HERE]

The estimates in Table VI provide strong evidence that well-connected and powerful managers can capture substantial amounts from cash windfalls. For a better understanding of why investments increase so substantially during cash-windfall quarters, we held several structured interviews with managers and other important decision makers at the conglomerate. One view expressed by our interviewees was that investment approval procedures in the realization stage seem to be more lax in periods of large cash windfalls. Some managers argued that the firm is thereby trying to avoid keeping large amounts of cash from accumulating in its cash accounts, which could cause it to become a target for shareholder activists. Our interlocutors also stated that the unspent money from regular planned capital allocations is not available for expenditure by other business units. Proceeds from cash windfalls, by contrast, are available to all units. If a unit does not use the available funds for its investments, they are likely to be used by others.

Our results are consistent with these views. All managers have an incentive to over-budget for their investments and to grab as large a share as possible of any windfalls. The expectation of financial slack helps explain why managers have incentives to over-budget for their investments: over-budgeting allows them to increase investments once cash windfalls arise, usually without going over budget. The variety of investment criteria considered during the execution stage provides flexibility and translates in a seemingly less stringent approval

process in the presence of cash windfalls. Importantly, our findings show that units run by powerful managers succeed in obtaining more investment approvals during windfalls.[27]

III. Robustness and Alternative Explanations

A. Alternative Regression Specifications and Controls

In Table VII, we run a set of robustness checks of our main results. The table shows only the coefficient and standard error of the power-windfall interaction term (Managerial Power * Ln(1+Cash Windfall)). Specification A shows results using the same specification as in Table VI but without control variables to ensure that the impact of our power measures is not simply due to the specification used before. The following two specifications in Table VII consider alternative controls to those used in Table VI for investment opportunities and the importance of the unit in the firm, respectively. We exploit the availability of planned investment data to account for the unit profitability expected by the firm. Specification B, for example, uses planned sales growth as a proxy to control for the expected profitability of a unit. The results are similar if we use planned EBIT over assets (not shown) instead. Results are also robust to including cash flow from operations over assets and lagged values of EBIT over assets. In specification C, we control for the (strategic) importance of a unit using its size (total assets) as a proxy. Managerial power results are also robust to including other measures of importance such as the size of unit sales or cash flows.

[TABLE VII HERE]

[27] Since the conglomerate is headquartered in Europe, our results complement those in Graham, Harvey, and Puri (2010, p. 1), who find that corporate politics is more important for capital allocation in firms headquartered outside the United States.

The next three rows of the table present alternative econometric specifications to those used in Table VI. Specification D reports results from pooled OLS regressions, without business-unit fixed effects, but with standard errors clustered at business-unit level. Specification E is estimated as in D but without clustering of standard errors to ensure that our results are not affected by the relatively small number of clusters we use. In specification F, we estimate an AR(1) process for the error term as capital expenditures are often very persistent over time (Gatchev, Pulvino, and Tarhan (2010)) and to account for any possible autocorrelation in the error term that may arise from the use of lagged control variables.

In the last two rows of the table, we address potential concerns about the design of our analysis. Specification G uses actual capital expenditures over total assets as the dependent variable. This specification suggest that units run by more powerful or connected managers get higher capital allocations from the cash windfalls irrespective of their planned budgets. Finally, specification H addresses the potential concern that three of the eight cash windfalls may not be entirely unrelated to the lines of business of the units. In these three cases, the windfalls result from the sale of equity stakes in firms that acted as suppliers to two of the business units (see Appendix A-5). In specification H, we take a radical approach and exclude all quarterly observations of these two business units. The estimates in Table VII show that our results are robust to these alternative specifications.

B. Power as a Measure of Ability

We also run a series of tests to mitigate concerns that managerial power and connection measures proxy for ability. We provide three pieces of evidence against this view. First, if power and connection capture ability, our measures of power should have an effect

on planned capital budgets such that more able managers get larger allocations *ex ante*. The findings in Table V show that managerial power is not connected to planned budgets.

Second, if the power variables capture ability, our proxies should be positively related to the operating performance of the business units. To examine whether such a positive relation exists, we regress the operating performance on our power proxies and a set of controls in Table VIII. We take sales growth as a measure of operating performance.[28] We control for cash flow from operations, past investment, marketing expenditures, R&D expenditures, total sales, and personnel intensity (number of employees relative to assets). The estimates reported in Table VIII show that we cannot detect a positive and statistically significant relation between performance and our measures of managerial power and connections.

[TABLE VIII HERE]

Finally, we attempt to develop direct proxies for managers' ability. One can argue that more able managers are more likely to hold a degree from a top university and that higher ability managers are more highly visible and more likely to be hired as non-executives by other companies. To test for these two possibilities, we collect additional information on whether unit CEOs hold a degree from an elite university and whether they hold non-executive directorships outside the firm. Appendix A-1 provides the definition and method to construct these two proxies. Summary statistics for the ability proxies are also reported in Appendix A-4.

[28] Our results are similar if we use EBIT/Total Assets as a proxy for performance. The advantage of using sales growth as the performance measure is that this variable is more easily verified and less prone to potential window dressing by the unit managers.

Although these two variables are certainly not perfect proxies, it is not unreasonable to assume that they are correlated with ability. Some supporting evidence for this argument comes from Appendix A-8, which shows that the two ability proxies are related to measures of business-unit performance (i.e., sales growth) and planned capital allocation. These estimates provide evidence that units run by more able managers perform better and receive larger budget allocations

In Table IX, we add each of these two ability proxies as well as interaction terms between the proxies and cash windfalls to the specifications presented in Table VI. Panel A shows results when we use the elite-university variable and Panel B when we use the non-executive-director variable. The estimates show that our results are robust to direct inclusions of proxies for ability; some power variables even become more significant.

[TABLE IX HERE]

C. Endogenous Allocation of Managers to Business Units

Another alternative explanation for our findings may be the endogenous allocation of powerful and well-connected managers to those business units with the best investment opportunities. There are two main versions of this view. The first version, related to the interpretation of power as ability, holds that headquarters allocates the most able managers to the business units with the brightest prospects. In this scenario, ability drives the allocation of managers. The second version argues that the most powerful managers lobby to be placed at the units with the best investment prospects. In this scenario, the allocation of managers to units is driven by their power rather than by their ability to run a specific unit.

Though plausible, our data suggests that neither of these two versions is likely to explain our results. First, the evidence already presented in Tables V and VIII does not square with either of these two versions. There does not seem to be a positive relationship between (i) the power variables and planned capital budgets and between (ii) the power variables and future performance. Second, the correlations presented in Appendix A-6 show that there is no significant relationship between our indices of managerial power and actual sales, sales growth, and EBIT/Assets. If anything, there seems to be a negative correlation between managerial power and Tobin's Q. Finally, the internal job movements are rather rare in our firm and the connections and power of managers who moved from one unit to another are not significantly different from those of the rest of the managers. Of all forty-three business-unit CEOs employed over the sample period, only eleven moved from one business unit to running another. If we compare the indices of power and connection of the eleven managers who moved from one unit to another and those of the managers who did not move, we detect no significant between-group differences.

D. Capital Expenditures versus Marketing and R&D Expenditures

Our analysis has focused on the effects of power and connections on the allocation of windfalls for *capital* expenditures. Our focus follows that of the previous literature as capital expenditures are typically associated with empire-building by CEOs and unit managers (Jensen (1986), Shleifer and Vishny (1989), Scharfstein and Stein (2000)). They are visible investments, associated with status and prestige.

So far, we have not looked into allocations for research and development (R&D) or marketing expenditures. The nature of R&D and marketing expenditures is different from

that of capital expenditures. R&D investments are usually riskier than capital expenditures and are subject to large uncertainty. Moreover, there is usually a great lag between the initiation of an R&D project and the point at which it begins to bear fruit. This lag may also account in part for managers' failure to invest more heavily in R&D (Hirshleifer and Thakor (1992)). Marketing expenditures are also different from capital expenditures, additional marketing may have positive externalities on other units of the firm, whereas the effects of additional capital expenditures are felt mostly at the unit making the expenditures. For all of these reasons, bargaining-power theories usually model capital expenditures to analyze the relationship between power or connections and capital allocations (Scharfstein and Stein (2000)).

We do not expect R&D and marketing expenditures to change significantly after the arrival of windfalls. Evidence consistent with these expectations is provided in Appendix A-9, which shows the cash-windfall regressions of Table VI with R&D (Panel A) and marketing expenditures (Panel B) instead of capital expenditures. These two dependent variables are also constructed as the difference between actual and planned expenditures over assets. The estimates in column 1 of Panels A and B show that cash windfalls do not seem to affect the deviation of actual from planned R&D and marketing expenditures. This lack of significance is consistent with evidence suggesting that firms smooth R&D expenditures over time and that shocks to cash flows do not seem to affect R&D expenditures (Lach and Schankerman (1989), Hall (2002)). Moreover, R&D expenditures are usually conducted based on long-term plans and often constitute a fixed fraction of sales (Anthony and Govindarajan (2007)). Furthermore, R&D expenditures are very difficult to adjust as they mainly represent labor

expenses for scientists and engineers who are difficult to hire on short notice (Lach and Schankerman (1989)). Similar arguments apply for marketing expenditures.

For all the reasons alluded above, we also do not expect power and connections themselves to have an effect on the distribution of the cash windfalls for R&D or marketing expenditures. Columns two to seven of both Panels of Appendix A-9 show evidence consistent with this expectation. Two additional structural features present in many conglomerates may also help explain the lack of impact of windfalls and managerial power on R&D and marketing expenses. First, research activities are often shared by business units in research-competence centers, so R&D expenditures, too, are less likely to be determined by individual unit managers than are capital expenditures. Second, a large part of marketing expenditures focus on promoting the brand name of the firm. So marketing expenses are much less at the discretion of managers within the firm and less exposed to internal power struggles.

IV. Conclusion

Our analysis tries to open up the black box of internal capital markets and test predictions of theories linking managerial power and connections to capital allocations. To test these predictions, we combine a unique dataset from the internal management accounting system of a large international conglomerate, information on the backgrounds of management, and internal survey data. We provide some of the first empirical evidence showing that although all managers use the standardized budgeting process to build buffers into their budgets, units run by more powerful and better connected managers are able to obtain substantially higher capital allocations at times of firm financial slack.

Our empirical findings provide hard evidence that managerial power and connections may be a major source of frictions in internal capital allocation. In its attempts to understand the most important factors affecting the internal distribution of capital across corporate divisions, our paper complements the recent CEO survey by Graham, Harvey, and Puri (2010), and a large descriptive literature on the ways in which political activity, lobbying, and persuasion affect capital budgeting (Pfeffer and Salancik (1974), Covaleski and Dirsmith (1986), Hirst and Baxter (1993)).

Our findings open up an interesting new area for future research, since regular capital allocation by which budgets are planned seems not to be significantly distorted by power. It is possible that normal capital allocation already includes checks and balances whose aim is to reduce managerial influence activities. In fact, our conglomerates' capital allocation process includes sophisticated and institutionalized procedures for the setting of ex-ante planned allocations closely resembling those of textbook recommendations (Brealey, Myers, and Allen (2006), Anthony and Govindarajan (2003)). In contrast, our results show that bargaining power is highly relevant for ad hoc distribution of surprise windfalls. It is thus in the wake of such windfalls, less likely to be incorporated into the firm's institutionalized and structured processes for allocating capital, that managerial power may be wielded to greatest effect.

The results presented here have several implications. Most narrowly, and from a firm's perspective, they may justify policies of automatic job rotation, as described in Stein (2003) for General Electric. Such policies usually mean that managers are automatically moved from one division to another, thereby reducing their incentives to bargain for large

capital allocations for their current units. Another implication for managerial practice is to formulate rules on how to proceed when unexpected cash windfalls arise.

More generally, our findings also have implications for the area of organizational economics, and our understanding of the circumstances under which individuals may choose to exercise power. They may contribute, for example, to an understanding of the effects of lobbying faculty deans at universities when large donations are received, the success of politically well-connected firms to obtain government funds when countries get IMF or World Bank assistance (e.g., Faccio, Masulis, and McConnell (2006)), or the effects of political power of interest groups or individuals on government spending during times of unexpectedly high tax revenues.

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Table I
Financial Characteristics of the Conglomerate and Investment of Its Business Units

Panel A of this table shows the main financial ratios of the conglomerate and compares these ratios with those of non-financial conglomerates in the Euro Stoxx 50 and the Dow Jones 30 indices. Conglomerates are all firms from the indices with at least two divisions (segments) in different 2SIC codes. The reported ratios are the averages of annual data over the period 2002 to 2006. We also report the median, standard deviation, and the 25th and 75th percentiles for the conglomerates in each of the indices. Panel B presents statistics for annual investment rates (capital expenditures/total assets) of the conglomerate's business units and of matched stand-alone firms over the period. Matched stand-alone firms are the firms included in Compustat (Global and North America) that, based on four-digit NAICS codes, operate in the same industries as the business units. Matched stand-alone firms are considered focused if the first two (2SIC) digits of the primary and secondary SIC codes are identical (results are very similar if we require that the first three (3SIC) digits are identical, but we have less matches). We rely on SIC codes to identify stand-alone firms as secondary NAICS codes are not available. The number of business units included in the analyses of Panel B is less than the twenty business units of the conglomerate (and the number of annual observations is thus less than one hundred), as matched stand-alone firms could not be identified for all years for three of the twenty business units. The last column of the panel presents the p-value of a difference-in-means t-test comparing the investment rates of the business units of our conglomerate and those of the matched stand-alone firms. Panel C follows Ozbas and Scharfstein (2010) and presents OLS regressions to analyze the sensitivity of investment rates of the business units of the conglomerate and those of matched stand-alone firms. Robust standard errors, clustered at firm level, are shown in parentheses. All variables in Panel C are Winsorized at 1%. Detailed definitions of each variable in the table are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Panel A: Comparison of Financial Ratios of Our Conglomerate and of Other Conglomerates

	Conglomerate	Euro Stoxx 50 Conglomerates [N=32]				
		Mean	Median	Std. dev.	25%	75%
Capital Expenditures/Total assets	0.032	0.086	0.074	0.068	0.047	0.121
Total Debt/Total Assets	0.478	0.643	0.648	0.125	0.581	0.724
Cash Holdings/Total Assets	0.141	0.105	0.068	0.098	0.047	0.113
Dividends/EBIT	0.474	0.255	0.241	0.313	0.179	0.302

	Conglomerate	Dow Jones 30 Conglomerates [N=28]				
		Mean	Median	Std. dev.	25%	75%
Capital Expenditures/Total Assets	0.032	0.042	0.038	0.023	0.023	0.051
Total Debt/Total Assets	0.478	0.583	0.547	0.171	0.487	0.687
Cash Holdings/Total Assets	0.141	0.108	0.073	0.124	0.032	0.132
Dividends/EBIT	0.474	0.276	0.250	0.260	0.150	0.329

