Looking Inside a Conglomerate: Efficiency of Internal Capital Allocation and Managerial Power Within a Firm

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Keywords: Internal Capital Allocation, Internal Capital Markets, Power Inside the Firm, Capital Budgeting, Planning

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Abstract

Does more bargaining power of managers inside a firm lead to larger allocations of capital? To tackle this question, we use unique and proprietary panel data on planned and realized capital allocations inside a very large conglomerate. The firm operates worldwide, is headquartered in Europe and has 5 divisions and 22 business units. We measure bargaining power by looking at the three complementary measures of power: (i) tenure of the Division CEOs, (ii) whether they have the local nationality and (iii) whether they have an engineering degree (the firm has a very strong and very long engineering tradition). We find that (ex ante) planned allocations of capital are not distorted by bargaining power. Then we study how unexpected cash windfalls at the headquarter level are distributed inside the firm. The cash windfalls result from the sale of equity holdings in other firms and are exogenous to the divisions and business units. We find that managers with more bargaining power get a larger part of the cash windfalls for their own business units. Our results suggest that bargaining power does not matter in formalized allocation processes but rather when it comes to the ad hoc distribution of unexpected cash windfalls. We show that our power variables do not proxy for ability.

1 Introduction

Do divisions or business units in large conglomerates with better investment opportunities receive larger capital expenditure budgets and thus invest more? Or is it possible that divisions or business units receive higher budgets simply because they are run by more powerful and not necessarily better managers? This is the question we tackle in this paper empirically. Common sense suggests that managers that are powerful inside organizations are more successful in pursuing their personal goals and in receiving larger allocations of capital for their own units. This idea has also been formalized in models by Meyer, Milgrom, and Roberts (1992), Scharfstein and Stein (2000) or Rajan, Servaes, and Zingales (2000). These models assume that Division CEOs inside a firm have a preference for larger capital allocations (for rent-seeking/empire building reasons) and conduct activities to get more funds allocated (so-called influence activities). These influence activities cause costs because of the resources spent on affecting allocations and because of the resulting suboptimal investment decisions. In general, these internal capital market models predict that managers with more bargaining power vis-a-vis the CEO of the firm are more likely to get larger capital allocations.

We argue that the situation in the empirical literature on internal capital markets is similar to the one on internal labor markets where Baker and Holmstrom (1995) argued "Too Many Theories, Too Few Facts"and "we need ... additional studies of personnel records, supplemented by interviews and institutional facts."[1]. Starting with their argument, they tested theories based on detailed internal labor market data from a single firm (see Baker, Gibbs, and Holmstrom (1994a) and Baker, Gibbs, and Holmstrom (1994b)). Motivated by this approach, we study what happens in the internal capital market of a large international conglomerate that operates worldwide and is headquartered in Europe. More specifically, we look at the effects of bargaining power on the allocation of capital for investment (capital expenditure). We use a proprietary, very rich and detailed data set on realized and planned capital allocations. The data set is based on internal management accounting data and allows us to precisely look inside the conglomerate to test our predictions. Our data contains detailed information on all five divisions of the firm as well

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[1]See Wulf (2002) for the link between these two strands of literature.

as on all 22 business units that are operating below the division level. We have monthly realized allocation data for the period 01/2001-12/2006 and quarterly planned allocation data for the period 01/2002-12/2006.

We measure bargaining power in three complementary ways that capture different aspects of power. First, we follow the empirical corporate governance literature and look at the tenure of the Division CEOs of the firm. We follow papers such as Ryan and Wiggins (2004) or Berger, Ofek, and Yermack (1997) and assume that the power of a Division CEO increases as his tenure lengthens. Tenure as a power measure captures the influence and social networks of a specific person in the company. We also construct a related tenure variable by measuring directly the tenure of a person as Division CEO. Second, we measure the type of academic degree a Division CEO holds. More specifically, we argue that a Division CEOs with an engineering degree can be regarded as more powerful for the following reasons. Our sample firm has a very strong and very long engineering tradition. All past CEOs were engineers, the firm has patents on some of the most important engineering innovations in modern history, and an engineering background matters a lot for a career inside the firm according to statements by people of the firm. Third, we measure whether Division CEOs have the nationality of the country where the firm originates from and where the headquarter and its main operations are. We hereby try to measure power from a socio-cultural perspective and assume that Division CEOs that have the the local nationality are powerful inside the organization.

We first study whether the ex ante capital allocations are efficient in the sense that divisions and business units with higher expected investment opportunities receive larger capital allocations independent of the bargaining power of their Division CEOs. Our results show that bargaining power does not distort ex ante allocations of capital in the institutionalized allocation process. This suggests that the sophisticated and structured process of setting ex ante capital allocation plans is designed in a way that eliminates inefficient influence activities. This finding is consistent with the fact that our description of the firm's capital allocation process showed that the conglomerate uses procedures which closely match the textbook recommendations of capital allocation processes (see Anthony and Govindarajan (2003) or Brealey, Myers, and Allen (2006)). We also show that the ex ante planned values are, on average, higher than the ex post realized values. This

phenomenon is called "budgetary slack" and is extensively studied in the management accounting literature (see, for example, Davila and Wouters (2005) and the references cited therein).

We then use a methodology that is similar to the one employed in Blanchard, Lopez-de-Silanes, and Shleifer (1994) and study how unexpected and exogenous cash windfalls at the headquarter level are distributed inside the firm. These cash windfalls result from the sale of equity participations in other firms and are not included in the ex ante allocation plans. However, once occurred, the capital from the cash windfalls is available for investment and can cause a deviation between planned and realized capital allocations. We show that Division CEOs with more bargaining power get a larger part of the cash windfalls for investment by their own business units. This is consistent with a managerial power story. The economic effects of power on the distribution of the cash windfalls is large. We show that the cash windfalls increase the quarterly investment rate (capital expenditures/total assets) of the average business unit from 0.0089 to 0.0136 which is an increase by 53%. This change in investment is significantly larger for more powerful business units. If power is measured by tenure in the firm, for example, the change in investment is 0.0130 larger for more powerful division CEOs. This difference in investment is equivalent to 146% of the average investment rate of all business quarters without cash windfalls. We then measure how investment rates change relative to what has been initially planned by the firm. Cash windfalls have the effect of bringing realized investment rates closer to planned investment rates. The cash windfall induced change is again economically significant: in the average no cash windfall quarter, realized investment lies 0.0057 below planned investment, while this difference is only 0.0020 in in the average cash windfall quarter. We then show that the cash windfall induced change in investment is again significantly stronger for business units of more powerful Division CEOs. The economic effects are again very large. Our results show that more powerful managers can capture larger fractions of the cash windfalls for investment of their own units. We document that our results hold after accounting for differences in investment opportunities, business unit fixed effects, intra-division correlation, and a wide set of other controls. We show that our sample firms is not financially constraint according to measured used in the literature and that the firm did not sell the equity stakes as no other funds were available to finance investment of its business units.

We then show that our power variables do not seem to proxy for ability. Future operating performance, for example, is not related to our power variables. If power captures ability we should expect to see that ability and future performance are positively linked. We also show that future capital allocations are not adjusted downwards when units have received a lot of cash from the cash windfalls. This is especially not the case for more powerful Division CEOs. We hence have no evidence that powerful Division CEOs capturing big pieces of the cash windfalls suffer from lower future capital allocations. Overall, our evidence suggests that power does not matter in the formalized allocation process (i.e. for planned capital expenditure) but rather when it comes to the ad hoc distribution of unexpected cash windfalls.

