TOP MANAGEMENT TURNOVER UNDER THE INFLUENCE OF ACTIVIST INVESTORS

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Abstract

We analyze the presence of activist investors (hedge funds and private equity funds) and their impact on top management turnover in Germany. We contrast two hypotheses. The *monitoring hypothesis* is based on agency theory. Under this hypothesis, we expect active investors to increase top management turnover as a consequence of their monitoring efforts. Under the *restraint hypothesis*, we expect active investors to exert little influence on top management turnover in consequence of the comparatively limited discretion they have in Germany due to, e.g., regulatory restraints. We test both hypotheses using an event history analysis based on a sample of top managers in the 100 largest German corporations between 1998 and 2008. Contrary to studies based on agency theory in a U.S. context, and in accordance with the *restraint hypothesis*, we do not find increased top management turnover under the presence of activist investors. The presence of private equity funds is not associated with any significant influence on turnover, but that of hedge funds may even reduce top management turnover.

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1. INTRODUCTION

Top managers have a significant amount of managerial discretion to influence firm performance because they are the ultimate drivers of firm strategy (Carpenter, Geletkanycz, and Sanders, 2004; Hambrick, 2007; Hambrick and Finkelstein, 1987; Hambrick and Mason, 1984). However, their decisions can be seen by shareholders as potentially contrary to their interests and therefore costly. To reduce such possible agency conflicts and their related costs, top managers are subject to shareholder monitoring (Jensen and Meckling, 1976), which comes primarily from larger shareholders who are better able to shoulder the costs and have enough knowledgeable personnel to handle the additional tasks (Shleifer and Vishny, 1986). Specifically, so-called activist investors[1] (such as hedge fund (HF) and private equity (PE) fund managers) are considered the most qualified to monitor top managers, because they employ professional managers who are highly incentivized on the returns of their portfolio companies and therefore face fewer conflicts of interest (Brav, Jiang, Partnoy, and Thomas, 2008; Burrough and Helyar, 2003; Del Guercio, Seery, and Woidtke, 2008; Schneider and Ryan, 2011).

Based on the above, we argue under the *monitoring hypothesis* that the presence of activist investors in a company will lead to increased monitoring. The most extreme action (often referred to as the "ultima ratio") of monitoring top managers is their dismissal—or its announcement (Fama, 1980). This makes top management turnover an important and credible monitoring mechanism for activist investors (Brav et al., 2008; Del Guercio et al., 2008). We thus follow Beck and Wiersema (2011), who recommend including activist investors into an analysis of top management turnover as representatives of a broader governance context.

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[1] Pound (1992) defines an activist investor (entrepreneurial investor) as one who buys stakes in publicly listed companies in order to take advantage of shareholder rights and increase the value of the underlying company, e.g., by changing business strategy, increasing productivity, and so on.

However, recent U.S. research has found that the observed value creation by activist investors is not as much a consequence of their monitoring, but rather a reflection of their ability to select firms that will later be acquired at a premium by other, larger firms (Greenwood and Schor, 2009). Although there is some evidence in the U.S. for increased top management turnover under the influence of activist investors,[2] we know little about its effects in Germany. The German corporate governance system features numerous cultural and regulatory restraints (Fiss and Zajac, 2004; La Porta, Lopez-de-Silanes, and Shleifer, 1999) that potentially could hinder activist investors from promoting top management turnover. Moreover, individual top managers in Germany tend to have lower levels of managerial discretion than those in the U.S., both in terms of their *latitude of objectives* and their *latitude of actions* (Crossland and Hambrick, 2007, 2011). Thus, top management turnover may be of less interest to activist investors in Germany, and we therefore extend upper echelons research to include a low discretion context. These arguments are subsumed under the *restraint hypothesis*.

This paper contrasts these two hypotheses and tests them empirically. We aim to shed light on the effects of PE and HF managers following an activism strategy on listed companies (blue-chip and mid-caps) in Germany, compare the effects with those observed in the U.S., and add to the debate in Germany over investor activism. In the following, we use two examples to illustrate the broad spectrum of effects that activist investors can have in

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[2]   Brav et al. (2008: 1732) report: "In particular, HF activism is not kind to CEOs of target firms. During the year after the announcement of activism, average CEO pay declines by about $1 million, and the CEO turnover rate increases by almost 10 percentage points, controlling for the normal turnover rates in the same industry, and for firms of similar size and stock valuation." In the same vein, Del Guercio, Seery, and Woidtke (2008) find "a forced CEO turnover rate of 25% in target firms in the one year after a campaign, a rate more than three times higher than the 7.5% rate for a control sample matched on sales and performance and over twelve times the annual 2% rate in the general population of firms. We find this result to be robust to controlling for a variety of firm performance and governance control variables, as well as for concurrent events, such as changes in the board of directors or external pressure from blockholders."

Germany, as well as how public reception and reactions can range from loud criticism to tacit indifference.