Panel B: Investment Rates of Business Units and Matched Stand-alone Firms

	Capital Expenditures/Total Assets				
	Obs.	Mean	Median	Std. dev	p-value
Business Units of the Conglomerate	88	0.046	0.031	0.040	0.0171**
Matched Stand-alone Firms	305	0.036	0.027	0.037	

Panel C: Investment Sensitivity of Business Units and Matched Stand-alone Firms

	Capital Expenditures/Total Assets			
	[1]	[2]	[3]	[4]
	[2SIC]	[3SIC]	[2SIC]	[3SIC]
Imputed Tobin's Q * Business Unit	-0.0202**	-0.0203**	-0.0178*	-0.0179*
	[0.0101]	[0.0102]	[0.0101]	[0.0102]
Imputed Tobin's Q	0.0039	0.0040	0.0041	0.0042
	[0.0025]	[0.0026]	[0.0026]	[0.0027]
Cash Flow from Operations/Total Assets * Business Unit	-0.1036**	-0.1038**	-0.1029**	-0.1050**
	[0.0502]	[0.0510]	[0.0509]	[0.0517]
Cash Flow from Operations/Total Assets	0.0232	0.0233	0.0234	0.0236
	[0.0220]	[0.0231]	[0.0222]	[0.0233]
Constant	0.0325***	0.0378***	0.0341***	0.0386***
	[0.0075]	[0.0086]	[0.0073]	[0.0084]
Firm/Business-Unit Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	No	No	Yes	Yes
Observations	352	260	352	260
Number of Firms & Business Units	80	66	80	66
Adjusted R-squared	0.145	0.155	0.141	0.150

Table II
Business-Unit Planned and Actual Accounting Data

This table shows the planned (i.e., budgeted) and actual (i.e., realized) accounting data for the business units of the conglomerate. The data is obtained from the internal management accounting system of the conglomerate. The numbers reported in each column correspond to the means of all business units within each division between 01/2002 and 12/2006. Panel A reports planned accounting data, whereas Panel B reports actual accounting data. To ensure comparability, Panels A and B contain only the information of business units that have both planned and actual data. The number of observations for each variable and each division is reported in brackets underneath the respective value. Panel C reports the difference between planned and actual data and the significance levels of difference-in-means t-tests between planned and actual data. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Panel A: Plan Data	**Division 1**	**Division 2**	**Division 3**	**Division 4**	**Division 5**
Planned Sales (millions)	795.84	218.21	1300.10	325.79	149.96
	[60]	[160]	[19]	[80]	[72]
Planned EBIT/Total Assets	0.010	0.027	0.018	0.066	0.090
	[60]	[160]	[19]	[80]	[72]
Planned Sales Growth	0.091	0.054	0.023	0.014	0.097
	[57]	[152]	[18]	[76]	[68]
Planned Cash Flow from Operations/Total Assets	0.012	0.036	0.066	0.073	0.128
	[36]	[96]	[11]	[48]	[24]
Planned Capital Expenditures (millions)	7.74	4.48	112.55	13.86	6.25
	[36]	[160]	[19]	[80]	[64]
Planned Capital Expenditures/Total Assets	0.011	0.008	0.029	0.021	0.027
	[36]	[160]	[19]	[80]	[64]
Planned R&D Expenditures/Total Assets	0.077	0.033	0.064	0.024	0.034
	[36]	[92]	[11]	[48]	[24]
Planned Marketing Expenditures/Total Assets	0.193	0.064	0.021	0.092	0.163
	[36]	[96]	[11]	[48]	[24]
Planned Personnel (# of employees)	4479	3810	33382	10554	2368
	[36]	[96]	[11]	[48]	[24]

Panel B: Actual Data	**Division 1**	**Division 2**	**Division 3**	**Division 4**	**Division 5**
Sales (millions)	754.87	206.07	1132.43	314.39	138.39
	[60]	[160]	[19]	[80]	[72]
EBIT/Total Assets	-0.020	0.014	0.006	0.061	0.089
	[60]	[160]	[19]	[80]	[72]
Sales Growth	0.042	0.056	-0.006	0.014	0.095
	[57]	[152]	[18]	[76]	[68]
Cash Flow from Operations/Total Assets	-0.040	0.031	0.072	0.072	0.129
	[36]	[96]	[11]	[48]	[24]
Capital Expenditures (millions)	4.94	3.25	90.95	10.62	4.72
	[36]	[160]	[19]	[80]	[64]
Capital Expenditures/Total Assets	0.006	0.005	0.023	0.015	0.019
	[36]	[160]	[19]	[80]	[64]
R&D Expenditures/Total Assets	0.060	0.030	0.062	0.024	0.032
	[36]	[92]	[11]	[48]	[24]
Marketing Expenditures/Total Assets	0.156	0.062	0.021	0.092	0.150
	[36]	[96]	[11]	[48]	[24]
Personnel (# of employees)	4631	3709	34804	10745	2366
	[36]	[96]	[11]	[48]	[24]

Panel C: Differences (Actual– Plan)	**Division 1**	**Division 2**	**Division 3**	**Division 4**	**Division 5**
Sales (millions) (Actual-Plan)	-40.97***	-12.15***	-167.66***	-11.40***	-11.57***
	[60]	[160]	[19]	[80]	[72]
EBIT/Total Assets (Actual-Plan)	-0.030**	-0.012	-0.012*	-0.005*	-0.001
	[60]	[160]	[19]	[80]	[72]
Sales Growth (Actual-Plan)	-0.050	0.002	-0.028	-0.001	-0.002
	[57]	[152]	[18]	[76]	[68]
Cash Flow from Operations/Total Assets (Actual-Plan)	-0.052	-0.005	0.006	-0.001	0.001
	[36]	[96]	[11]	[48]	[24]
Capital Expenditures (millions) (Actual-Plan)	-2.80***	-1.23***	-21.60*	-3.23***	-1.53***
	[36]	[160]	[19]	[80]	[64]
Capital Expenditures/Total Assets (Actual-Plan)	-0.005***	-0.003***	-0.005*	-0.006***	-0.008***
	[36]	[160]	[19]	[80]	[64]
R&D Expenditures/Total Assets (Actual-Plan)	-0.017**	-0.003***	-0.002	0.000	-0.002**
	[36]	[92]	[11]	[48]	[24]
Marketing Expenditures/Total Assets (Actual-Plan)	-0.037**	-0.003***	0.000	0.000	-0.013**
	[36]	[96]	[11]	[48]	[24]
Personnel (# of employees) (Actual-Plan)	-152	101	-1422	-191	2
	[36]	[96]	[11]	[48]	[24]

Table III
Indices of Managerial Power and Connections

This table presents the indices of managerial power and connections for the business-unit CEOs of the conglomerate. The second and third columns of the table show the number of business units and the number of business-unit CEOs in each of the division of the conglomerate. There are twenty business units in the five divisions of the conglomerate. The total number of individual business-unit CEOs employed during our sample period is forty-three. The last six columns of the table report the mean values of the six indices of managerial power and connections for the managers in each business unit and each division of the conglomerate across the sample period from 01/2002 to 12/2006. Empty cells are missing data. The reports also in italics the p-values of Kruskal-Wallis tests, which test whether the indices are statistically different across business units within a division and across the business units of all divisions. Detailed definitions of each variable are provided in Appendix A-1.

			Managerial Power Indices					
Division	**Business Unit**	**Number of business-unit CEOs**	***Career at the Firm***	***CEO Similarity***	***Power Index***	***Networker***	***Division CEO Connection***	***Connected Networker***
1	1	1	0.497	0.500	0.498			
1	2	2	0.264	0.250	0.257	0.200	0.333	0.267
1	3	5	0.144	0.413	0.278	0.200	0.333	0.267
Mean of Division 1			0.316	0.302	0.388	0.345	0.200	0.333
p-value (Kruskal-Wallis test)			*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*
2	1	3	0.318	0.594	0.456	1.000		
2	2	5	0.292	0.708	0.500	0.433	0.250	0.200
2	3	2	0.081	0.250	0.165	0.400	0.667	0.533
2	4	4	0.116	0.125	0.120	0.400	0.333	0.367
2	5	2	0.045	0.438	0.241	0.450	0.333	0.392
2	6	4	0.095	0.344	0.220	0.500	0.583	0.542
2	7	2	0.108	0.463	0.285			
2	8	2	0.103	0.500	0.318			
Mean of Division 2			0.152	0.145	0.428	0.288	0.531	0.433
p-value (Kruskal-Wallis test)			*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*
3	1	3	0.265	0.500	0.382			
Mean of Division 3			0.277	0.277	0.277	0.265	0.500	0.382
p-value (Kruskal-Wallis test)			*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
4	1	3	0.640	0.800	0.720	0.429	0.714	0.571
4	2	2	0.213	0.750	0.482			
4	3	2	0.892	0.575	0.946	0.570	0.950	0.760
4	4	4	0.280	0.563	0.421	0.378	0.444	0.411
Mean of Division 4			0.530	0.506	0.672	0.642	0.459	0.703
p-value (Kruskal-Wallis test)			*0.0005*	*0.0005*	*0.0005*	*0.0005*	*0.0077*	*0.0005*
5	1	2	0.569	0.500	0.535	0.600	0.667	0.633
5	2	2	0.738	0.500	0.619			
5	3	3	0.357	0.463	0.410	0.600	0.765	0.682
5	4	3	0.051	0.488	0.269	0.442	0.474	0.458
Mean of Division 5			0.449	0.429	0.488	0.458	0.547	0.635
p-value (Kruskal-Wallis test)			*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0111*	*0.0001*
Mean Across 5 Divisions			0.345	0.303	0.486	0.406	0.472	0.527
Median Across 5 Divisions			0.316	0.265	0.500	0.396	0.438	0.474
p-value (Kruskal-Wallis test)			*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*	*0.0001*
Number of Business-unit CEOs with available data			35	35	36	34	17	16

Table IV
Business-Unit Investment Rates, Managerial Power and Cash Windfalls

This table shows the average annual investment rates (capital expenditures/total assets) of the conglomerate's business units (BU) and matched stand-alone firms (MSF). Average investment rates are calculated over the period from 2002 to 2006. Panel A provides an initial view of the role of managerial power and connections. The panel is constructed as follows. For each of the six indices of power or connections, Panel A splits business units into two subsamples. First, for each year and business unit we calculate the average value of each index. Second, we calculate the median values across the business-unit-years and split the sample. For each measure of power, a business-unit-year is in the high-power group if the power measure is above the median of the sample and in the low-power group if it is below it. The panel shows average investment rates for business units in the two subsamples and indicates whether the difference in investment rates is statistically different from zero. For each subsample, we also show the investment rates of matched stand-alone firms. Panel B splits business units into two subsamples based on the difference between capital expenditures in cash-windfall and no-cash-windfall quarters. A business unit belongs to the high-allocation subsample if the difference in allocation between cash-windfall and no-cash-windfall quarters is above the median and it belongs to the low-allocation subsample if the difference is below the median. Colum three of both Panels reports the difference in mean investment rates between the high- and low- groups and its statistical significance. Column six reports the difference in mean investment rates between the MSF of high- and low- BU groups and its statistical significance. Finally, columns seven and eight report whether the difference in investment rates of the business units in the high- and low- group and the investment rates of matched stand-alone firms (BU-MSF) is statistically different from zero, respectively. The numbers of observations in each group are reported in brackets. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Panel A: Power of Business Units and Investment Rates

Business units [BU]			Matched Stand-alone Firms [MSF]			Difference [BU-MSF]	
High Power	**Low Power**	**Difference [H-L]**	**High Power**	**Low Power**	**Difference [H-L]**	**High Power**	**Low Power**
			Career at the Firm				
0.061	0.033	0.028***	0.040	0.036	0.005	0.021***	-0.003
[43]	[45]		[170]	[295]			
			CEO Similarity				
0.057	0.037	0.020**	0.040	0.043	-0.003	0.017***	-0.007
[43]	[45]		[245]	[215]			
			Power Index				
0.050	0.043	0.007	0.040	0.036	0.004	0.010	0.007
[43]	[45]		[155]	[290]			
			Networker				
0.070	0.032	0.038***	0.042	0.034	0.008	0.028***	-0.002
[29]	[30]		[155]	[211]			
			Division CEO Connection				
0.069	0.033	0.036***	0.042	0.035	0.007	0.027***	-0.002
[29]	[25]		[155]	[225]			
			Connected Networker				
0.069	0.033	0.036***	0.042	0.035	0.007	0.027***	-0.002
[29]	[25]		[155]	[225]			

Panel B: Cash Windfalls and Investment Rates

Business Units [BU]			Matched Stand-alone Firms [MSF]			Difference [BU-MSF]	
High Proceeds from Cash Windfalls	**Low Proceeds from Cash Windfalls**	**Difference [H-L]**	**High Proceeds from Cash Windfalls**	**Low Proceeds from Cash Windfalls**	**Difference [H-L]**	**High Proceeds from Cash Windfalls**	**Low Proceeds from Cash Windfalls**
0.060	0.033	0.033***	0.041	0.036	0.005	0.019***	-0.003
[43]	[45]		[160]	[300]			

Table V
Planned Investment and Managerial Power and Connection

This table presents OLS regressions for the twenty business units of the conglomerate. The dependent variable in all regressions (shown in the first row) is a business-unit's quarterly planned capital expenditures over its total assets over the period from 01/2002 to 12/2006. We report seven regressions. The first regression does not include any managerial power index as a control. The following six regressions successively control for the managerial power indices indicated in the second row: Career at the Firm; CEO Similarity; Power Index; Networker; Division CEO Connection; and Connected Networker. All regressions also control for: Planned EBIT/Assets (lag); Planned Personnel/Total Assets; Planed Sales growth; EBIT Deviation from Plan/Total Assets (lag); Fourth-Quarter Dummy; and a constant (not shown). The number of business-unit quarters and business units in each regression are reported at the bottom of the table. Robust standard errors, clustered at business-unit level, are shown in brackets. All variables are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