Our results are most closely related to two papers. Rajan, Servaes, and Zingales (2000) make a first attempt to empirically look at the effect of the distribution of power inside a firm on capital allocations to understand the documented inefficiencies. Using a theoretical model, they predict that whether or not a division receives or makes transfers in a conglomerate depends not so much on its own opportunities but rather on its size-weighted opportunities and to what extent they are dispersed across divisions in a firm. By assuming that dispersion is the result of power by division managers, they link the use of power inside the firm to inefficient allocations. Based on division level data from 1980 to 1993, Rajan, Servaes, and Zingales (2000) find evidence that is consistent with this story. Gaspar and Massa (2007) analyze the role played by their measure of bargaining power, personal connections between divisional managers and the CEO, on the allocation of resources within large corporate organizations. They use business segment level data on a sample of multi-division US corporations from 1996 to 2004 and show that the segments run by connected managers receive more investment. The advantage of their study is that they are be able to analyze a large cross section of firms. However, this is at the cost of having not very detailed data on capital allocations and power structures inside firms.

The rest of this paper is organized as follows. In Section 2, we describe theoretical research on the effect of bargaining power on the allocation capital. Section 3 describes the sample firm and presents the data set that is used in our study. Moreover, we deal with the question whether our sample firm is representative for other large manufacturing conglomerates. Section 4 documents in detail the capital budgeting process in our sample

firm and describes how we measure power. Section 5 presents results on whether managerial power affects the (ex ante) planned capital allocations. Section 6 shows results on the effect of power for the distribution of cash windfalls. Section 7 discusses alternative explanations and the last section of the paper summarizes our results and concludes.

2   Models of Internal Capital Allocation and Managerial Power

In this section, we briefly review the literature that tries to explain inefficiencies in conglomerates by looking at intra-firm agency conflicts and differences in bargaining power among managers inside firms. For a more comprehensive overview of theories on the bright and dark sides of internal capital markets, we refer to the comprehensive survey articles by Stein (2003) and Maksimovic and Phillips (2007). Starting points of the literature on the relationship between the power of division managers and capital allocations are influence costs models such as Meyer, Milgrom, and Roberts (1992). In these models, division CEOs are considered as rent-seeking managers that try to influence the CEO to get larger capital allocations (e.g. by overstating their own units prospects or by exercising bargaining power and lobbying activities). The basic implication of these models is that the misallocations of resources in conglomerates are caused by the agency problems and power considerations inside firms.

In this spirit, Scharfstein and Stein (2000) develop a two-tiered agency model that shows how rent-seeking behavior on the part of division managers can subvert the workings of an internal capital market. By pursuing rent-seeking activities, division managers can raise their bargaining power to extract greater overall compensation from the CEO. As the CEO is herself an agent of outside investors, the extra compensation paid to the division managers can take the form of preferential capital budgeting allocations rather than of higher cash wages. The implication of the work by Scharfstein and Stein (2000) is that the behavior of division managers and their bargaining power in negotiations with the CEO matters for the understanding of inefficiencies in the capital allocation process. Wulf (2005) also looks at inefficient resource allocations that result from influence activities by division managers. In her model, division managers distort their private information about future investments to get more capital allocated. As in Scharfstein and Stein (2000), she thereby

also assumes that division managers derive utility from having larger capital budgets, a preference that has been termed "empire-building" in the agency literature.

Ozbas (2005) analyzes the competition among division managers for corporate resources inside a firm. He assumes that division managers have specific knowledge that is not available to the CEO of the firm who finally has to make the resource allocations. Ozbas (2005) shows that division managers have incentives to exaggerate the payoffs of their divisions despite potentially adverse career consequences. Moreover, he shows that the exaggeration problem worsens with increased integration as it reduces the allocative efficiency of an integrated firm.

Compared to the progress that has been made through theoretical contribution in the field of internal capital markets, the empirical literature is still at a very early stage. Existing studies need to use publicly available segment reporting data with information at the division level only. Given the coarse structure and the lack of intra-firm information of these data sets as well as the lack of within firm proxies for power, it has been very difficult to test the predictions of the bargaining power models with real data.

3 The Firm, the Data Sets, and Descriptive Statistics

3.1 The Organizational Structure of the Sample Firm

Our sample firm is a major international conglomerate headquartered in Europe with operations around the world and more than 100,000 employees. From an operational point of view, the firm operates with five product divisions. Each product division itself consists of a number of business units which are operating under the roof of the division. The divisions have no operating activities itself. In total, the firm has 22 business units. The general operational structure of the firm is summarized in Figure 1. It shows the five divisions and illustrates that Division 2, for example, has a total of eight business units underneath. The divisions govern the business units across different regions and countries. To support and facilitate various cross-division activities, the firm has a headquarter which coordinates central corporate functions and processes such as outside financing or legal affairs. From an organizational perspective, the executive board of the firm is responsible

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for the day-to-day management and for all major corporate decisions. Each of the five divisions is run by a separate management team whose head is the division CEO. The division CEOs are generally *not* part of the executive board.[2] All business units are run by a management team whose CEOs are part of the management team of the corresponding division.

3.2 The Data Sets and Summary Statistics

We have detailed monthly data on the entire capital allocation of the firm. Our data includes information on all divisions and business units that are operating inside the conglomerate. The data set is uniquely comprehensive and comes from the confidential internal management accounting system of the firm. Our data set contains information on both planned and realized capital allocations. The data on the planned capita allocations comes from the firm's annual capital allocation plan that will be described in detail in the next section. The realized data is available from January 2001 to December 2006 and the planned data from January 2002 to December 2006. We are not aware of other papers in the literature on internal capital markets that can use data that is as detailed and comprehensive as ours. Moreover, we are not aware of other existing data sets that also contain planned capital allocation data as in our case. Table 1 contains an overview of the data we can use. It also contains information on the managerial power and cash windfall data that will be explained below.

Table 2 presents descriptive statistics for all five product divisions of the conglomerate. It also includes the number of business units that operate under each of the five divisions. The numbers in each column result from the aggregation of the respective business unit numbers. All values are in million EUR (except for Sales Growth and Total Personnel). The documented statistics are mean values for each division and calculated based on annual data. Tobin's Q is an imputed number and the mean (median) Q of all other firms in the European Union that have the same 3-digit SIC code as the respective division. This data comes from Datastream/Worldscope. The definition of all variables is provided in Table 3. Table 2 shows that the five divisions are very large players on an individual

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[2]For a limited time period within our sample, one division CEO served also as a member of the executive board.

basis, both in terms of total sales and total assets and in terms of total number of workers employed (on average between 8,000 and 46,000 per year). The average level of investment per year (capital expenditures) varies between 77 million EUR in Division 5 and 460 million EUR in Division 3.

3.3 Representativeness of the Sample Firm

We investigate whether our firm is comparable with other conglomerate firms, we compare a set of characteristics of our firm with other large conglomerates. First, we compare the stock price performance of our firm with the performance of the Euro Stoxx 50 index. Second, we compare key financial variables of our firm with those of all non-financial Euro Stoxx 50 firms. Third, we compare the investment cash flow sensitivity of the divisions (business units) of our sample firm with the investment cash flow sensitivities documented in other studies (e.g. Shin and Stulz (1998)). Fourth, we calculate the Berger and Ofek (1995) conglomerate discount of the sample firm and compare it with the discount of other conglomerates.

Figure 2 shows the stock price performance of our sample firm relative to the Euro Stoxx 50 index from 2000 to 2006. The figure shows that the stock price development of our sample firm almost exactly tracks the index, even though the development is more volatile than the diversified index. Table 4 compares key financial variables of our sample conglomerate with those of all non-financial DJ Euro Stoxx 50 firms. The table shows average values of annual data from 2000 to 2006. The figures show that our sample firm has a slightly lower investment rate, a lower cash flow, slightly higher sales, and lower leverage ratio.