	Dependent Variable: Planned Capital Expenditures/Total Assets						
Managerial Power Indices:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power Index (lag)		-0.0089	0.0028	0.0012	0.0010	0.0017	0.0055
		[0.0066]	[0.0044]	[0.0055]	[0.0022]	[0.0024]	[0.0045]
Planned EBIT/Total Assets (lag)	0.0320**	0.0238**	0.0328**	0.0255**	0.0383**	0.0333*	0.0330*
	[0.0116]	[0.0084]	[0.0121]	[0.0089]	[0.0155]	[0.0164]	[0.0161]
Planned Personnel/Total Assets	0.0005**	0.0006***	0.0005**	0.0006**	0.0007	0.0006	0.0006
	[0.0002]	[0.0002]	[0.0002]	[0.0002]	[0.0004]	[0.0004]	[0.0004]
Planned Sales Growth	-0.0001	-0.0025	-0.0003	-0.0039	0.0069	0.0043	0.0043
	[0.0057]	[0.0031]	[0.0056]	[0.0040]	[0.0081]	[0.0087]	[0.0087]
EBIT Deviation from Plan/Total Assets (lag)	0.0069	0.0128	0.0086	0.0050	0.0199	0.0104	0.0059
	[0.0306]	[0.0236]	[0.0299]	[0.0264]	[0.0472]	[0.0569]	[0.0567]
Fourth-Quarter Dummy	-0.0021**	-0.0025**	-0.0020*	-0.0024**	-0.0012	-0.0010	-0.0010
	[0.0010]	[0.0010]	[0.0010]	[0.0010]	[0.0012]	[0.0013]	[0.0013]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	215	184	207	183	107	99	99
Number of Business Units	18	16	18	19	11	10	10
Adjusted R-squared	0.068	0.099	0.062	0.083	0.018	-0.007	-0.006

Table VI
Cash-Windfall Regressions: Effects of Managerial Power and Connection

Panel A of this table shows OLS regressions for the twenty business units of the conglomerate. The dependent variable in all regressions (shown in the first row) is the quarterly difference between a business unit's actual and planned capital expenditures over its total assets over the period from 01/2002 to 12/2006. We report nine regressions. The first three regressions (i.e., 1a, 1b and 1c) do not include any managerial power index as a control. The following six regressions successively control for the managerial power indices indicated in the second row: Career at the Firm; CEO Similarity; Power Index; Networker; Division CEO Connection; and Connected Networker. The last six regressions also control for the interaction of each of the managerial power indices and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. All regressions, except the second one, also control for Ln(1 + Cash Windfall). All regressions, except the first one (i.e., 1a) also control for: Sales Growth; EBIT/Total Assets; EBIT Deviation from Plan/Total Assets (lag); Imputed Tobin's Q (lag); Fourth-Quarter Dummy; and a constant (not shown). Robust standard errors, clustered at business-unit level, are shown in brackets. All dependent variables and controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%. Panel B reports the economic effects of the managerial power indices, based on the estimates in Panel A. The economic effects are calculated for a cash windfall of €938 million, which equals the average cash inflow in a cash-windfall quarter during our period of analysis. The change in the dependent variable is calculated both if the managerial power index is low (25th percentile) and if it is high (75th percentile The increase in the dependent variable is compared with the average quarterly business-unit investment rate, calculated across all no-cash-windfall quarters.

Panel A: OLS Regressions

	Dependent Variable: (Capital Expenditures - Planned Capital Expenditures)/Total Assets								
Managerial Power Indices:	*None*	*None*	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1a]	[1b]	[1c]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power * Ln(1+Cash Windfall)				1.7392**	0.7924**	1.7080**	3.0234*	2.2885*	3.6446**
				[0.7870]	[0.3508]	[0.6459]	[1.5632]	[1.0789]	[1.4372]
Managerial Power				0.0017	-0.0029	-0.0006	-0.0002	-0.0035	0.0007
				[0.0056]	[0.0049]	[0.0066]	[0.0043]	[0.0060]	[0.0116]
Ln(1+Cash Windfall)	0.0006***		0.0006*	-0.0001	0.0002	-0.0003	-0.0008*	-0.0008*	-0.0013**
	[0.0002]		[0.0003]	[0.0002]	[0.0004]	[0.0003]	[0.0004]	[0.0004]	[0.0004]
Sales Growth		0.0056***	0.0032	0.0035*	0.0026	0.0037*	0.0006	0.0029	0.0022
		[0.0018]	[0.0022]	[0.0019]	[0.0022]	[0.0019]	[0.0051]	[0.0046]	[0.0047]
EBIT/Total Assets		0.0227*	0.0248**	0.0232*	0.0208*	0.0248*	0.0053	0.0095	0.0097
		[0.0115]	[0.0097]	[0.0128]	[0.0106]	[0.0135]	[0.0238]	[0.0246]	[0.0244]
EBIT Deviation from Plan/Total Assets (lag)		-0.0558***	-0.0565***	-0.0662***	-0.0614***	-0.0586***	-0.0644***	-0.0703***	-0.0732***
		[0.0172]	[0.0172]	[0.0183]	[0.0176]	[0.0165]	[0.0180]	[0.0192]	[0.0225]
Imputed Tobin's Q (lag)		0.0097	0.0095	0.0083	0.0093	0.0088	-0.0000	0.0023	0.0026
		[0.0069]	[0.0069]	[0.0079]	[0.0079]	[0.0084]	[0.0079]	[0.0078]	[0.0078]
Fourth-Quarter Dummy		0.0025	0.0012	0.0013	0.0017	0.0011	0.0035	0.0026	0.0027
		[0.0018]	[0.0015]	[0.0014]	[0.0016]	[0.0015]	[0.0033]	[0.0033]	[0.0033]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	359	299	299	246	270	242	141	133	133
Number of Business Units	20	20	20	18	20	18	13	12	12
Adjusted R-squared	0.034	0.111	0.128	0.100	0.106	0.089	0.076	0.064	0.075

Table VI (continued)

Panel B: Economic Effects of Managerial Power (for a Cash Windfall of 938m EUR)

Managerial Power Indices:	*None*	*None*	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1a]	[1b]	[1c]	[2]	[3]	[4]	[5]	[6]	[7]
Low Power and Connection (Variable at 25th percentile)	n/a	n/a	n/a	0.076	0.250	0.264	0.400	0.333	0.367
Estimated Change in LHS variable	0.0041	n/a	0.0041	0.0002	0.0027	0.0010	0.0028	-0.0003	0.0002
Change in investment relative to average investment rate in no-cash-windfall quarters (=0.01)	41%	n/a	41%	2%	27%	10%	28%	-3%	2%
High Power and Connection (Variable at 75th percentile)	n/a	n/a	n/a	0.381	0.500	0.485	0.600	0.667	0.633
Estimated Change in LHS variable	0.0041	n/a	0.0041	0.0039	0.0041	0.0036	0.0069	0.0050	0.0069
Change in investment relative to average investment rate in no-cash-windfall quarters (=0.01)	41%	n/a	41%	39%	41%	36%	69%	50%	69%
Difference Economic Effects	n/a	n/a	n/a	37%	14%	26%	41%	53%	67%

Table VII
Cash-Windfall Regressions: Robustness Checks

This table presents regressions for the twenty business units of the conglomerate. The dependent variable (shown in the first row) in all regressions, except those in row F, is a business-unit's quarterly planned capital expenditures over its total assets over the period from 01/2002 to 12/2006. The table presents nine alternative specifications (one in each row) of the regressions in Table VI. Each cell in the table shows the coefficient and the standard error of the dependent variable on the interaction term of the managerial power index (shown in the second row) and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. All regressions, except those in row A, also control for: the managerial power index shown in the second row; Ln(1 + Cash Windfall); Sales Growth; EBIT/Total Assets; EBIT Deviation from Plan/Total Assets (lag); Imputed Tobin's Q (lag); Fourth-Quarter Dummy; and a constant. Specifications in row A report results from specifications including as additional controls: the managerial power index shown in the second row; Ln(1 + Cash Windfall); and a constant. Specifications in row B include Planned Sales Growth as an additional control. Specifications in row C include Total Assets as an additional control. Specifications in row D report results from pooled OLS regressions, without business-unit fixed effects, but with standard errors clustered at business-unit level. Specifications in row E are estimated as those in row D but without clustering of standard errors. Specification in row F estimate an AR(1) process for the error term. Specifications in row G use business-unit quarterly actual capital expenditures over total assets as the dependent variable. Specifications in row H exclude all observations of the two business units whose business line is not entirely unrelated to three windfalls resulting from the sale of equity stakes in firms that acted as suppliers to these two units. All regressions use quarterly data from 01/2002 to 12/2006. All dependent variables and controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Managerial Power Indices:	**Dependent Variable: (Capital Expenditures - Planned Capital Expenditures) /Total Assets**					
	Career at the Firm	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]
A. Same as in Table VI but without controls	1.2082*	0.8158**	1.3260**	2.4768*	1.9525**	3.1726**
	[0.6477]	[0.3417]	[0.5413]	[1.2451]	[0.8589]	[1.1416]
B. Controlling for planned measures of inv. opportunities (planned sales growth)	1.7303**	0.8049**	1.7037**	3.0137*	2.3100*	3.6851**
	[0.7993]	[0.3400]	[0.6581]	[1.5889]	[1.1204]	[1.5080]
C. Controlling for size of BUs (total assets)	1.6890**	0.7954**	1.6744**	2.9311*	2.2743*	3.5825**
	[0.7759]	[0.3433]	[0.6332]	[1.5918]	[1.0539]	[1.4809]
D. OLS without fixed effects, standard errors clustered at BUs	1.3712*	0.9762***	1.5908**	2.9814*	2.0183*	3.1408**
	[0.6936]	[0.3013]	[0.5751]	[1.3911]	[0.9550]	[1.3823]
E. OLS without fixed effects, no clustering of standard errors	1.3712*	0.9762*	1.5908**	2.9814***	2.0183*	3.1408*
	[0.8164]	[0.5480]	[0.7846]	[1.1130]	[1.1889]	[1.6728]
F. AR(1) process for error term	2.1724**	1.2151	2.3452**	4.3305**	2.5124*	4.0659**
	[0.8435]	[0.9232]	[1.0185]	[1.9601]	[1.2879]	[1.8086]
G. Capital Expenditures/Total Assets as dependent variable	1.2669**	1.3238**	1.6214**	3.5758	3.9046**	5.6325**
	[0.5690]	[0.5625]	[0.6472]	[2.0128]	[1.7432]	[2.2646]
H. Excluding all observations of BUs related to the origin of the cash windfalls	1.9323*	0.7983*	1.7535**	3.0234*	2.2885*	3.6482**
	[0.9824]	[0.3802]	[0.7503]	[1.5632]	[1.0789]	[1.4328]

Table VIII
Sales Growth and Managerial Power and Connection

This table shows OLS regressions for the twenty business units of the conglomerate. The dependent variable in all regressions (shown in the first row) is a business unit's quarterly sales growth over the period from 01/2002 to 12/2006. We report seven regressions. The first regression does not include any managerial power index as a control. The following six regressions successively control for the managerial power indices (lag) indicated in the second row: Career at the Firm; CEO Similarity; Power Index; Networker; Division CEO Connection; and Connected Networker. All regressions also control for: Cash Flow from Operations/Total Assets; Capital Expenditure/Total Assets (lag); R&D Expenditure/Total Assets; Marketing Expenditure/Total Assets; Sales; Personnel/Total Assets; Fourth-Quarter Dummy; and a constant (not shown). The number of business-unit quarters and business units in each regression are reported at the bottom of the table. Robust standard errors, clustered at business-unit level, are shown in brackets. All dependent variables and controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

	Dependent Variable: Sales Growth						
Managerial Power Indices:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power (lag)		-0.0348	-0.0211	-0.0415	-0.1591**	-0.0832	-0.1890
		[0.0480]	[0.0471]	[0.0604]	[0.0611]	[0.0836]	[0.1229]
Cash Flow from Operations/Total Assets	0.3582**	0.3898**	0.3621**	0.3604*	0.2073	0.2422	0.2226
	[0.1576]	[0.1816]	[0.1671]	[0.1730]	[0.3526]	[0.3424]	[0.3425]
Capital Expenditure/Total Assets (lag)	-4.5018***	-4.6282***	-4.1294**	-4.4621***	-3.7297*	-3.6421*	-3.6154*
	[1.3886]	[1.4195]	[1.4754]	[1.3204]	[1.7338]	[1.8023]	[1.7683]
R&D Expenditures/Total Assets	-2.0536	-1.3396	-1.6973	-0.8320	-1.2708	-1.2213	-1.1423
	[1.7338]	[1.4911]	[1.5921]	[1.3781]	[1.4747]	[1.5162]	[1.5556]
Marketing Expenditures/Total Assets	2.5874***	2.2650***	2.7482***	2.4884***	3.8092***	3.7295***	3.7570***
	[0.8272]	[0.7835]	[0.7797]	[0.7366]	[1.0624]	[1.0699]	[1.0406]
Sales	0.0007***	0.0007**	0.0006***	0.0007**	0.0012**	0.0012***	0.0012***
	[0.0002]	[0.0003]	[0.0002]	[0.0003]	[0.0004]	[0.0004]	[0.0004]
Personnel/Total Assets	-0.0068	-0.0058	-0.0170	-0.0188	-0.0512***	-0.0461**	-0.0499**
	[0.0077]	[0.0092]	[0.0111]	[0.0134]	[0.0160]	[0.0168]	[0.0176]
Fourth-Quarter Dummy	0.2080***	0.1948***	0.2104***	0.1983***	0.2088**	0.2050**	0.2073**
	[0.0482]	[0.0542]	[0.0484]	[0.0528]	[0.0715]	[0.0746]	[0.0735]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	390	304	341	296	175	167	167
Number of Business Units	20	19	19	19	14	13	13
Adjusted R-squared	0.485	0.491	0.499	0.505	0.555	0.551	0.554

Table IX
Cash Windfall-Regressions: Controlling for Managerial Ability

This table presents OLS regressions for the twenty business units of the conglomerate. The dependent variable in all regressions (shown in the first row) is the quarterly difference between a business unit's actual and planned capital expenditures over its total assets over the period from 01/2002 to 12/2006. We report seven regressions. The first regression of each panel does not include any managerial power index as a control. The following six regressions of each panel successively control for the managerial power indices indicated in the second row: Career at the Firm; CEO Similarity; Power Index; Networker; Division CEO Connection; and Connected Networker. The last six regressions also control for the interaction of each of the managerial power indices and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. All regressions also control for (not shown): Ln(1 + Cash Windfall); Sales Growth; EBIT/Total Assets; EBIT Deviation from Plan/Total Assets (lag); Imputed Tobin's Q (lag); and a Fourth-Quarter Dummy. Regressions in Panel A also include as controls an Elite University dummy and the interaction of Elite University and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. , is equal to one if a manager holds a degree from an elite university. In Regressions in Panel B also include as controls an External Director dummy and the interaction term of Executive Director and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. Robust standard errors, clustered at business-unit level, are reported in brackets. All regressions include a constants, but the coefficient of the constant is not shown. All dependent variables and the controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Panel A: Elite University as Ability Control

	Dependent Variable: (Capital Expenditures - Planned Capital Expenditures) /Total Assets						
Managerial Power Indices:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power * Ln(1+Cash Windfall)		1.7972**	0.7821	1.7998**	3.4190**	2.2065*	3.7861**
		[0.6968]	[0.6058]	[0.6508]	[1.2376]	[1.0066]	[1.2954]
Managerial Power		0.0005	-0.0041	-0.0026	-0.0092	-0.0030	-0.0041
		[0.0037]	[0.0033]	[0.0044]	[0.0056]	[0.0053]	[0.0096]
Elite University * Ln(1+Cash Windfall)	-0.0008	-0.0004	-0.0008	-0.0004	-0.0001	-0.0004	-0.0001
	[0.0004]	[0.0004]	[0.0005]	[0.0004]	[0.0005]	[0.0005]	[0.0004]
Elite University	-0.0034	-0.0046**	-0.0044*	-0.0054**	-0.0095**	-0.0054*	-0.0073***
	[0.0021]	[0.0020]	[0.0024]	[0.0023]	[0.0036]	[0.0030]	[0.0016]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	274	246	270	242	141	133	133
Number of Business Units	20	18	20	18	13	12	12
Adjusted R-squared	0.132	0.117	0.130	0.107	0.069	0.057	0.068

Panel B: External Director Positions as Ability Control

	Dependent Variable: (Capital Expenditures - Planned Capital Expenditures) /Total Assets						
Managerial Power Indices:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power * Ln(1+Cash Windfall)		1.7255**	0.9598*	1.6955**	3.3084**	2.2225**	3.7853**
		[0.7397]	[0.5008]	[0.6561]	[1.3168]	[0.9773]	[1.2727]
Managerial Power		0.0009	-0.0050	-0.0020	-0.0069	-0.0043	-0.0066
		[0.0048]	[0.0045]	[0.0059]	[0.0044]	[0.0046]	[0.0092]
External Director * Ln(1+Cash Windfall)	-0.0006	-0.0002	-0.0007	-0.0003	-0.0002	-0.0004	-0.0002
	[0.0005]	[0.0004]	[0.0005]	[0.0004]	[0.0006]	[0.0005]	[0.0004]
External Director	-0.0026	-0.0034	-0.0030	-0.0036	-0.0048	-0.0030	-0.0045
	[0.0023]	[0.0024]	[0.0028]	[0.0028]	[0.0032]	[0.0039]	[0.0038]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	295	246	270	242	141	133	133
Number of Business Units	20	18	20	18	13	12	12
Adjusted R-squared	0.139	0.107	0.121	0.096	0.066	0.055	0.065

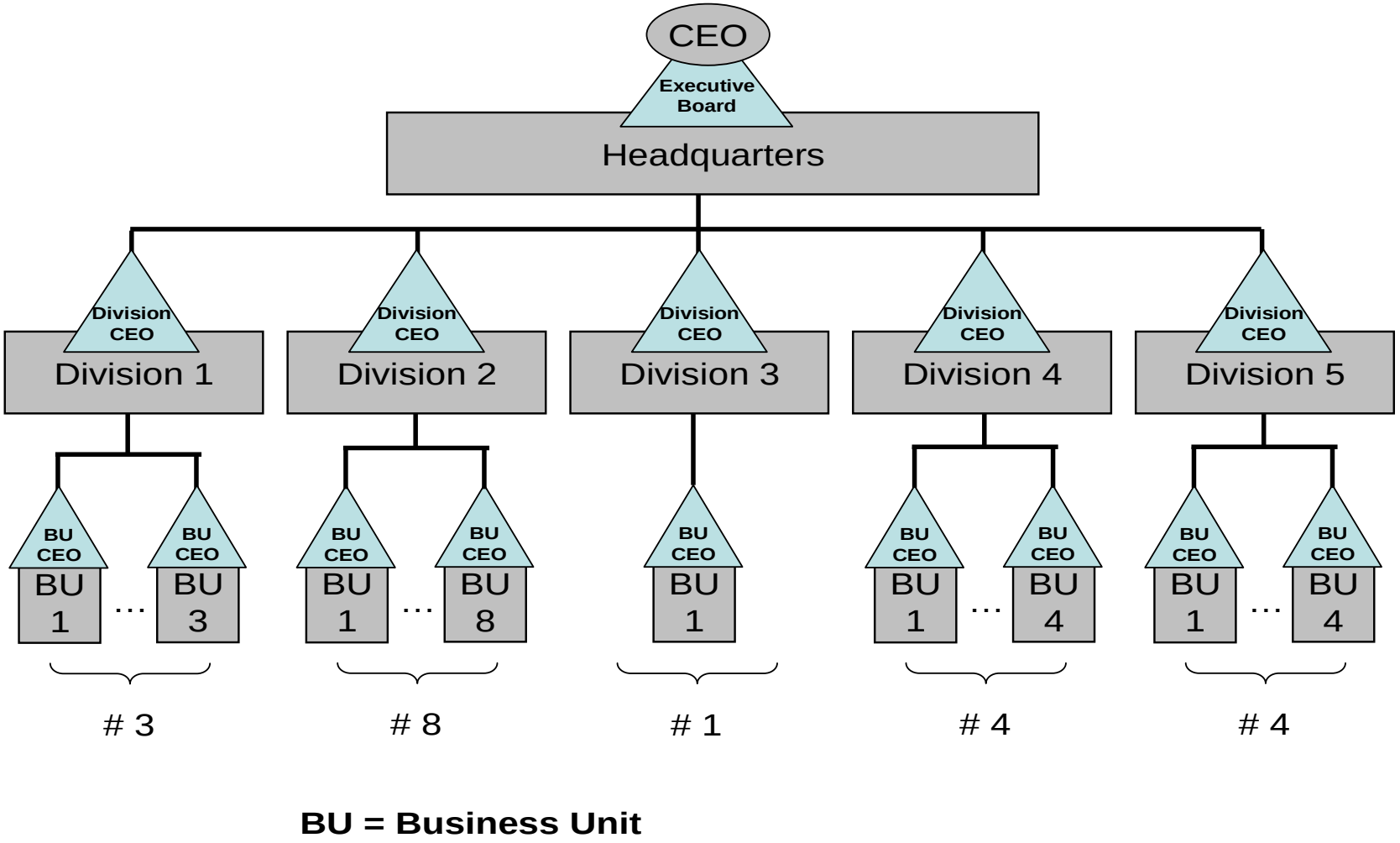
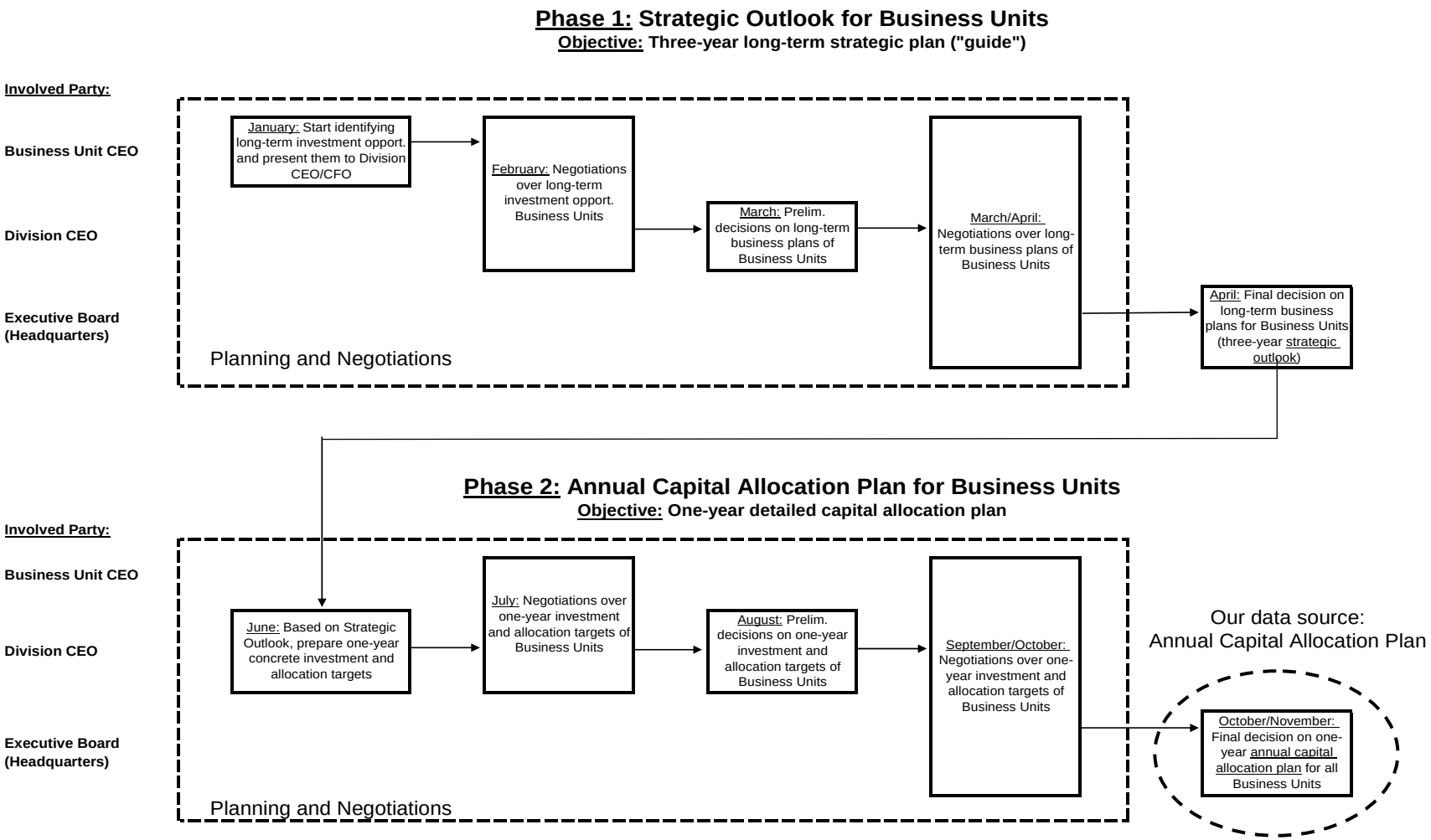


Figure 1. Organizational Structure of the Conglomerate. This figure summarizes the organizational structure of the conglomerate. It shows the five divisions and the business units operating within the divisions. It illustrates, for example, that division 2 operates a total of eight business units. The divisions, which have no operating activities themselves, are run by division CEOs. The business units are the operating units and they are run by business-unit CEOs (BU CEOs). There are twenty business units in total.

Panel A: Budgeting or Planning Stage



Panel B: Realization or Execution Stage

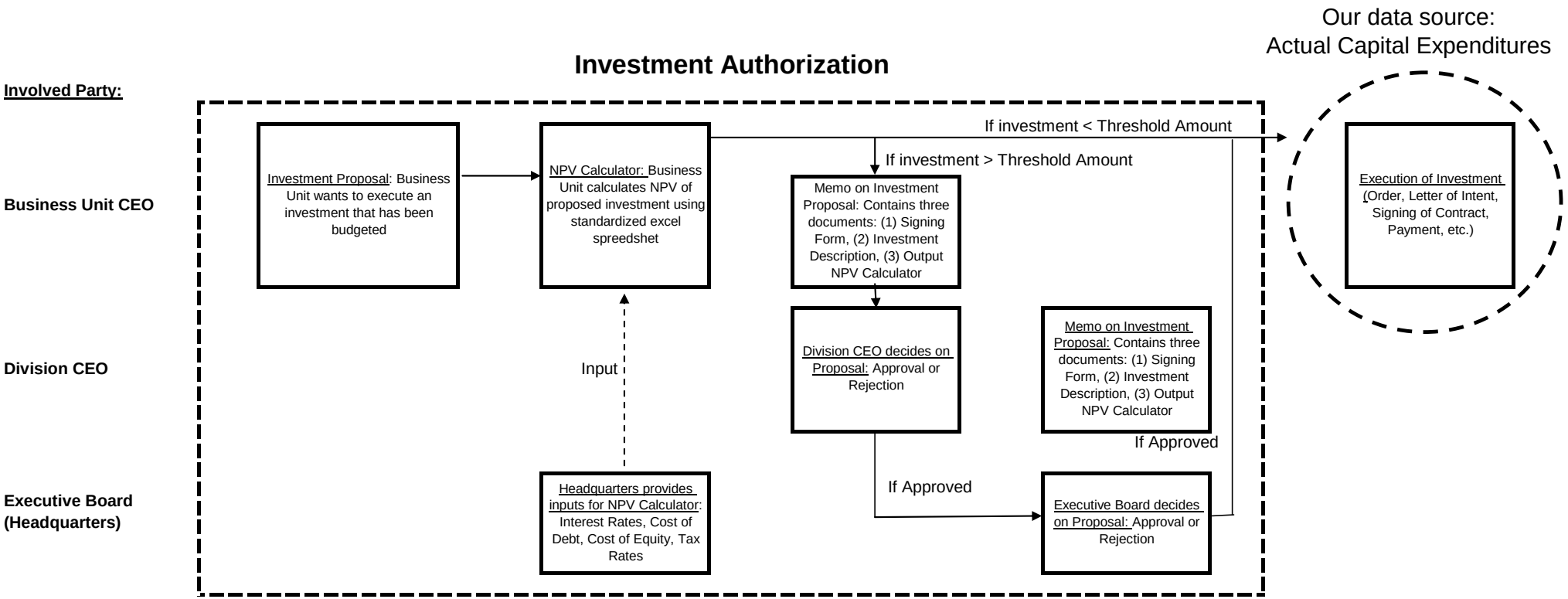


Figure 2. Decision Process behind Allocation of Capital: Budgeting and Realization Stages. This figure presents the details of the capital allocation process of the conglomerate. Panel A shows the budgeting (i.e.,planning stage), and Panel B shows the realization (i.e., execution) stage. The budgeting consists of two different phases: the strategic outlook phase and the annual capital allocation phase. The figure shows how these two phases relate to each other, who the parties are, and when what kinds of decisions are made. A detailed verbal description of the capital allocation process is provided in Appendix A-3.