In a next step, we follow the approach by Shin and Stulz (1998) and measure the internal capital market of the firm. We therefore regress investment of a division on division cash flow, proxies for division investment opportunities and on the cash flow of the other divisions of the firm. Other divisions' cash flow is included to evaluate whether an active internal capital market exists. In this analysis and in what follows, cash flow is measured as the cash flow from operations. To create a measure of investment opportunities that uses division data, we follow Shin and Stulz (1998) and use the sales growth of the division and (imputed) division Tobin's Q. Tobin's Q is hereby the median Q of all other firms in

the European Union that have the same 3-digit SIC code as the respective division. We also use division EBIT as an additional proxy for growth opportunities and profitability. We expect divisions with higher growth opportunities to invest more. Consistent with Shin and Stulz (1998), we normalize capital expenditure, the division's cash flow, other divisions' cash flow, and EBIT by the same variable, namely, the book value of the total assets of the firm. We use fixed effects panel regression models to account for division-specific effects as well as year fixed effects. All variables are winsorized at the 1% level to avoid disturbances due to outliers. To estimate our regressions, we use monthly data from January 2001 to December 2006. Table 5 reports the regression estimates. It shows results that are consistent with what has been document in the literature (see Shin and Stulz (1998)). More specifically, we find that investment (capital expenditures) by a given division depends on the cash flow of the firm's other divisions, but much less than it depends on the division's own cash flow. Consistent with Shin and Stulz (1998), we also find that division investment is sensitive to measures of investment opportunities. The results suggest that our conglomerate actively operates an internal capital market and reallocates cash across divisions.

Finally, Figure 3 documents that the Berger and Ofek (1995) conglomerate discount of our firm is, on average, 20% and hence comparable to other large conglomerates (the firm traded at a premium the first year). Overall, it is important to note that according to the measures used in the literature (see Cleary (1999), Cleary (2006), Glaser and Hirn (2007), Kaplan and Zingales (1997), and Whited and Wu (2006)), our firm can not be considered to be financially constrained. Apart from having a relatively low leverage ratio, the firm also increased its dividend payments over the sample period. The dividend was constant from 2001 to 2004 and was then slightly increased in 2005 and 2006. Furthermore, the firm initiated a share repurchase program in 2005 and paid out about 1 billion EUR in value to its shareholders. These considerations are important as the cash windfalls that we exploit later in this paper could not be considered exogenous to the business units capital expenditures if the firm would be financially constraint.

4 Internal Capital Allocation Process and Managerial Power

4.1 The Decision Process Behind the Allocation of Capital

To understand whether and where bargaining power of managers inside the firm plays a role for capital allocations, one needs to understand in detail the capital allocation process employed by the firm. To do this, we can use documents provided by the firm on (i) the institutional details of the allocation process, (ii) the time line of different budgeting meetings, (iii) the managers that generally participate in these meetings, and (iv) the approval procedures for investments. Like in most companies, the general strategy of the firm, developed by the executive board, serves as the ultimate foundation for all major corporate investment decisions. To transform this general corporate strategy into concrete capital allocations and investment decisions, the firm has a very standardized two-phase process in place.

Phase 1: The Strategic Outlook

Within the first phase, the strategic outlook, the firm tries to identify future growth opportunities for the divisions and business units therein. The main goal of the strategic outlook is to have a discussion between division management and the executive board on long-run strategies including future investments and capital allocations. It takes place on an annual basis and it is organized separately for each of the five divisions. The outcome of the strategic outlook is a strategic three-year investment plan for all divisions and business unit. This institutionalized process typically starts in January and ends in June with decisions being made for the three-year period starting in January of the subsequent year. For all five divisions, the decisions on the figures in the strategic outlook are made in a meeting with the executive board following intense negotiations with the CEOs of the five different divisions. At the end, the three year plan includes general targets for planned investments and required resource allocations for all divisions. This three-year plan hence serves as the foundation for the internal capital allocation process of the conglomerate.

The firm has no standardized process across the separate divisions on how they internally organize the discussions with their business units before the strategic outlook meeting with the executive board. Each division has the freedom to structure the process in a

way that is most suitable for its respective organizational structure and business model. Nevertheless, in all divisions it is in principle the business units that take the lead in identifying future investment opportunities.

Phase 2: The Annual Capital Allocation Plan

Right after the finalization of the strategic outlook, a concrete annual capital allocation plan, the second phase of the allocation process, is developed for the coming year. Detailed planned investments and resource allocations of both divisions and business units are documented in this allocation plan. The link between the strategic outlook and the allocation plan is the setting of very concrete investment and P&L targets for the divisions and their business units. The allocation plan can therefore be considered as a detailed one year implementation of the strategic outlook. This implies that based on the strategic outlook, the executive board and the division managers jointly determine the investment and allocation targets for the next year in internal negotiations.

The divisions then deploy down the agreed investment and allocation targets to their individual business units. The business units then confirm or modify the target and finally build them into their planned budget for the next year. After that, the business units construct detailed investment plans to achieve the defined targets. Moreover, they set concrete allocation requirements including the timing of their investments. The proposed annual allocation plans are also translated into a complete set of balance sheets and income statements for each business unit, which are subsequently aggregated and consolidated at the division as well as at the firm level. Intensive discussions between the executive board and CEOs of the division will take place at the end of the process to finalize the proposed plans. The firms has no institutionalized process and formalized rules on the allocation of cash windfalls. This will be important for the subsequent analysis.

For our empirical analysis, we have data from the annual capital allocation plan. Since the annual capital allocation plan is not modified, it is generally more informative than the strategic outlook (whose plans are overlapping and adjusted during the three year period).

Execution of Allocation and Investment Decisions

The process behind the concrete execution of capital expenditures for specific projects is relatively straightforward. The firm requires approval by the executive board for any project which involves an investment or a divestment in (in)tangible fixed assets that exceeds a specific threshold (in EUR). The respective thresholds depend on the different divisions and very between 5 and 35 million EUR. In order to get board approval, each business unit has to document that the pursued investment generates a positive net present value. As the discount rate for the calculation of the net present value, the firm uses a project-specific weighted average cost of capital (WACC). All inputs used for calculation of the project-specific WACC are provided by the headquarter (e.g. tax rates, interest rates, or country risk premia).

To summarize, the internal capital allocation process in our conglomerate is a mixture of top down and bottom up procedures. The procedures used are very similar to those described in standard textbooks on capital allocation such as, for example, Anthony and Govindarajan (2003) or and Brealey, Myers, and Allen (2006)). The firm has no procedures for the allocation of capital resulting from cash windfalls.

4.2   The Measurement of Managerial Power

The models by Scharfstein and Stein (2000) or Meyer, Milgrom, and Roberts (1992) imply that Division CEOs that have more power vis-a-vis the CEO of the firm should receive larger capital allocations for their units. We measure power on three complementary dimensions. First, we follow the empirical corporate governance literature and look at the tenure of the Division CEOs. We follow papers such as Ryan and Wiggins (2004) or Berger, Ofek, and Yermack (1997) and assume that the power of a division CEO is increases as his tenure lengthens. To measure this variable, we trace back the names of all Division CEOs over the sample period and calculate how long they have been working for the firm.[3] We hereby not trace back when a person initially started to work for the firm. This allows us to capture the influence and social networks of a specific person in the company. We also construct a related tenure variable that measures directly the tenure of a manager as division CEO (in months). We can identify a total number of 13 Division

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[3]Unfortunately, we do not have data on the names of the Business Unit CEOs.

CEOs over the sample period (see Table 6). The mean (median) value of our tenure at firm variable is 17.71 (16) years, with a minimum of 0 and a maximum of 39 years. The mean (median) Division CEOs is in office for 28.6 (22) months.

Second, we measure the type of academic degree a division manager holds (see also Table 6 for descriptive statistics). More specifically, we argue that a Division CEOs with an engineering degree can be regarded as more powerful for the following reasons. Our sample firm has a very strong and very long engineering tradition. All past CEOs were engineers, the firm has patents on some of the most important engineering innovations in modern history, and an engineering background matters a lot for a career inside the firm according to statements by people of the firm.

Third, we measure whether Division CEOs have the nationality of the country where the firm originates from and where the headquarter and its main operations are. We hereby try to measure power from a socio-cultural perspective and assume that Division CEOs that have the the local nationality are powerful inside the organization. Table 7 shows our power variables are positively but far from perfectly correlated and hence capture different facets of power inside the firm.