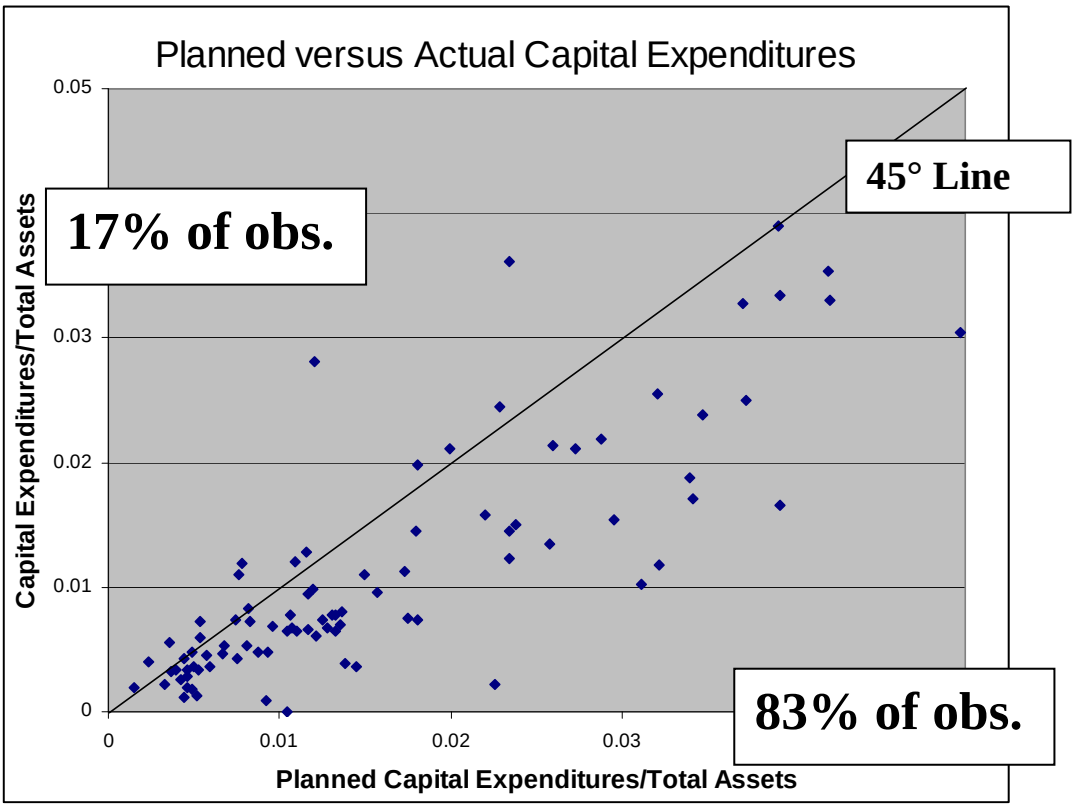


Figure 3. Planned versus Actual Capital Expenditures: Over-Budgeting by Business Units. This figure provides a scatter plot of planned capital expenditures (x-axis) and actual capital expenditures (y-axis) of the business units of the conglomerate. The figure uses annual averages of quarterly data from 01/2002 to 12/2006. The figure also contains at the 45-degree line to indicate whether planned capital expenditures are above (lower half of the figure) or below (upper half of the figure) actual expenditures. Planned capital expenditures are above (below) actual expenditures for 83% (17%) of the observations. This suggests that the business units systematically over budget their capital expenditures.

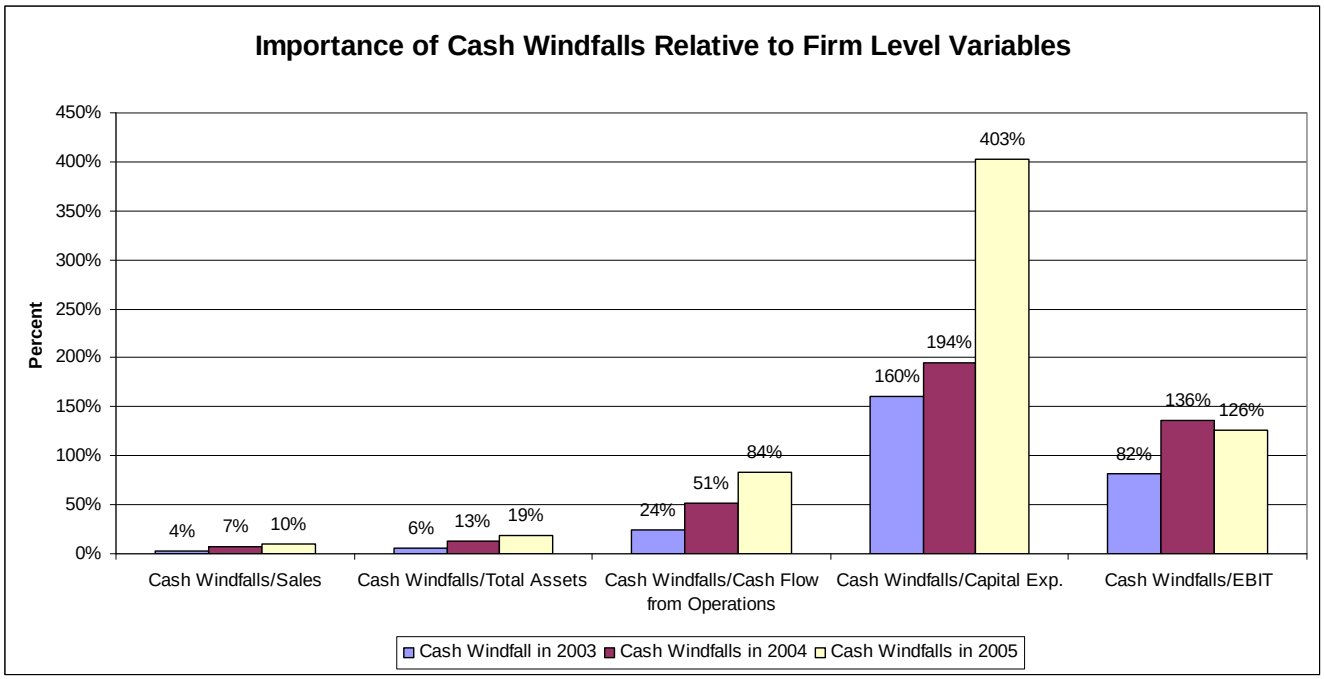


Figure 4. Magnitude of Cash Windfalls. The figure documents the size of the cash windfalls relative to the conglomerate's sales, total assets, cash flow from operations, capital expenditures, and EBIT. The conglomerate experienced eight cash windfalls resulting from headquarters' sales of equity stakes in other companies. The equity sales occurred in the years 2003 (one sale), 2004 (three sales), and 2005 (four sales). The figure shows the aggregate value of the cash windfalls during each year relative to total aggregate conglomerate values of the same year.

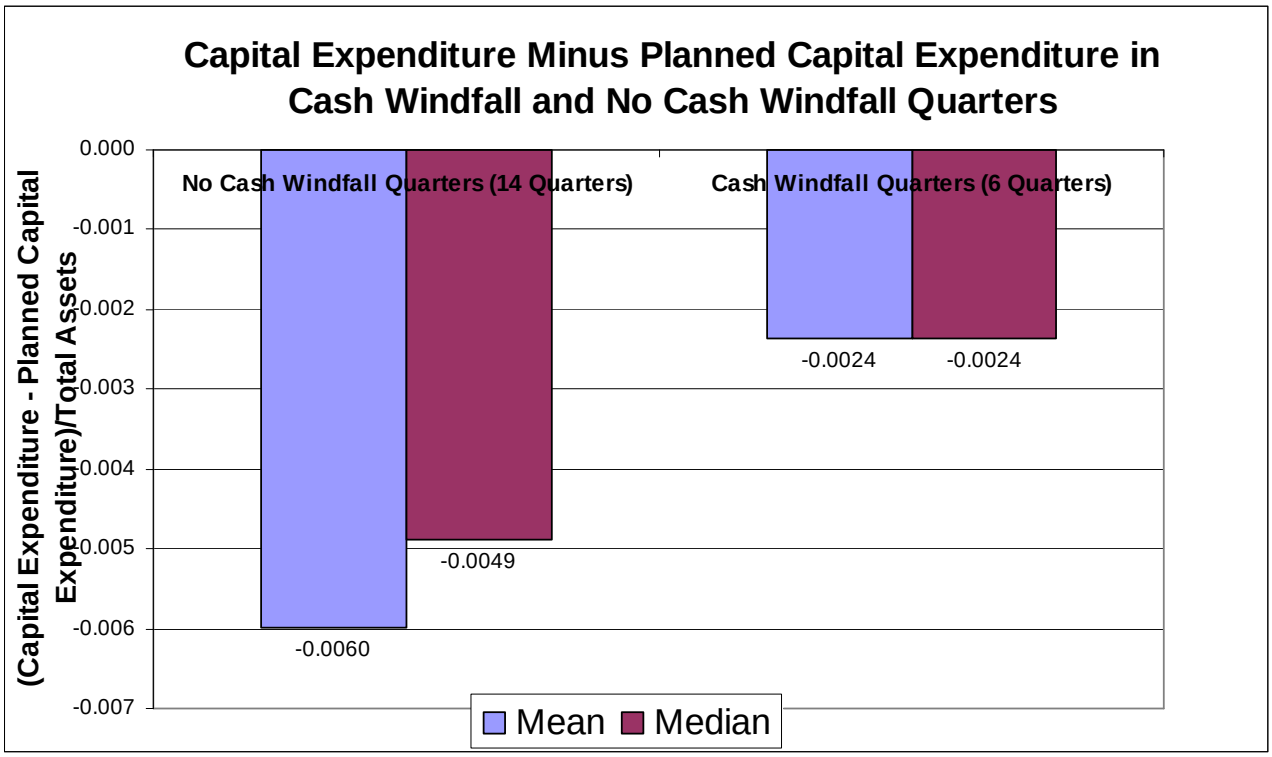
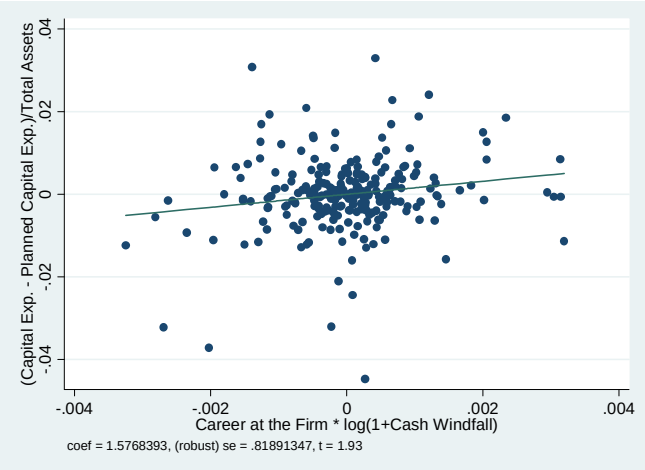
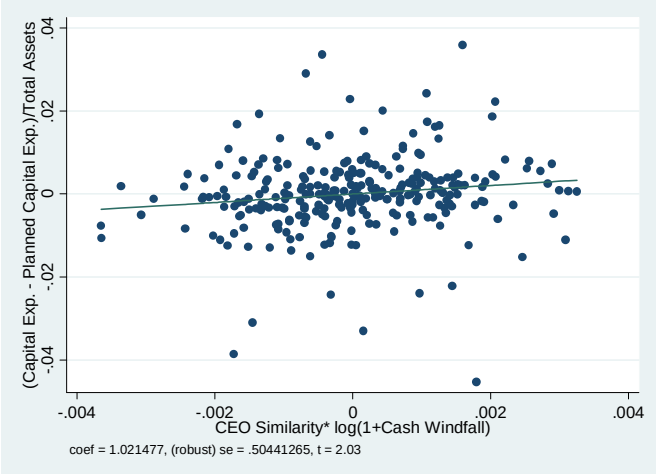
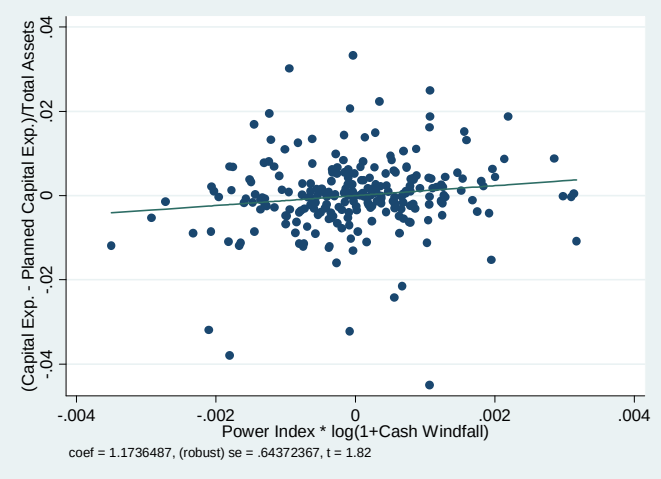
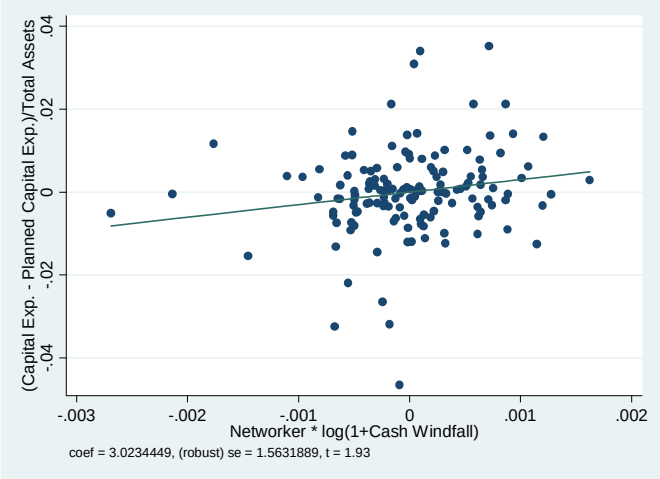


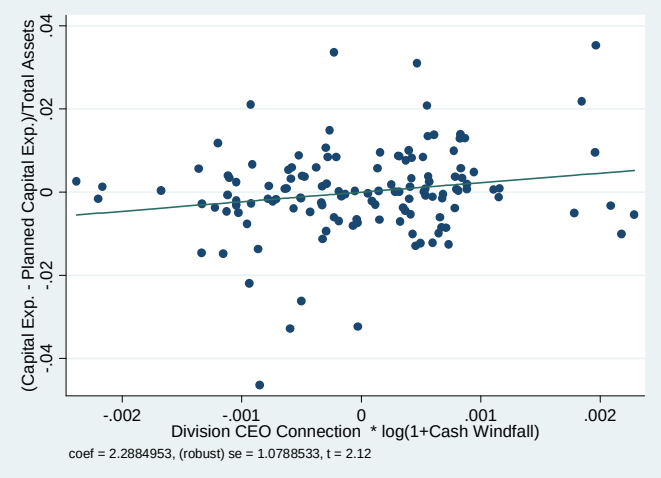
Figure 5. Capital Expenditures in Cash-Windfall and No-Cash-Windfall Quarters. This figure illustrates actual minus planned capital expenditures, standardized by total assets, of the business units of the firm in cash-windfall and no-cash-windfall quarters. The table reports mean and median values, calculated over the respective business-unit quarters. Negative numbers suggest that actual investment is less than planned investment. The means (-0.0060 versus -0.0024) as well as the medians (-0.0049 versus -0.0024) are statistically different from each other at the 1% level.











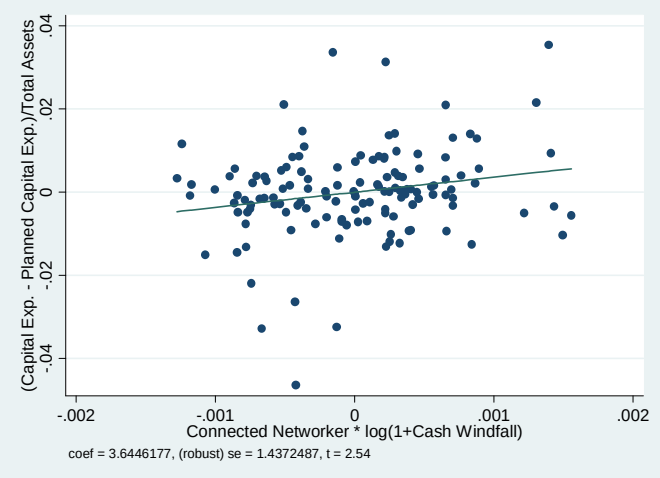


Figure 6. Partial Scatter Plots. This figure presents partial scatter plots of the interaction term between a proxy for managerial power or connection and the cash-windfall variable. The dependent variable is the difference between actual and planned capital expenditures, scaled by total assets. Each regression uses the same controls and the same specifications as the regressions in Table VI.

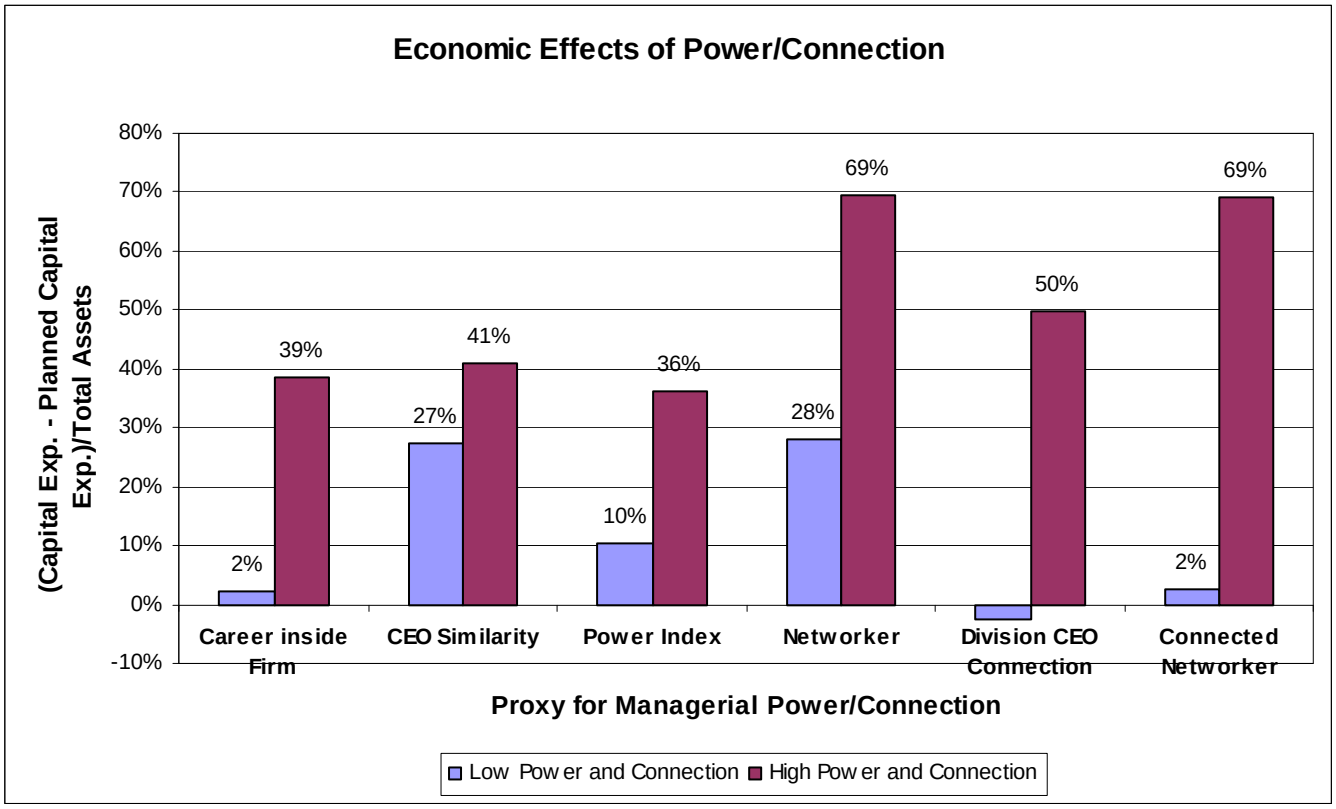


Figure 7. Economic Effect of Power and Connections. This figure illustrates the economic effects of power and connection. It reports the change in investment relative to planned investment (i.e., the change in actual minus planned investment, standardized by total assets) when our proxies for power or connection are low and high, respectively. A power or connection proxy is considered low (high) if the variable is at the 25^{th} (75^{th}) percentile. The changes in investment are calculated for a cash windfall of €938 million, which equals the average proceeds from cash windfalls in cash-windfall quarters. The figures are calculated based on the estimates in Table VI and correspond with those in Panel B of Table VI.

Appendix A-1: Definition of Variables

This table provides definitions of the variables used in the paper.

Variable	Description
1. Financial Variables	
Number of Business Units	Number of business units that operate under the umbrella of a division. Divisions themselves have no operating activities. The data is from the flow chart of the firm and the organizational structure did not change over the sample period.
Capital Expenditures	Investments in tangible and intangible assets (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, while the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Sales	Proceeds from the sales of products or services to third parties and other divisions inside the firm (in EUR). We have both planned (budgeted) and actual data. The planned (budgeted) data is available on a quarterly basis, whereas the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Sales Growth	Difference between this period's sales and previous period's sales divided by previous period's sales. We have both planned (budgeted) and actual data. The data is from the internal management accounting system of the firm.
EBIT	Earnings before interest payments and taxes (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, whereas the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
EBIT Deviation from Plan	Difference between the planned and actual value of EBIT (in EUR). The data is from the internal management accounting system of firm.
Total Assets	Sum of the book values of fixed and current assets (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, whereas the actual data is available on a monthly basis but averaged across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Cash Flow from Operations	Net income, plus depreciation and amortization, and plus (minus) decreases (increases) in working capital (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, whereas the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Personnel	Number of employees, calculated as full-time equivalents. We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, whereas the actual data is available on a monthly basis but averaged across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
R&D Expenditures	Expenses related to research and development activities (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, while the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Marketing Expenditures	Expenses related to the marketing and selling of products and services (in EUR). We have both planned (budgeted) and actual data. The planned data is available on a quarterly basis, while the actual data is available on a monthly basis but added across the three months of a quarter to compare it with the planned data. The data is from the internal management accounting system of the firm.
Imputed Tobin's Q	The median value of Tobin's Q for all firms from the European Union with the same three-digit SIC code. The variable is constructed based on data from Compustat and Compustat Global.
Total Debt	Total interest-bearing debt (in EUR or USD). The data is from Compustat and Compustat Global.
Cash Holdings	Cash and marketable securities (in EUR or USD). The data is from Compustat and Compustat Global.
Dividends	Dividends paid to shareholders (in EUR or USD). The data is from Compustat and Compustat Global.
Business Unit	Equal to one if an observation is from one of the twenty business units of the

	conglomerate, and zero otherwise.
Fourth Quarter Dummy	Equal to one if an observation is from the fourth quarter of the calendar year, and zero otherwise. The variable is included to account for the seasonality in the business of the firm.
2. Cash Windfall Variable	
Cash Windfall	Cash inflow at headquarters that results from the selling of equity stakes in other firms (in million EUR). Headquarters had equity stakes in other firms that were sold and resulted in eight large cash windfalls during the sample period. The variable is self-constructed based on annual reports from the firm, press statements, and a web search.
3. Managerial Power and Connection Variables	
Career at the Firm	This index measures the career a manager has made at the conglomerate and a manager's general social network at the workplace. It is formed by averaging the following three variables: (1) Number of months during which a manager had an overlap inside a unit of the conglomerate with a person, which later became an executive board member. (This can be the case, for example, if a manager worked at the same time in the same business unit of the firm as the CFO); (2) Number of years a manager has been working for the firm; (3) Number of years a manager has been working in a powerful position inside the firm (e.g., division CEO, business-unit CEO, or head of marketing). All three variables are normalized before entering the index to fall between zero and one, using the respective minimum and maximum values. All variables entering the index are self-constructed based on data from BoardEx, ZoomInfo, social networking web pages (LinkedIn, Facebook, MySpace), annual reports, and systematic web and newspaper searches. This data is complemented with data from a survey among the managers, which we developed and ran ourselves. Details on the index construction and the variables it contains are reported in Appendix A-2.
CEO Similarity	This index measures the similarity of the personal profile of a manager with that of the CEO. It is formed by averaging the following four dummy variables: (1) Dummy, which is equal to one if a manager speaks the native language of the CEO; (2) Dummy, which is equal to one if a manager lives in the country in which the CEO lives; (3) Dummy, which is equal to one if a manager went to the same university as the CEO; (4) Dummy, which is equal to one if a manager graduated in the same academic discipline (engineering) as the CEO. All variables entering the index are self-constructed based on data from BoardEx, ZoomInfo, social networking web pages (LinkedIn, Facebook, MySpace), annual reports, and systematic web and newspaper searches. This data is complemented with data from a survey among the managers, which we developed and ran ourselves. Details on the index construction and the variables it contains are reported in Appendix A-2.
Power Index	This index is formed by averaging the two indexes: (1) Career at the Firm; and (2) CEO Similarity.
Networker	This index measures the extent to which a manager undertakes networking activities. The index is formed by averaging the following five dummy variables: (1) Dummy, which is equal to one if a manager is a member in a fraternity; (2) Dummy, which is equal to one if a manager is a member of a social club inside the firm; (3) Dummy, which is equal to one if a manager regularly stops by headquarters to say "Hello"; (4) Dummy, which is equal to one if a manager regularly accepts highly visible work assignments; (5) Dummy, which is equal to one if a manager participated regularly in highly visible task forces or committees. All variables entering this index are self-constructed based on a survey, which we developed and ran ourselves among the managers. The survey questions underlying items (3)-(5) are based on Forret and Dougherty (2001, 2004). Details on the index construction and the variables it contains are reported in Appendix A-2.
Division CEO Connection	This index measures how well a manager is connected to a division CEO. The index is formed by averaging the following variables: (1) Dummy, which is equal to one if a manager has a division CEO as a personal mentor; (2) Dummy, which is equal to one if a manager goes at least occasionally for lunch with the Division CEO; (3) Dummy, which is equal to one if a manager meets the division CEO in person at least every two weeks. All variable entering this index are self-constructed based on a survey, which we developed and ran ourselves among the managers. The survey question underlying item (1) is based on Podolny and Baron (1997), and the survey question underlying item (2) is based on Forret and Dougherty (2001, 2004). Details on the index construction and the variables it contains are reported in Appendix A-2.
Connected Networker	This index is formed by averaging the two indexes: (1) Networker; and (2) Division CEO Connection.

4. Managerial Ability Variables	
External Director	Equal to one if a manager holds a non-executive director position outside the conglomerate in addition to his management position inside the firm during the period of our analysis (i.e., 2002-2006), and zero otherwise. The variable is self-constructed based on data from BoardEx, ZoomInfo, social networking web pages (LinkedIn, Facebook, MySpace), annual reports, and systematic web and newspaper searches. This data has been complemented with data from a survey among the managers, which we developed and ran ourselves.
Elite University	Equal to one if a manager has a degree from an elite university, and zero otherwise. For our analysis, elite universities include the Ivy League schools in the US as well as the five leading business schools in Europe according to the *Financial Times* Business School Ranking. The variable is self-constructed based on data from BoardEx, ZoomInfo, social networking web pages (LinkedIn, Facebook, MySpace), annual reports, and systematic web and newspaper searches. This data has been complemented with data from a survey among the managers, which we developed and ran ourselves.

Appendix A-2: Details on Components of Power and Connection Indices

This table provides details on the components of the power and connection indices used in the paper. It contains details on the coding of the variables as well as summary statistics.

1. Career at the Firm

(1) Number of months during which a manager coincided at a unit of the conglomerate with a person who later became an executive board member.

Mean	*Median*	*Std. dev.*	*Obs.*
62	24	92	39

(2) Number of years a manager has been working for the firm.

Mean	*Median*	*Std. dev.*	*Obs.*
12.1	5.2	11.0	39

(3) Number of years a manager has been working in a powerful position inside the firm.

Mean	*Median*	*Std. dev.*	*Obs.*
5.5	3.5	5.7	37

2. CEO Similarity

(1) Dummy, which is equal to one if a manager speaks the native language of the CEO (=Yes).

Yes	*No*	*Obs.*
52.5%	47.5%	40

(2) Dummy, which is equal to one if a manager lives in the country in which the CEO lives (=Yes).

Yes	*No*	*Obs.*
70%	30%	40

(3) Dummy, which is equal to one if a manager went to the same university as the CEO (=Yes).

Yes	*No*	*Obs.*
11%	89%	37

(4) Dummy, which is equal to one if a manager graduated in the same academic discipline (engineering) as the CEO (=Yes).

Yes	*No*	*Obs.*
53%	47%	36

3. Power Index

This index builds on the previous two indices.

4. Networker

(1) Are you a member of a fraternity? _ Yes _ No

Yes	*No*	*Obs.*
30%	70%	20

(2) During your time as business-unit CEO, were you a member of one of the following clubs at (COMPANY)? Club 1: _ Yes _ No; Club 2: _ Yes _ No; Club 3: _ Yes _ No

Yes	*No*	*Obs.*
21%	79%	19

We code this dummy as equal to one if a manager is a member of at least one club.

(3) During your last year as business-unit CEO, how often did you conduct the following activity to increase your visibility within (COMPANY) (please mark)? Stopping by division headquarters to say “hello”?

Never	*Seldom, only once or twice*	*Occasionally, several times a year*	*Moderately often, every few week*	*Often, almost every week*	*Very often, almost every day*	*Obs.*
11%	24%	12%	23%	18%	12%	17

We create a dummy for this survey question, which is equal to one if a manager regularly stops by headquarters to say “hello”. This is the case if the answer is “moderately often, every few weeks”, or more frequently.

(4) During your last year as business-unit CEO, how often did you conduct the following activity to increase your visibility within (COMPANY) (please mark)? Accepting new, highly visible work assignments?