5   Managerial Power and Planned Capital Allocation

The uniqueness of our data set also stems from the availability of planned capital allocation data from the firm's annual capital allocation plan. The availability of such data is important for the analysis of the efficiency of capital allocations as planned allocations reveal the intended (ex-ante) capital allocation decisions of a firm. Realized allocation outcomes might provide a misleading picture if realized allocations have been distorted by factors that were outside the control of the acting managers. It is therefore important to investigate whether the planned allocations are efficient and whether bargaining power matters for these allocations. Having looked at planned capital allocations, we will then investigate in a second step the reasons for why realized and planned allocations might differ.

Table 8 presents descriptive statistics of the planned allocation data for all business units

of the firm from January 2002 to December 2006. For comparison, the table also includes the corresponding realized values. Realized values were available for the period January 2001 to December 2006. The planned allocation data stems from the conglomerates annual capital allocation plan that was described in Section 4. All variables are calculated based on quarterly observations. The table shows that the (ex ante) planned values do not exactly match the (ex post) realized values. For example, (ex ante) planned capital expenditure value are higher than the (ex post) realized ones. This is a well-know phenomenon in the management accounting literature called budgetary slack (see Davila and Wouters (2005)). Our results are strengthened in Table 9, in which we document pairwise correlation coefficients between the realized and planned values at the business unit level. The planned and realized values are highly correlated, but the correlations for many variables are far from being perfect. The correlation between planned and realized capital expenditures is, for example, only 0.8605.

Table 10 presents fixed effects panel regression results at the business unit level where planned capital expenditures is regressed on our measures of managerial power, planned EBIT divided by lagged total assets (return on assets), planned sales growth, and the lagged deviation of planned and realized EBIT. The results show that planned investment is significantly related to measures of future growth opportunities and profitability. These results are in line with neoclassical investment models that say that corporate resources should go to the units with the highest growth opportunities. Interestingly, our measures of bargaining power do not seem to matter for determining the ex ante capital allocations of the business units. This result suggests that planned allocations of capital are not affect by internal power struggels. This suggests that the sophisticated and institutionalized process of setting of ex ante capital allocation plans is structured in a way that eliminates inefficient influence activities. This is consistent with the fact that our description of the firm's capital allocation process showed that the conglomerate uses procedures which closely match the textbook recommendations of capital allocation processes (see Anthony and Govindarajan (2003) or Brealey, Myers, and Allen (2006)).

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6 Managerial Power and the Allocation of Cash Windfalls

6.1 The Cash Windfalls

The previous section showed that the ex ante capital allocation process is not distorted by managerial power. We have also seen that the (ex post) realized capital allocations differ from the (ex ante) planned values. One of the main reasons why planned and realized allocations differ are cash windfalls at the headquarter level. These cash windfalls have *not* been included in the planned allocation budget but are available spending. Cash windfalls result from the headquarter selling equity stakes (usually minority shareholdings) in other companies whose activities are not related to the activities of the five product divisions. These cash windfalls are exogenous to the Division CEOs, their divisions and their business units. Once occurred, the cash windfalls are (at least partly) available to the divisions and their business units for investments. We investigate to what extent such cash windfalls explain the differences between planned and realized allocations and to what extent power matters for the distribution of the money that results from these windfalls. At this point it is again important to note that our the firm is not financially constraints (see above) as this implies that the firm did not sell the equity stakes because no other capital was available for the funding of investments. In such a case, the cash windfalls would likely to be endogenous.

To measure the cash windfalls, we look at all equity stakes that have been sold by the headquarter during the sample period and that generated a cash inflow of at least 500 million EUR. In total, we could identify eight such transaction with a mean value of 938 million EUR. Table 11 provides descriptive statistics of the cash windfalls. The table also summarizes the usage of the cash inflows that resulted from the windfalls. The numbers are averages calculated over the years in which cash windfalls occurred. The table shows that almost 20% of the money from the windfalls was used for investment within the firm. Most importantly, 30% of the money was paid out to the firms' shareholders in the form of dividends and share repurchases and another 20% was used to increase cash holdings. These usages provide further evidence that the firm did not sell their equity stakes in order to raise capital for the financing of projects.

In the following, we will focus on the the effects of the windfalls for capital expenditures of the business units in the firm. More specifically, we will study the distribution of the cash windfalls within the firm by looking at the changes in the differences between realized and planned investment (i.e. between actual and planned capital allocations). Cash windfalls that are used for investment but not included in the planned allocation cause a deviation of realized from planned investment. If managerial power matters for the allocation of cash windfalls, we should expect that more powerful Division CEOs receive a larger piece of these cash windfalls. This implies that that the deviations of realized from planned investment are significantly larger for more business units of more powerful Division CEOs.

6.2   Managerial Power: Preliminary Evidence

Before we investigate the changes in the difference between planned and realized investment, we look at the windfall-induced changes in the absolute levels of the investment rates (not relative to the plan). The cash windfalls increase the (average) quarterly investment rate of the business units from 0.0089 to 0.0136. This corresponds to an economically large increase in investment by 53%. Put differently, this suggests that a 100 million EUR cash windfall in a business unit-quarter increases realized investment by 550,000 EUR (in the same quarter). To see the cash windfall induced changes in investment on a monthly instead of quarterly basis, Figure 4 plots monthly investment rates (capital expenditures divided by total assets) around the cash windfall events.[4] The cash windfall events are hereby defined as the months in which a sold equity stake caused a cash inflow. While monthly investment is 0.0031 for the average business unit in a no cash windfall month, it increases by more than 60% to 0.0050 in the cash windfall months. The figures further shows that the windfalls not only affect investment in the months in which they occur but also in the month after (where the investment rate is 0.0046). Table 12) provides a first look at the effects of managerial power on the distribution of the cash windfalls. The table documents a simple difference-in-differences analysis and looks at the change in the absolute level of investment for more and less powerful units. The table shows that the windfall-induced change in investment is 0.013 larger for business units whose Division

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[4]Our analysis will later focus on quarterly observations as planned data is only available in this frequency.

CEO has an above median tenure. The difference of 0.013 is again economically significant and represents 146% of the average no cash windfall investment rate of 0.0089.

To illustrate the effects of managerial power on the distribution of the cash windfalls in more depth, Table 13 looks at how the difference between realized and planned investment changes due to the windfalls. The table suggests a link between managerial power and the deviations between planned and realized investment that result from the cash windfalls. The table presents the difference between realized and planned capital expenditures (divided by total assets) for quarters with and without a windfall cash shock. In the last two columns this difference is shown separately for low and high power CEOs. The shock induced change is calculated as values in line (2) minus values in line (1). In general, realized investment lies below planned investment. This is a well-know phenomenon in the management accounting literature and called budgetary slack. The table also shows that the cash windfalls bring realized investment closer to planned investment. In an average no cash windfall quarter, realized investment lies 0.0057 below planned investment, while this difference is only 0.0020 in the average cash windfall quarter.

The table also shows that the effects of a cash windfall are always much larger for business units whose Division CEO has greater managerial power. For our tenure at the firm variable, for example, the cash windfall induced change of investment is almost three times larger for more powerful Division CEOs (cash windfall induced change of 0.0018 versus 0.0059). The difference in the power effect of 0.0031 is economically large and represents about 35% (=0.0031/0.0089) of the average no cash windfall investment rate of a business unit. Overall, the results in Table 13 provide (preliminary) evidence that power is relevant for the allocation of capital that results from cash windfalls at the headquarter level. We analyze this link in greater detail in the following.