Never	*Seldom, only once or twice*	*Occasionally, several times a year*	*Moderately often, every few weeks*	*Often, almost every week*	*Very often, almost every day*	*Obs.*
18%	18%	35%	18%	6%	6%	17

We create a dummy for this survey question, which is equal to one if a manager regularly accepts new visible work assignments. This is the case if the answer is “Occasionally, several times a year”, or more frequently.

(5) During your last year as business-unit CEO, how often did you conduct the following activity to increase your visibility within (COMPANY) (please mark)? Being on highly visible task forces or committees at work?

Never	*Seldom, only once or twice*	*Occasionally, several times a year*	*Moderately often, every few weeks*	*Often, almost every week*	*Very often, almost every day*	*Obs.*
17%	17%	44%	11%	6%	6%	18

We create a dummy for this survey question, which is equal to one if a manager regularly sits on highly visible task forces or committees at work. This is the case if the answer is “Occasionally, several times a year”, or more frequently.

5. Division CEO Connection

(1) During your time as business-unit CEO/CFO, were there any division CEOs you regarded as a guide/mentor—that is, someone who has taken a strong interest in your professional development over the last year at (COMPANY) /in the past by providing you with opportunities and/or access to facilitate your career advancement?

Yes	*No*	*Obs.*
50%	50%	18

(2) During your last year as business-unit CEO, how often did you conduct the following activities to increase your visibility within (COMPANY) (please mark)? Going to lunch with your division CEO?

Never	*Seldom, only once or twice*	*Occasionally, several times a year*	*Moderately often, every few weeks*	*Often, almost every week*	*Very often, almost every day*	*Obs.*
23%	23%	29%	12%	12%	0%	17

We create a dummy for this survey question, which is equal to one if a manager regularly goes for lunch with his division CEO “occasionally, several times a year”, or more frequently.

(3) During your time as business-unit CEO/CFO, how often did you meet the CEO of your division in person?

Every day	*Twice a week*	*Once a week*	*Every two weeks*	*Once a month*	*Not during the last month*	*Obs.*
0%	26%	11%	16%	32%	16%	19

We create a dummy for this survey question, which is equal to one if a manager meets the division CEO “every two weeks”, or more frequently.

6. Connected Networker

This index builds on the previous two indices.

Appendix A-3: Detailed Description of the Capital Allocation Process

To understand whether and where the intra-firm bargaining power of managers plays a role for capital allocations, we have access to information describing the capital allocation process of the firm. We can use documents on (i) the institutional details of the allocation process, provided, for example, in the budgeting manual of the firm, (ii) the time-line of budgeting meetings, (iii) the managers who participate in these meetings, (iv) the approval procedures for investments, and (v) a net present value calculator for project evaluation. The internal capital allocation process itself is reported consists of two general stages: a budgeting or planning stage and a realization or execution stage.

A. Budgeting or Planning Stage

In the budgeting stage, the firm transforms the general corporate strategy into capital allocations (budgets) using a two-phase process, which is anchored on the elaboration of two key documents for each business unit: (1) the strategic outlook, and (2) the annual capital allocation plan. The firm has a very standardized two-phase process for transforming this general corporate strategy into concrete capital allocations and investment decisions.

Phase 1: Strategic Outlook for Business Units

The objective of the first phase is to develop a three-year strategic outlook ("guide") for all business units of the firm. An important aspect of the strategic outlook is to have discussions between division and business-unit CEOs and the executive board on long-run strategies of the divisions and their business units.

Therefore, in January the business-unit CEOs start identifying long-term growth and investment opportunities of their business units and the lines of business operating within the business units. These opportunities refer to projects with horizons over several years and are supposed to be consistent with the general strategy of the firm, as outlined by the executive board. The developed business plans are then presented by the business-unit CEOs to the respective division CEOs. In February, negotiations in special budget meetings take place between the business-unit CEOs and the corresponding division CEOs over these identified opportunities, with preliminary decisions on the implied business plans being made by the division CEOs in March. Each division CEO and his business-unit CEOs then present the three-year business plans of their units, using standardized forms (so-called budget forms), to the executive board and negotiate over revisions and adjustments.

The negotiations are coordinated, scheduled, and structured by corporate control, a centralized support function at headquarters, which also provides sample forms and records as well as a budget manual to the divisions and their business units. Corporate control runs additional checks and analyses of the presented plans and attempts to ensure that the process is completed according to the budget time-line. Corporate control also issues guidelines to the divisions to ensure that the strategies of the divisions are consistent with the overall strategy of the firm and to standardize the documents, financials and presentations that are provided to the executive board. Following the negotiations among the executive board and the unit managers, a final decision on the figures in the strategic outlook is being made in a meeting of the executive board in April.

The strategic outlook includes general targets for planned investments and required resource allocations for all units. It thereby serves as the foundation for the internal capital allocation process. As described, the process is highly institutionalized and structured, with decisions being made for the three-year period starting in January of the subsequent year.

Phase 2: Annual Capital Allocation Plan for Business Units

Just after the finalization of the strategic outlook, a concrete annual capital allocation plan (or capital budget) is developed for the coming year. The annual capital allocation plan is a one-year investment plan containing detailed resource allocations for all business units.

The link between the strategic outlook and the allocation plan is the breaking down of the business plans for the setting of very concrete investment targets. The annual capital allocation plan usually starts with the projection of revenues and associated costs for the respective business units, usually build on estimates per line of business and sometimes even per product. Based on the estimates, the units derive the investment and capital allocation targets needed to fulfill these projections. These targets comprise targets for capital expenditures, marketing expenditures, R&D expenditures, and, at headquarters, expenditures for M&A. The annual allocation plan therefore translates into a complete set of *pro forma* balance sheets, income statements, and cash flow statements for each business unit, which are subsequently aggregated and consolidated at division as well as firm level.

Discussions about the annual allocation plan start in June with the division CEOs, based on the strategic outlook, preparing investment and allocation targets for the coming year. The business-unit and division CEOs then jointly negotiate in July over these allocation plans and make revisions and adjustments. Preliminary decisions on the budgets are made in August. As in the strategic outlook, the division and business-unit CEOs then present the capital allocation plan for their divisions to the executive board using standardized forms and a second round of in-depth joint negotiations and revisions takes place. These negotiations take place in September and October. As in the strategic outlook, the negotiations are coordinated, scheduled, and structured by corporate control. Finally, in October or November, the executive board decides on the investment and

allocation targets for the coming year. The plan is then presented by the executive board to the supervisory board for final approval, which is usually a formality.

The divisions and business units then receive the approved plan and prepare the implementations for the coming year. As illustrated in Appendix A-7, our data source is this annual capital allocation plan. We have data from five annual capital allocation plans, from 2002 to 2006, each containing quarterly plans and budgets for all 20 business units of the firm. Once the annual capital allocation plan is approved, it also serves as a foundation for headquarters' financing and fiscal planning for the year ahead.

As suggested by the above descriptions, the budgeting process and the resulting capital allocation of the firm tries to combine top-down and bottom-up elements to enable collaboration and information aggregation between lower and top management.

B. Realization or Execution Stage

It is during the realization or execution stage that concrete investments are made and the corresponding cash outflows are generated. Decisions here are made much more quickly than they are during budgeting. All investments (buying or replacing small machines or IT, for example) below the investment thresholds can be made, quickly and easily, with simple procedures at the discretion of the business units.

Although the annual capital allocation plan is the basis for investments by the business units, the firm requires additional approvals for the execution of any project in the plan that involves investments or divestments in tangible or intangible fixed assets that exceed a specific threshold. The thresholds depend on the divisions and on their capital intensity.

If the proposed investment exceeds the threshold, the business unit must prepare, for approval by the division CEO and the executive board, an investment memo that contains (1) a document to be signed by the executive board, (2) a document describing the investment, and (3) a net present value calculation. The project description should explain the reason for and the risks the investment and discuss of the alternatives. Each business unit must show that the investment will generate as a minimum requirement a positive NPV. For this reason, the company has constructed an NPV calculator, a spreadsheet provided by headquarters that all units must use to evaluate projects.

As the discount rate for the NPV calculation, the firm uses a project-specific weighted average cost of capital (WACC), provided by headquarters. The input on interest rates, cost of debt and country-risk premia used for the calculation of the WACC are provided by the corporate treasury, a department at the headquarters. Tax rates are provided by the corporate tax department, also at headquarters.

The NPV of a project is not the only relevant approval criteria and when it comes to deciding which positive NPV projects are being executed, other things such as strategic fit, the cash flow structure, past performance or reputation of the business-unit CEOs also play a role.

Taking into account all factors, the executive board makes a final decision on the investment approval and subsequently informs the business unit of its final decision by automated email. After that, the business units can place an order, assign a letter of intent or contract or make a payment. Headquarters then provides the corresponding actual allocation of funds so that the investment can be executed.

Two years after the approval of a project by the executive board, the firm requires the filing of a post-investment report that documents the extent to which was consistent with the figures in the NPV calculator, and where and why deviations occurred.

The company applies the OECD principles on transfer prices for all within-firm sales. In other words, transfers within the firm are priced using the arm's-length principle, that is, transfer prices should be the same as if the two divisions or business units involved were two independent firms not part of the same conglomerate. Any significant reallocation of capital from one unit to another through transfer prices is therefore unlikely.

Appendix A-4: Descriptive Statistics

This table presents descriptive statistics of the variables used in the paper. The variables are calculated based on quarterly data from 01/2002 to 12/2006. Panel A provides descriptive statistics of financial variables of the business units. The statistics are based on data from the internal management accounting system of the conglomerate and calculated across all twenty business units of the conglomerate. Panel B reports statistics of the cash-windfall variable. The statistics are calculated and reported across the six cash - quarters. Panel C reports variables proxying for the power and connection of the business-unit CEOs. Panel D provides variables that proxy for ability of business-unit CEOs. Detailed definitions of each variable are provided in Appendix A-1. Correlations are reported in Appendix A-6.

Panel A: Financial Variables of Business Units

	Obs.	Mean	Median	Std. dev.	25%	75%
Planned Sales (millions)	391	369	227	386	121	416
Planned EBIT/Total Assets	391	0.043	0.038	0.065	0.006	0.069
Planned Sales Growth	371	0.058	0.057	0.268	-0.016	0.163
Planned Cash Flow from Operations/Total Assets	215	0.052	0.046	0.102	0.009	0.099
Planned Capital Expenditures (millions)	359	12.9	4.9	25.5	3.3	11.0
Planned Capital Expenditures/Total Assets	359	0.016	0.012	0.013	0.006	0.023
Planned R&D Expenditures/Total Assets	211	0.040	0.030	0.041	0.021	0.044
Planned Marketing Expenditures/Total Assets	215	0.101	0.077	0.087	0.052	0.134
Planned Personnel (# of employees)	215	6780	4113	7976	2725	7956
Sales (millions)	391	345	219	370	108	392
EBIT/Total Assets	391	0.032	0.034	0.096	-0.006	0.068
Sales Growth	370	0.041	0.026	0.270	-0.085	0.153
Cash Flow from Operations/Total Assets	391	0.051	0.043	0.118	0.001	0.099
Capital Expenditures (millions)	391	9.6	3.5	21.9	1.8	8.4
Capital Expenditures/Total Assets	391	0.011	0.007	0.013	0.004	0.017
R&D Expenditures/Total Assets	391	0.035	0.029	0.029	0.018	0.047
Marketing Expenditures/Total Assets	391	0.098	0.080	0.066	0.049	0.148
Personnel (# of employees)	391	6537	3929	8028	1982	7657
Imputed Tobin's Q	391	1.690	1.799	0.396	1.324	1.961
(Capital Expenditures - Planned Capital Expenditures)/Total Assets	359	-0.005	-0.004	0.011	-0.010	0.001
EBIT Deviation from Plan/Total Assets	311	0.000	0.001	0.021	-0.009	0.012

Panel B: Cash-Windfall Variable

Obs. across Cash-Windfall Quarters (i.e. if cash windfalls>0)	Obs.	Mean	Median	Std. dev.	25%	75%
Cash Windfall (millions)	132	938	903	258	672	1265

Panel C: Managerial Power Variables

	Obs.	Mean	Median	Std. dev.	25%	75%
Career at the Firm	321	0.252	0.163	0.234	0.076	0.381
CEO Similarity	346	0.486	0.500	0.213	0.250	0.500
Power Index	313	0.377	0.311	0.198	0.264	0.485
Networker	174	0.468	0.400	0.202	0.400	0.600
Division CEO Connection	166	0.552	0.667	0.274	0.333	0.667
Connected Networker	166	0.497	0.533	0.198	0.367	0.633

Panel D: Managerial Ability Variables

	Obs.	Mean	Median	Std. dev.	25%	75%
External Director	387	0.32	0.00	0.47	0.00	1.00
Elite University	354	0.35	0.00	0.48	0.00	1.00

Appendix A-5: Description of Cash Windfalls

This table presents a summarized description of eight cash windfalls, which occurred at the conglomerate's headquarters. During the sample period of 2002 to 2006, the headquarters of the conglomerate sold eight equity stakes in other firms and generated cash inflows of more than €500 million for each sale. The cash windfalls occurred in six different quarters—Q4 2003, Q3 2004, Q4 2004 (two windfalls), Q2 2005, Q3 2005 (two windfalls), and Q4 2005. Panel A presents whether the stakes were related to the activities of the business units, the stated reasons for the sale, the procedure by which the stake was sold, and the size of the pre- and post-sale stake (in % of the shares of the firm whose equity was sold). It also contains information on how long the firm has held the equity stakes. Panel B presents information on the use to which the windfalls were put. The statistics in Panel A are constructed based on information from company news reports as well as newspaper articles. The figures in Panel B are calculated based on the cash flow statements of the firm in the quarters in which cash windfalls occurred. We assume that an additional cash from the cash windfalls is, on aggregate, used in the same way as an additional cash from other operating or financing sources in a cash-windfall quarter.