6.3 Managerial Power: Further Evidence based on Regressions

In Table 14, we examine whether the influence and bargaining power of the Division CEOs over the cash windfall can explain the differences between realized and planned capital expenditures after accounting for differences in investment opportunities, unobserved business unit heterogeneity, clustering at the division level, and controlling for a

set of other controls. We regress the difference between realized and planned capital expenditures on a the cash windfall variable (cash inflow at the conglomerate level from the selling of equity stakes in other firms as measured as ln(1+cash shock)), a managerial power variable, an interaction term of the cash shock and the tenure variable, sales growth, EBIT divided by lagged total assets (return on assets), lagged (planning period) EBIT deviation from the plan, and lagged imputed Tobin's Q. Our managerial power measure varies from regression to regression and is named in the columns above the regressions. The difference between realized and planned capital expenditures is again scaled by total assets of the respective business unit. In the regressions, we use business unit fixed effects and quarterly data from January 2002 to December 2006. The standard errors are again adjusted for intra-division correlation.

Our regression estimates show that the differences between realized and planned investment can mainly be explained by how unexpected windfall cash flows that occur at the headquarter level are distributed inside the firm. More specifically, the results show that division managers that have more bargaining power within the conglomerate can get a larger fraction of these windfall cash flows for their own business units after controlling for performance and profitability measures. The interaction variable between power and cash shock is significantly positive in Regressions (1) and (3).[5] Our results are consistent with the models of Scharfstein and Stein (2000), Wulf (2005) or Meyer, Milgrom, and Roberts (1992) that suggest that variables which are related to the bargaining power of managers inside a firm have to be taken into account when analyzing internal capital allocations.

In summary, we find that differences between realized and planned investment can be explained mainly by unexpected windfall cash inflows that occur at the headquarter level and how they are distributed inside the firm. More specifically, we show that division managers that have more bargaining power within the conglomerate can get a larger part of these windfall cash inflows for their own business units (after controlling for performance and profitability measures). One potential concern might be that our power variables simply catch higher ability of managers that is not captured by the measures of investment profitability. However, this is unlikely as the ax ante planned values are not influenced by

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[5]The results are not surprising given the univariate results shown in Table 13 in which the strongest effects are also documented for tenure at firm and local nationality.

managerial power (see the previous section).

7   Discussion and Alternative Explanations

7.1   Capital Expenditures from Cash Windfalls versus Normal Budgets

The previous section has shown that managers with more bargaining power within the firm can capture significantly more money from cash windfalls for their own units' investment (see Table 14). Moreover, we also showed that business units of more powerful managers have generally spent less of their planned budget compared to less powerful units (see Table 13). A question that arises from these two observations is why powerful managers which a general preference for more capital try to get as much as possible from the windfalls while at the same time not spending the full normal budget.

One possible explanation for this difference lies in the different characters of the two capital sources. If money from the normal capital budget (planned capital allocations) is not spent, for example because no profitable investment opportunities are available, it is not available for spending by other business units of the firm. Money from the cash windfalls, on the other hand, is available for the distribution within the entire firm. If a unit does not capture and utilize the available funds for its own investment, it is likely to be captured and used by other units. Relinquishing capital from windfalls hence implies that other units will get it. Powerful managers therefore have an incentive to capture as much as possible from the windfalls even though they might not fully spend their normal budgets.

7.2   Power as a Measure of Ability

One potential concern of our findings is that the power variables, in fact, capture ability. If our power variables capture ability, this should be reflected in the planned capital allocation in the sense that more able Division CEOs get larger capital budgets ex ante. However, as show in Section 5 where we regressed the planned capital allocations for investment on the power variables and controls, we have no evidence for such a relationship.

This finding not only implies our interpretation that power does not matter for the institutionalized ex ante capital allocation process, it also suggests that our power variables do not measure ability. Otherwise, we should have seen a positive relation between planned investment and the ability variables.

As a further test, we also regressed future performance of the business units on a our power proxies and a set of controls (not reported here). If our power variables capture ability, we should see a positive relationship between future performance and our power proxies. To measure performance, we use EBIT/Total Assets, Sales Growth and EVA/Total Assets. When we regress future performance on the power variables, we find that the relationship between the two is either statistically insignificant (for EBIT/Total Assets and Sales Growth) or very low and economically insignificant (for EVA/Total Assets). Overall, these findings reconfirm that our power variables are not proxies of ability.

7.3 Adjustment of Investment After Cash Windfalls

We have shown that investment rises significantly in the quarters in which a cash windfall occurred and that this increase was much more pronounced for the business units of more powerful Division CEOs. In this section, we analyze whether investment is adjusted downwards in the quarters after the cash windfalls. We hereby want to test whether powerful Division CEOs get less capital allocated in periods after the cash windfall. This would imply a mitigation or even elimination of the effects of the cash windfalls and weaken our power results. We therefore separate the sample into business units of more and less powerful Division CEOs and regress investment on lagged investment, a lagged cash windfall dummy, an interaction term between the two and a set of controls. The results in Table 15 document that investment shows a positive autocorrelation and that there is no evidence for a downward adjustment in capital expenditure after increased investment in cash windfall periods. Moreover, we cannot detect any differences in the investment adjustment between more and less powerful Division CEOs.

8 Conclusion

In this paper, we extensively described how the capital budgeting process works in one of the largest European conglomerates. Using uniquely comprehensive and confidential data from this conglomerates internal management accounting database, we analyzed the efficiency of capital allocations. We tested predictions of theories that link managerial power inside a firm and internal capital allocation and that have not been tested so far due to data limitations.

Our data set not only included data on realized capital allocations but also on planned allocations from the firm's annual capital allocation plan. By using this planned data, we showed that the analysis of realized instead of planned allocations might be misleading. When we looked at ex-ante allocation decisions using data from the firm's planned capital allocation plan, we found that only profitability measures were related with capital expenditures. These results are important as they suggest that the firm's ex-ante capital allocations plans might be regarded as rather efficient. We then studied how unexpected cash windfalls that occur at the headquarter level are distributed inside the firm. We showed that division managers that have more bargaining power within the conglomerate can get a larger part of these windfall cash flows for their own business units (after controlling for performance and profitability measures). These results suggested that variables which are related to the bargaining power of managers inside a firm should be taken into account when analyzing internal capital allocations. Regarding generalizations of our results, we are aware that our evidence is based on a clinical analysis. The advantage is that we can hold the institutional and organizational set-up of the firm and of the employed capital allocation process constant. This is of particular relevance given potential institutional differences in the allocation processes across different firms.

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Table 1: **Overview Over Data Sets and Data Sources**

Data Type	Content	Time Period	Source
Data on Capital Allocations	Realized Data: Data on realized capital allocations for all 5 Divisions and 22 Business Units.	Monthly from 01/2001-12/2006	Internal management accounting system of the firm
	Plan Data: Data on the planned capital allocations for all 5 Divisions and 22 Business Units.	Quarterly from 01/2002-12/2006	Internal management accounting system of the firm
	Plan data is not adjusted during the year, i.e. we have the initial allocation plans. There is hence no bias from manipulations of the plance once performance occurred during the year		
Data on Managerial Power inside the Firm	For 13 Division CEOs data on Tenure, Local Nationality, and Type of University Degree	01/2001-12/2006	Self-constructed based on annual reports and web searches
Data on Cash Windfalls	Headquarter has equity stakes in other firms that were sold and resulted in 8 large cash windfalls.	01/2001-12/2006	Self-constructed based on annual reports, press statements, ad hoc information, and web searches
	Cash windfalls are exogenous (firm is not financially constraint)		

Table 2: **Descriptive Statistics at the Division Level**

This table presents descriptive statistics of all five divisions of the sample firm for the period January 2001 to December 2006. It also includes the number of business units that operate within each of the five divisions. All values are in million EUR (except for Sales Growth and Total Personnel). The numbers presented here are calculated as the annual year-end averages over the six years. Tobin's Q is the mean/median Q of all other firms with the same 3-digit SIC code in the European Union and this data comes from Datastream/Worldscope. All other variables are defined in Table 3.

	Division 1	Division 2	Division 3	Division 4	Division 5
Number of Business Units	4	8	1	5	4
Median Tobin's Q of Firms with Same 3-digit SIC Code	2.15	1.94	1.62	1.27	1.62
Capital Expenditure (million EUR)	80.64	102.11	456.62	166.73	77.53
Sales (million EUR)	9,378.52	6,157.89	4,425.04	5,212.04	2,031.98
Sales Growth	0.02	0.07	-0.03	0.01	0.10
EBIT (million EUR)	-91.68	476.99	-61.09	593.04	360.43
Total Assets (million EUR)	2,504.91	5,510.19	4,334.16	2,694.51	917.31
Cash Flow from Operations (million EUR)	216.45	832.38	784.87	793.94	488.84
Total Personnel	17,212.33	27,358.39	33,985.22	45,785.07	8,187.78

Table 3: **Definition of Variables**

This table summarizes and defines the variables used in the empirical analysis. All variables are measured in EUR (except for Sales Growth, Total Personnel, and the Managerial Power Variables). The Financial Variables listed below are available at the business unit level. The managerial power variables are available at the Division CEO level.

Variable	Description
Financial Variables	
Capital Expenditure	Defined as investments of a business unit in tangible and intangible assets, adjusted for proceeds from the sales of fixed assets and/or software
Sales	Defined as the proceeds of a business unit from the sales of products or services to third parties and other divisions inside the firm.
Sales Growth	Defined as the difference between this period sales and previous period sales divided by previous period sales of a business unit.
EBIT	Defined as earnings before interest payments and taxes of a business unit.
Total Assets	Defined as the sum of the book values of a business unit's fixed and current assets.
Cash Flow from Operations	Defined as net income +/- depreciation and amortization +/- changes in working capital of a business unit.
Total Personnel	Defined as the number of employees being employed in a business unit.
Managerial Power Variables	
Tenure at firm	Number of years a Division CEO has been working in the firm.
Tenure as Division CEO	Number of months a Division CEO has been working in his position as Division CEO.
Engineering Degree	Dummy variable that takes the value 1 if a Division CEO has an engineering degree.
Local Nationality	Dummy variable that takes the value 1 if a Division CEO has the nationality of the country where the firm originates from and has its main operations
Cash Windfall Variables	
Cash windfall	Cash inflow at the Headquarter level that results from the selling of equity stakes in other firms (in million EUR)

Table 4: **Key Financial Variables of Sample Firm and Non-Financial DJ Euro Stoxx 50 Firms**

This table presents key financial variables of our sample conglomerate and compares them with all non-financial Dow Jones Euro Stoxx 50 firms. For the non-financial Dow Jones Euro Stoxx 50 firms, we report means, medians, standard deviations as well as several percentiles. The table shows average values from 2000 to 2006 of yearly data.

	Sample Firm	DJ Euro Stoxx 50						
		Mean	Standard deviation	10th percentile	25th percentile	Median	75th percentile	90th percentile
Capital Expenditures/Assets	0.045	0.056	0.026	0.029	0.040	0.050	0.069	0.090
Cash flow/Assets	0.058	0.098	0.046	0.056	0.073	0.091	0.107	0.158
Sales/Assets	0.942	0.794	0.430	0.384	0.481	0.686	0.988	1.287
Total liabilities/Assets	0.470	0.644	0.121	0.468	0.576	0.643	0.729	0.803

Table 5: **Estimates of Investment Equation at the Division Level**

This table presents regressions estimates at the division level of capital expenditures on cash flow from operations, cash flow from operations of other divisions, sales growth, imputed Tobin's Q, and EBIT divided by lagged total assets (return on assets). Capital expenditures and the two cash flow variables are scaled by lagged total assets. Imputed Tobin's Q is the median Q of all other firms in the European Union that have the same 3-digit SIC code as the respective division. All variables are winsorized at the 1% level. In the regressions, we use monthly data from January 2001 to December 2006. Absolute values of robust t-statistics are in parentheses. ** indicates significance at 5%, ***indicates significance at 1%. Standard errors are also adjusted for intra-division correlation.

Capital Expenditure/Total Assets

	(1)	(2)
Own Cash Flow/Total Assets	0.022	0.019
	(2.50)**	(2.09)**
Cash Flow (other divisions)/Total Assets	0.007	0.007
	(2.58)**	(2.50)**
Sales Growth	0.001	0.001
	(3.82)***	(3.69)***
Imputed Tobin's Q (Lagged Value)	0.000	0.000
	(0.14)	(0.04)
EBIT/Total Assets		0.022
		(1.29)
Constant	-0.0003	-0.0003
	(0.78)	(0.63)
Division Fixed Effects	Yes	Yes
Time Fixed Effects	Yes	Yes
Clustering by Division	Yes	Yes
Observations	296	296
Number of divisions	5	5
Adj. R-squared	0.20	0.21

Table 6: **Measures of Managerial Power Inside the Firm: Descriptive Statistics**

This table provides summary statistics of our measures of bargaining power inside the firm. The variables are defined in Table 3. The variables are self-constructed based on annual reports and web searches.

Number of Division CEOs with tenure variables available			13	

Tenure	Tenure at firm (in years)	Minimum	0	
		Mean	17.71	
		Median	16.00	
		Maximum	39	
		Std. dev.	14.57	
		Observations (business unit quarters)	515	
	Tenure as division CEO (in months)	Minimum	2	
		Mean	28.58	
		Median	22.00	
		Maximum	86	
		Std. dev.	21.56	
		Observations (business unit quarters)	515	
				In percent
Engineering Degree	business unit quarters	yes	356	69.13
	business unit quarters	no	159	30.87
				In percent
Local Nationality	business unit quarters	yes	218	42.33
	business unit quarters	no	297	57.67

Table 7: **Measures of Managerial Power Inside the Firm: Correlation Coefficients**

This table presents correlation coefficients between our measures of bargaining power inside the firm. The table also contains the number of observations used to calculate the respective correlations. The variables are defined in Table 3. The variables are self-constructed based on annual reports and web searches.

	(1)	(2)	(3)	(4)
Tenure at firm	1.0000			
	515			
Tenure as division CEO	0.4863	1.0000		
	0.0000			
	515	515		
Engineering degree	-0.1662	-0.0238	1.0000	
	0.0002	0.5899		
	515	515	515	
Local nationality	0.8959	0.4922	-0.0655	1.0000
	0.0000	0.0000	0.1379	
	515	515	515	515

Table 8: **Descriptive Statistics of Planned and Realized Variables at the Business Unit Level**

This table presents descriptive statistics of all business units of the sample firm for the period January 2002 to December 2006 (planned values) and January 2001 to December 2006 (realized values). The numbers presented here are calculated as the averages across quarterly data. The variables are defined in Table 3. The data is from the internal management accounting system of the firm.

Variable	Observations	Mean	1st percentile	25th percentile	Median	75th percentile	99th percentile	Std. dev
Planned Sales	411	352.24	20.56	107.10	221.00	405.46	1,653.39	383.83
Planned EBIT	411	25.93	-30.70	2.46	13.02	44.57	103.99	40.00
Planned EBIT/Total Assets	411	0.04	-0.10	0.01	0.04	0.07	0.23	0.06
Planned Sales Growth	390	0.05	-0.59	-0.02	0.05	0.16	0.78	0.26
Planned Cash Flow from Operations	227	42.69	-64.42	2.55	19.51	54.32	287.70	70.95
Planned Cash Flow from Operations/Total Assets	227	0.05	-0.28	0.01	0.05	0.10	0.44	0.10
Planned Capital Expenditure	371	12.50	-0.80	3.12	4.67	9.96	132.13	25.16
Planned Personnel	227	6,443.68	275.00	1,214.00	3,849.00	12.36	27.72	6.65
Sales	515	316.96	20.17	93.09	194.84	357.53	1,632.40	371.09
EBIT	515	14.89	-254.84	-2.30	9.19	37.32	140.68	59.23
EBIT/Total Assets	515	0.02	-0.22	-0.01	0.03	0.07	0.24	0.11
Sales Growth	493	0.04	-0.55	-0.08	0.02	0.15	0.78	0.27
Cash Flow from Operations	515	36.31	-123.17	-0.60	17.12	50.26	337.40	77.95
Cash Flow from Operations/Total Assets	515	0.05	-0.42	0.00	0.04	0.10	0.43	0.13
Capital Expenditure	515	10.29	-7.82	1.52	3.29	8.09	147.46	31.40
Capital Expenditure/Total Assets	515	0.01	-0.02	0.00	0.01	0.02	0.08	0.06
Personnel	515	6,105.25	295.00	1,203.33	3,406.67	7,418.00	35,771.33	7,954.00

Table 9: **Correlation Between Realized and Planned Data at the Business Unit Level**

This table presents correlation coefficients between realized values and planned values at the business unit level. The correlations are calculated using quarterly data from January 2002 to December 2006. *** indicates significance at 1%. The table also contains the number of observations used to calculate the respective correlations. The data is from the internal management accounting system of the firm.