Panel A: Description of Cash Windfalls

Unrelated to Activities of Business Units	Yes	5
(# of Equity Stakes)	No	3
Stated Reason for Equity Sale	# Non-strategic asset	6
(multiple reasons possible)	# Exploit high market value	3
	# Reduce exposure to cyclical industry	2
Procedure of Sale of Equity Stake	# Initial Public Offering (IPO)	1
	# Seasoned Equity Offering (SEO)	4
	# OTC Transaction (OTC)	3
Pre-Sale Equity Stake	Mean	32%
	Median	29%
After-Sale Equity Stake	Mean	16%
	Median	16%
Holding Period of Equity Stake	Mean	12
(years)	Median	11

Panel B: Usage of Cash Windfalls

Capital Expenditures	19%
Increase in Working Capital	1%
Acquisitions	13%
Repayment of Debt	21%
Dividends	9%
Share Repurchases	11%
Tax	6%
Increase in Cash Holdings	20%

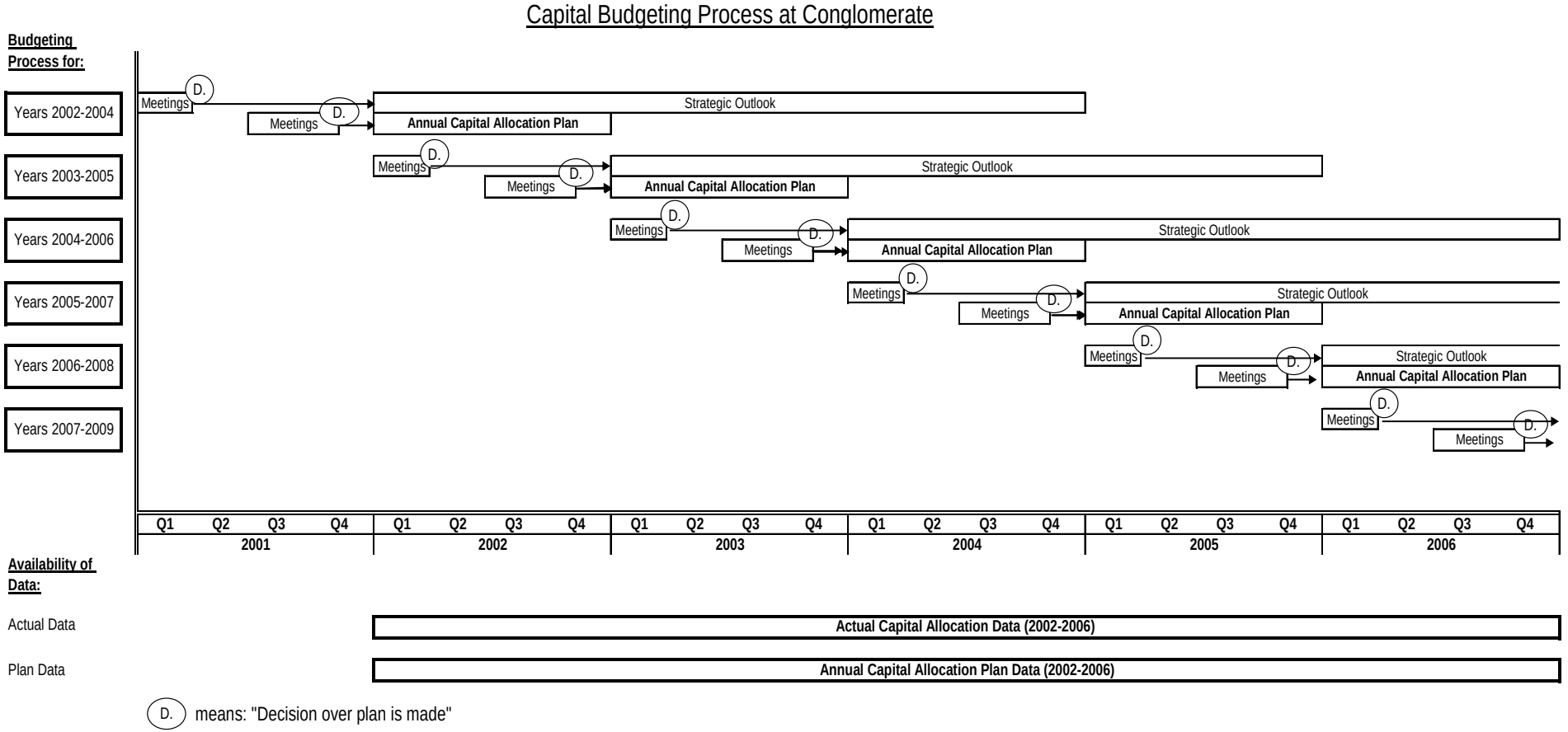
Appendix A-6: Correlations of Main Variables

This table provides pairwise correlations of the main variables in the data set. The variables are defined in Appendix A-1 and descriptive statistics reported in Appendix A-4. Correlations are calculated based on observations at the business-unit-quarter.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Sales	(1)	1.00															
EBIT/Total Assets	(2)	0.33	1.00														
Sales Growth	(3)	0.10	0.24	1.00													
Cash Flow from Operations/Total Assets	(4)	0.33	0.77	0.45	1.00												
Capital Expenditures/Total Assets	(5)	0.04	0.34	0.14	0.36	1.00											
R&D Expenditures/Total Assets	(6)	-0.32	-0.54	0.03	-0.35	-0.06	1.00										
Marketing Expenditures/Total Assets	(7)	-0.17	-0.06	0.22	0.14	0.27	0.71	1.00									
Imputed Tobin's Q	(8)	-0.12	-0.27	0.02	-0.24	-0.31	0.27	0.11	1.00								
Career at the Firm	(9)	0.47	0.18	-0.04	0.17	0.28	-0.22	0.01	-0.39	1.00							
CEO Similarity	(10)	0.19	0.05	-0.03	0.07	0.29	-0.06	0.02	-0.63	0.73	1.00						
Power Index	(11)	0.36	0.13	-0.04	0.13	0.31	-0.16	0.02	-0.54	0.94	0.92	1.00					
Networker	(12)	-0.20	0.26	0.04	0.20	0.34	-0.15	0.08	-0.20	0.22	0.07	0.16	1.00				
Division CEO Connection	(13)	0.09	0.27	0.03	0.25	0.36	-0.20	0.09	-0.49	0.42	0.38	0.43	0.50	1.00			
Connected Networker	(14)	-0.04	0.30	0.04	0.26	0.41	-0.20	0.10	-0.42	0.39	0.29	0.37	0.81	0.91	1.00		
External Director	(15)	0.36	0.20	-0.07	0.08	-0.19	-0.48	-0.59	-0.13	0.17	0.07	0.13	-0.44	-0.02	-0.22	1.00	
Elite University	(16)	0.40	0.18	-0.05	0.07	-0.17	-0.50	-0.62	-0.12	0.16	0.02	0.10	-0.35	0.02	-0.15	0.95	1.00

Appendix A-7: Capital Budgeting Process over Time and Available Data

This figure presents a time-line of the processes behind the allocation of capital. It also reports the periods for which we have data available. A detailed verbal description of the allocation process is provided in Appendix A-3.



Appendix A-8: Performance, Capital Allocation, and Managerial Ability

This table presents OLS regressions for the twenty business units of the conglomerate. The dependent variable (shown in the first row) in regressions (1) and (2) is a business unit's quarterly sales growth and in regressions (3) and (4) a business unit's quarterly planned capital expenditures over its total assets over the period from 01/2002 to 12/2006. Regressions (1) and (3) include Elite University as controls. Regressions (2) and (4) include External Director as controls. All regressions also control for: Personnel/Total Assets; Cash Flow from Operations/Total Assets; Capital Expenditures/Total Assets (lag); Fourth-Quarter Dummy; R&D Expenditures/Total Assets; Marketing Expenditures/Total Assets; Sales; Planned EBIT/Total Assets (lag); Planned Personnel/Total Assets; Planned Sales Growth; EBIT Deviations from Plan/Total Assets (lag); and a constant (not shown). The number of business-unit quarters and business units in each regression are reported at the bottom of the table. Robust standard errors, clustered at business-unit level, are shown in brackets. All dependent variables and controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

	Sales Growth		**Planned Capital Expenditure/Total Assets**	
	[1]	[2]	[3]	[4]
Elite University	0.0715***		0.0061**	
	[0.0208]		[0.0022]	
External Director		-0.0064		-0.0014
		[0.0278]		[0.0018]
Personnel/Total Assets	-0.0097	-0.0064		
	[0.0072]	[0.0077]		
Cash Flow from Operations/Total Assets	0.4055**	0.3503**		
	[0.1517]	[0.1622]		
Capital Expenditures/Total Assets (lag)	-4.1002**	-4.5186***		
	[1.4565]	[1.4077]		
Fourth-Quarter Dummy	0.1967***	0.2079***	-0.0023**	-0.0021**
	[0.0493]	[0.0488]	[0.0010]	[0.0010]
R&D Expenditures/Total Assets	-1.9871	-2.1000		
	[1.5547]	[1.7535]		
Marketing Expenditures/Total Assets	2.6834***	2.6106***		
	[0.7516]	[0.8268]		
Sales	0.0007***	0.0007***		
	[0.0002]	[0.0002]		
Planned EBIT/Total Assets (lag)			0.0290**	0.0321**
			[0.0110]	[0.0116]
Planned Personnel/Total Assets			0.0005**	0.0005**
			[0.0002]	[0.0002]
Planned Sales Growth			0.0008	-0.0017
			[0.0043]	[0.0053]
EBIT Deviation from Plan/Total Assets (lag)			0.0120	0.0017
			[0.0291]	[0.0312]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	353	386	209	211
Number of Business Units	20	20	18	18
Adjusted R-squared	0.496	0.484	0.094	0.068

Appendix A-9: Effects of Managerial Power and Connection for R&D and Marketing Expenditures

This table shows OLS regressions for the twenty business units of the conglomerate. The dependent variable (shown in the first row) in Panel A (Panel B) is the quarterly difference between a business unit's actual and planned R&D (Marketing) expenditures over its total assets over the period from 01/2002 to 12/2006. We report seven regressions in each panel. The first regression of each panel does not include any managerial power index as a control. The following six regressions of each panel successively control for the managerial power indices indicated in the second row: Career at the Firm; CEO Similarity; Power Index; Networker; Division CEO Connection; and Connected Networker. The last six regressions of each panel also control for the interaction of each of the managerial power indices and Ln(1+Cash Windfall). The coefficient of the interaction term and its standard error are multiplied by 1,000. All regressions of each panel also control for: Ln(1 + Cash Windfall); Sales Growth; EBIT/Total Assets; EBIT Deviation from Plan/Total Assets (lag); Imputed Tobin's Q (lag); Fourth-Quarter Dummy; and a constant (not shown). The number of business-unit quarters and business units in each regression are reported at the bottom of the table. Robust standard errors, clustered at business-unit level, are shown in brackets. All dependent variables and the controls are Winsorized at 1%. Detailed definitions of each variable are provided in Appendix A-1. *** indicates significance at 1%, ** indicates significance at 5%, and * indicates significance at 10%.

Panel A: R&D Expenditures

	Dependent Variable: (R&D Expenditures - Planned R&D Expenditures)/Total Assets						
Managerial Power Variable:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power * Ln(1+Cash Windfall)		0.7640	0.9182	0.7344	0.9423	0.4234	1.2261
		[0.8484]	[0.9123]	[0.9253]	[1.4646]	[1.0386]	[1.3923]
Managerial Power		-0.0184	-0.0076	-0.0166	0.0104	0.0050	0.0113
		[0.0184]	[0.0098]	[0.0108]	[0.0131]	[0.0121]	[0.0324]
Ln(1+Cash Windfall)	-0.0002	-0.0003	-0.0005	-0.0003	-0.0002	0.0001	-0.0003
	[0.0002]	[0.0002]	[0.0005]	[0.0003]	[0.0006]	[0.0006]	[0.0007]
Sales Growth		0.0135*	0.0127*	0.0130*	0.0130	0.0145	0.0143
		[0.0066]	[0.0063]	[0.0063]	[0.0080]	[0.0082]	[0.0083]
EBIT/Total Assets		-0.0721**	-0.0681**	-0.0719**	-0.0901**	-0.0909**	-0.0905**
		[0.0264]	[0.0285]	[0.0269]	[0.0318]	[0.0328]	[0.0324]
EBIT Deviation from Plan/Total Assets (lag)		-0.0037	-0.0206	-0.0132	-0.0016	0.0135	0.0064
		[0.0576]	[0.0426]	[0.0563]	[0.0480]	[0.0506]	[0.0509]
Imputed Tobin's Q (lag)		-0.0015	0.0036	0.0020	-0.0761	-0.0795	-0.0784
		[0.0193]	[0.0147]	[0.0164]	[0.1229]	[0.1319]	[0.1310]
Fourth-Quarter Dummy		-0.0012	-0.0006	-0.0013	0.0002	-0.0003	-0.0004
		[0.0018]	[0.0016]	[0.0017]	[0.0019]	[0.0020]	[0.0021]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	211	181	205	181	103	95	95
Number of Business Units	18	16	18	16	11	10	10
Adjusted R-squared	-0.002	0.046	0.058	0.045	0.078	0.072	0.075

Appendix A-9 (continued)

Panel B: Marketing Expenditures

	Dependent Variable: (Marketing Expenditures - Planned Marketing Expenditures)/Total Assets						
Managerial Power Variable:	*None*	*Career at the Firm*	*CEO Similarity*	*Power Index*	*Networker*	*Division CEO Connection*	*Connected Networker*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Managerial Power * log(1+Cash Windfall)		2.2399	5.1189	4.8517	6.5403	-0.4310	2.6719
		[2.6102]	[4.4259]	[4.8850]	[5.5746]	[3.9678]	[5.3792]
Managerial Power		-0.0506	0.0125	-0.0022	0.0296	-0.0473	-0.1152
		[0.0737]	[0.0099]	[0.0241]	[0.0241]	[0.0473]	[0.1048]
log(1+Cash Windfall)	-0.0007	-0.0003	-0.0023	-0.0016	-0.0022	0.0006	-0.0010
	[0.0008]	[0.0008]	[0.0022]	[0.0019]	[0.0023]	[0.0016]	[0.0022]
Sales Growth		0.0126*	0.0121*	0.0118*	0.0194	0.0259	0.0274*
		[0.0065]	[0.0058]	[0.0064]	[0.0139]	[0.0142]	[0.0145]
EBIT/Total Assets		0.0557	0.0470	0.0525	0.0404	0.0230	0.0215
		[0.0435]	[0.0326]	[0.0403]	[0.0541]	[0.0533]	[0.0542]
EBIT Deviation from Plan/Total Assets (lag)		-0.2373	-0.2276	-0.2574	-0.2751	-0.1972	-0.1277
		[0.1658]	[0.1428]	[0.1821]	[0.2120]	[0.1880]	[0.1294]
Imputed Tobin's Q (lag)		-0.0418	-0.0445	-0.0359	-0.3575	-0.3942	-0.4078
		[0.0444]	[0.0334]	[0.0283]	[0.2894]	[0.3102]	[0.3192]
Fourth-Quarter Dummy		-0.0033	-0.0017	-0.0027	-0.0088	-0.0091	-0.0084
		[0.0041]	[0.0029]	[0.0036]	[0.0061]	[0.0061]	[0.0066]
Business-Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	359	246	270	242	141	133	133
Number of Business Units	20	18	20	18	13	12	12
Adjusted R-squared	0.034	0.100	0.106	0.089	0.076	0.064	0.075