	Correlation coefficient	p-Value	Observations
Correlation(Total Sales, Planned Total Sales)	0.9741	< 0.0001***	411
Correlation(EBIT, Planned EBIT)	0.6066	< 0.0001***	411
Correlation(Cash Flow from Operations, Planned Cash Flow from Operations)	0.6154	< 0.0001***	403
Correlation(Capital Expenditures, Planned Capital Expenditures)	0.8605	< 0.0001***	371

Table 10: **Determinants of Planned Investment at the Business Unit Level**

This table presents fixed effects panel regression results at the business unit level of planned capital expenditures on several measures of managerial power, planned EBIT divided by lagged total assets (return on assets), planned sales growth, and lagged (planning period) deviation from planned and realized EBIT. Planned capital expenditures is scaled by lagged total assets. All variables are winsorized at the 1% level. In the regression, we use quarterly data from January 2002 to December 2006. Absolute values of robust t statistics are in parentheses. Standard errors are also adjusted for intra-division correlation. *** indicates significance at 1%; ** indicates significance at 5%; * indicates significance at 10%.

| | Planned Capital Expenditure/Total Assets | | | | |
	(1)	(2)	(3)	(4)	(5)
Planned EBIT/Total Assets	0.017	0.018	0.018	0.018	0.017
	(1.37)	(1.44)	(1.41)	(1.40)	(1.37)
Planned Sales Growth	0.007	0.007	0.007	0.007	0.007
	(2.47)**	(2.56)**	(2.51)**	(2.52)**	(2.48)**
Engineering Degree					0.000
					(0.06)
Tenure as Division CEO				0.000	
				(1.28)	
Local Nationality			0.004		
			(1.47)		
Tenure at Firm		0.000			
		(1.48)			
Lagged EBIT Deviation from Plan/Total Assets	0.077	0.092	0.09	0.087	0.077
	(2.70)***	(2.92)***	(2.90)***	(2.99)***	(2.71)***
Constant	0.014	0.011	0.012	0.013	0.014
	(11.24)***	(6.28)***	(7.60)***	(9.85)***	(6.36)***
Business Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Clustering by Division	Yes	Yes	Yes	Yes	Yes
Observations	311	311	311	311	311
Number of divisions	5	5	5	5	5
R-squared	0.04	0.05	0.05	0.04	0.04

Table 11: **Description of Cash Windfalls**

This table presents descriptive statistics of the cash windfalls. The Headquarter of the firm held equity stakes in other firms that were sold and resulted in large cash inflows during the period 01/2001-12/2006. Panel A reports the frequency of the cash windfalls, Panel B provides descriptive statistics, and Panel C contains information on the usage of the money from the cash windfalls. The latter was calculated at the firm level and for the period 2003-2005 as all cash windfalls occurred within this period.

Panel A: Frequency of Cash Windfalls

Number of cash windfalls	8
Number of quarters with cash windfalls	6
Number of business unit quarters with positive cash windfalls	132
Total number of business unit quarters	515

Panel B: Descriptive Statistics of Cash Windfalls

Mean (in million EUR)	937.83
Median (in million EUR)	902.5
Min (in million EUR)	615
Max (in million EUR)	1270
Std. dev (in million EUR)	258.17

Panel C: Usage of Cash Windfalls

Capital Expenditures	19%
Working Capital (increase)	1%
Acquisitions	13%
Repayment Debt	21%
Dividends	9%
Share Repurchases	11%
Tax	6%
Increase in Cash Holdings	20%
Total	100%

Table 12: **Cash Windfalls and Power: A First Look**

This table presents a simple example on the effects of power (measured by tenure of Division CEOs in the firm). The table reports investment rates (capital expennditures/total assets) at the business unit level for cash windfall and no cash windfall quarters. The business units are separated based on tenure as the managerial power measure. The average investment rate for all no cash windfall business unit quarters is 0.0089 and 0.0136 for all cash windfall business unit quarters.

	Low tenure at firm (lower than median (16 years))	High tenure at firm (higher than median (16 years))	Between Group Difference
No cash windfall quarter	0.0077	0.0098	0.0021
Cash windfall quarter	0.0083	0.0234	0.0151
			Diff in Diffs
Cash windfall induced change	0.0006	0.0136	0.0130

Table 13: **Managerial Power and Cash Windfall Induced Deviations between Realized and Planned Investment at the Business Unit Level**

This table presents the difference between realized and planned capital expenditures (divided by total assets) for quarters with and without a cash windfall. In the last two columns this difference is shown separately for low and high power CEOs. The shock induced change is calculated as values in line (2) minus values in line (1). The table reports mean values over both quarters with and without cash windfalls.

			Managerial Power Measure Low	Managerial Power Measure High
			Low tenure at firm (lower than median (16 years))	High tenure at firm (higher than median (16 years))
No cash windfall quarter	-0.0057	(1)	-0.0036	-0.0082
Cash windfall quarter	-0.0020	(2)	-0.0018	-0.0023
Cash windfall induced change		(2)-(1)	0.0018	0.0059
			Low tenure as division CEO (lower than median (22 months))	High tenure as division CEO (higher than median (22 months))
No cash windfall quarter	-0.0057	(1)	-0.0047	-0.0062
Cash windfall quarter	-0.0020	(2)	-0.0025	-0.0016
Cash windfall induced change		(2)-(1)	0.0022	0.0046
			Division CEO not local nationality	Division CEO local nationality
No cash windfall quarter	-0.0057	(1)	-0.0038	-0.0082
Cash windfall quarter	-0.0020	(2)	-0.0018	-0.0023
Cash windfall induced change		(2)-(1)	0.0021	0.0059
			Division CEO non-engineer	Division CEO engineer
No cash windfall quarter	-0.0057	(1)	-0.0084	-0.0048
Cash windfall quarter	-0.0020	(2)	-0.0045	-0.0008
Cash windfall induced change		(2)-(1)	0.0038	0.0041

Table 14: **Determinants of Deviations Between Realized and Planned Investment at the Business Unit Level**

This table presents fixed effects panel regressions at the business unit level of regression of the differences between realized and planned capital expenditures on a the cash shock variable (cash inflow at the Headquarter level from the selling of equity stakes in other firms as measured as ln(1+Cash windfall)), a managerial power variable (the four different power variables are reported in the four different columns), an interaction term of the cash windfall and the power variable, sales growth, EBIT divided by lagged total assets (return on assets), lagged (planning period) EBIT deviation from the plan, and lagged imputed Tobin's Q. The difference between realized and planned capital expenditures is scaled by total assets of the respective business unit. All variables are winsorized at the 1% level. In the regression, we use quarterly data from January 2002 to December 2006. The coefficient of the interaction term is multiplied with 10,000. Absolute values of robust t-statistics are in parentheses. Standard errors are also adjusted for intra-division correlation. *** indicates significance at 1%; ** indicates significance at 5%; * indicates significance at 10%.

| Dependent variable:	(Realized Cap.Ex.-Planned Cap.Ex.)/Total assets			
Managerial power variable:	Tenure at firm	Tenure as Division CEO	Local nationality	Engineering degree
	(1)	(2)	(3)	(4)
Sales growth	0.001	0.001	0.001	0.001
	(0.23)	(0.51)	(0.25)	(0.63)
EBIT/Total assets	0.027	0.027	0.028	0.027
	(2.34)*	(2.06)	(2.42)*	(2.06)
Lagged EBIT Deviation from Plan/	-0.062	-0.061	-0.060	-0.062
Total Assets	(6.43)***	(5.60)***	(5.91)***	(8.64)***
Imputed Tobin's Q (Lagged Value)	0.009	0.007	0.009	0.010
	(1.18)	(0.56)	(1.21)	(1.20)
ln(1+Cash windfall)	0.001	0.001	0.001	0.001
	(2.55)*	(1.87)	(2.65)*	(2.61)*
Managerial power	-0.000112	-0.000052	-0.003	0.001
	(2.46)*	(0.69)	(1.66)	(0.50)
Managerial power $*$ ln(1+Cash windfall)	0.119	-0.052	4.114	-3.152
	(2.76)*	(0.05)	(2.45)*	(1.33)
Constant	-0.023	-0.018	-0.024	-0.028
	(1.37)	(0.65)	(1.43)	(1.44)
Business Unit Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Clustering by Division	Yes	Yes	Yes	Yes
Fourth quarter dummy	Yes	Yes	Yes	Yes
Observations	311	311	311	311
Adjusted R-squared	0.11	0.11	0.11	0.11

Table 15: **Adjustment of Investment after Cash Windfalls**

This table presents fixed effects panel regressions at the business unit level of regression of capital expenditure on lagged capital expenditure, a lagged cash windfall dummy, an interaction term between the two and a set of controls. The sample is separated into business units belonging to division CEOs with high and low bargaining power (measured by tenure in the displayed table). Absolute values of robust t-statistics are in parentheses. Standard errors are also adjusted for intra-division correlation. The sample period is January 2001-December 2006. *** indicates significance at 1%; ** indicates significance at 5%; * indicates significance at 10%.

	Capital Expenditure/Total Assets				
	(1)	(2)	(3)	(4)	(5)
	Tenure < Median Value		Tenure> Median Value		Full Sample
Lagged Capital Expenditure/Total Assets	0.165	0.212	0.403	0.398	0.384
	(2.73)***	(2.63)***	(3.88)***	(2.93)***	(3.68)***
Cash Flow/Total Assets	0.002	0.001	0.026	0.028	0.015
	(0.26)	(0.23)	(1.54)	(1.61)	(1.71)*
Sales Growth	0.005	0.005	0.007	0.007	0.004
	(2.40)**	(2.35)**	(1.03)	(0.99)	(1.61)
Lagged Cash windfall Dummy		0.002		-0.006	0.000
		(1.24)		(1.33)	(0.01)
Lagged Cash windfall Dummy		-0.144		0.060	-0.081
∗ Lagged Capital Expenditure		(1.09)		(0.33)	(0.64)
Constant	0.006	0.006	0.011	0.011	0.008
	(2.57)**	(2.48)**	(4.05)***	(3.72)***	(3.74)***
Business Unit Fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Clustering by Division	Yes	Yes	Yes	Yes	Yes
Observations	230	230	197	197	427
R-squared	0.09	0.10	0.21	0.21	0.16

Figure 1: **Operational Structure of the Firm**

This figure summarizes the operational structure of the firm. It shows the five divisions and illustrates that Division 2, for example, has a total of eight business units underneath.
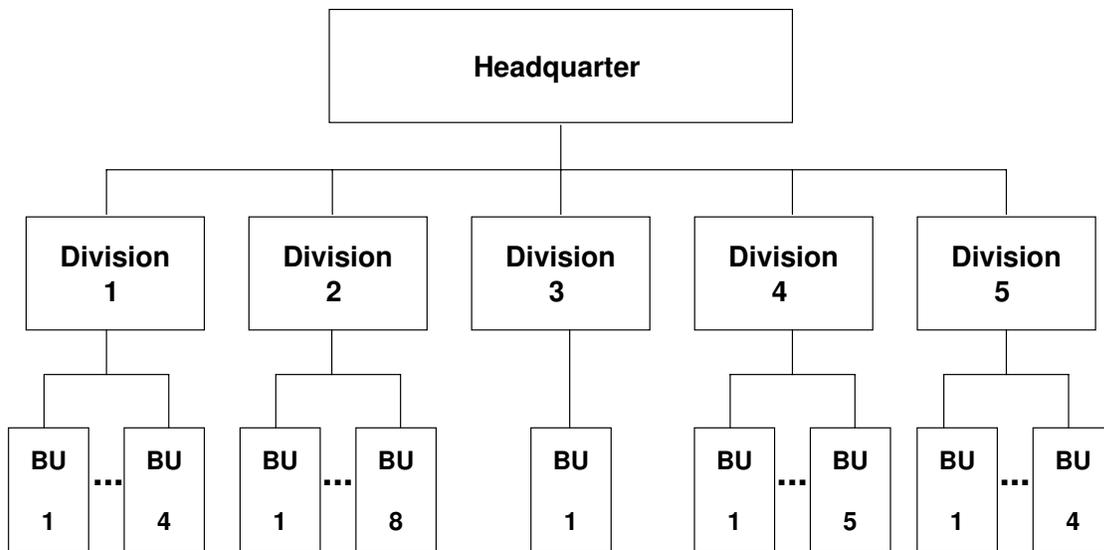
BU = Business Unit

Figure 2: **Sample Firm and DJ Euro Stoxx 50 (Jan 2000 to Dec 2006)**

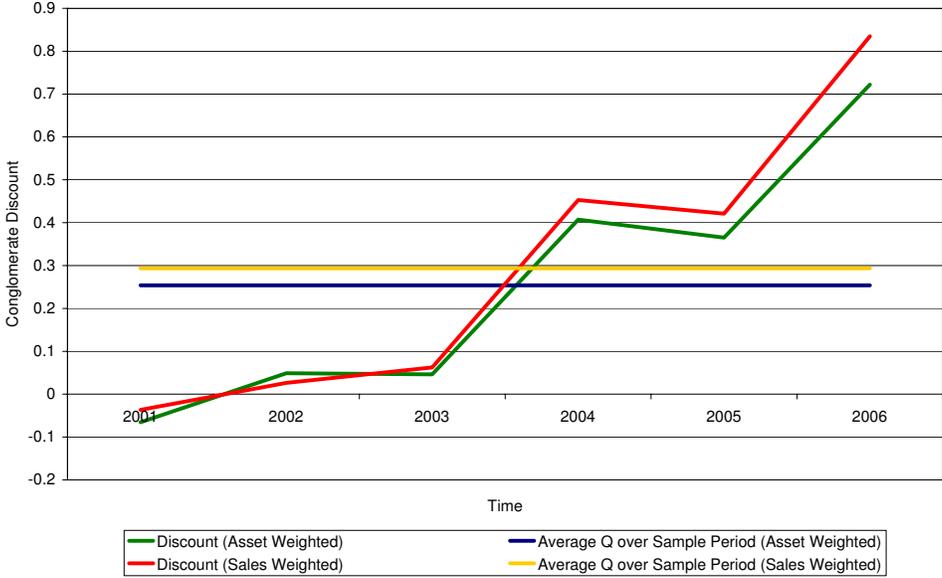Figure 3: **Conglomerate Discount of Sample Firm over Time**

Figure 4: **Monthly Investment Rates (Capital Expenditures Divided by Total Assets) around the Cash Windfall Events**

Change in Capital Expenditures Around Cash Windfalls
(at Business Unit level)