We first consider the well-known and documented case of Deutsche Börse AG (the German stock exchange) in 2004/2005. The scheme by a HF, The Children's Investment Fund (TCI), to oust CEO Werner Seifert received a great deal of public attention. As Achleitner et al. (2010) note, Seifert intended to acquire the London Stock Exchange in order to merge it with Deutsche Börse. However, shareholders generally did not believe this plan would increase shareholder value, and this led to a campaign by activist investors against Seifert (Sudarsanam and Broadhurst, 2012). Both Seifert and the Chairman of the Board ultimately resigned. Stock prices reacted favorably to the announcement of Seifert's exit, rising by 4.78% (Sudarsanam and Broadhurst, 2012; 261). This case highlights many of the patterns described under the *monitoring hypothesis*.

On the contrary, our next example illustrates behavior described under the *restraint hypothesis*. The announcement by Orbis Holdings Ltd. (a HF) in January 2005 that it holds 5.41% of the capital of Medion AG, a company listed on the German MDAX, received only limited attention from the public and has resulted in little news since. Medion, a producer of electronic consumer goods such as personal computers, was founded in 1983 by Gerd Brachmann, who still serves as the company's CEO and was the majority owner with a 54.9% stake. The other top manager on the company's board is Christian Eigen, the CFO and deputy CEO, who has served with Brachmann since 1998 (the year of Medion's IPO). In February 2011, the Chinese electronics company Lenovo made an offer for Medion's shares, which was accepted by Brachmann, who then sold his majority stake with very little fanfare. In July 2011, Orbis announced the sale of its position in Medion, and Lenovo simultaneously notified the public that they had acquired more than 75% of Medion. Notably, the presence of the HF

Orbis did not lead to any changes within the two top management positions, but instead seemed to promote a certain degree of stability in the executive positions.

In this study, the top managers we analyze are generally the CEOs and CFOs of portfolio companies. We include the CFO upon the recommendation of Hambrick (2007), who called for research to selectively include other top managers in addition to CEOs. CEOs and CFOs, as the two individuals most directly involved in firm strategy (Arthaud-Day, Certo, Dalton, and Dalton, 2006; Baxter and Chua, 2008), are responsible for companies' financial systems (Geiger and North, 2006; Li, Sun, and Ettredge, 2010), and they usually have the most direct interaction with the capital markets (Chava and Purnanandam, 2010; Mian, 2001; Zorn, 2004) and shareholders, such as activist investors.

More specifically, we analyze CEO and CFO turnover under the presence of activist investors in large listed corporations. Using a sample of the 100 largest German corporations between 1998 and 2008, we conduct event history analyses for the tenures of 565 top managers to investigate how HFs and PE funds (buying minority holdings) influenced the turnover of CEOs and CFOs. We find no empirical evidence for the *monitoring hypothesis* for either PE funds or HFs. However, although we find no effect of PE funds on top manager tenure, we do find that HFs are associated with comparatively longer tenures of their portfolio companies' top managers. We consider this as support for the *restraint hypothesis*, under which activist HF managers do not promote top management turnover in Germany.

Our paper proceeds as follows. We develop the theoretical background and our hypotheses in section 2. Section 3 outlines our method and describes our sample, while section 4 presents our results. The paper ends with a discussion and summary in section 5.

2. THEORETICAL BACKGROUND

From a managerial discretion perspective, it is not clear whether activist investors are associated with increased top management turnover in listed companies in Germany. Some research has established a connection within the U.S. context, both theoretically (Beck and Wiersema, 2011) and empirically (Del Guercio et al., 2008), but this result may be different for a country with comparatively lower managerial discretion, such as Germany (Crossland and Hambrick, 2007, 2011). In Germany, the peculiarities of the national system[3] and the limited experience of "U.S.-based" activist investors in the German market could limit (activist) investors' influence on, as well as their desire for, top management turnover. Therefore, we first explain what HFs and PE funds are. Second, we develop and contrast the *monitoring* and *restraint hypotheses*.

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[3] We follow Crossland and Hambrick's (2007: 771) definition, and refer to the interrelated factors that shape the environment in which a firm's headquarters are located as national systems. These factors include, among others, the corporate governance system, the legal system, the national culture, and national values.

Hedge fund managers and private equity fund managers as activist investors in publicly listed companies

HFs and PE funds as activist investors in publicly listed companies exhibit some key similarities and some key differences, both with each other and with other "traditional" institutional investors such as pension funds and mutual funds.[4,5] For example, one area of similarity between HFs and PE funds is compensation structure. Ideally, investors want the interests of management to remain as closely aligned as possible with their own. So, as a means of motivation, HF and PE fund managers typically operate under lucrative performance-based contracts, involving fixed fees to cover operating costs, as well as higher performance fees conditional on surpassing hurdle rates (see, for instance, Hennessee, 2007; Metrick and Yasuda, 2010).

Furthermore, both types of activist investors also face fewer investment restrictions overall than, for example, mutual funds. HFs, who are not subject to the terms of the U.S. Investment Company Act of 1940, are permitted to engage in short-selling, to use derivative securities, and to use leverage (Christoffersen, Geczy, Musto, and Reed, 2007; Hu and Black, 2007).

Funding structure and lifecycle are two areas where they differ, however. HFs are typically open-ended, while PE funds have a finite lifecycle (Achleitner et al., 2010). PE

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[4] Generally HF and PE managers follow different investment strategies and approaches. HF managers invest in different markets (e.g., countries, commodities), investment instruments (e.g., bonds, derivatives), strategies (e.g., convertible arbitrage, long-short equity), and styles (e.g., out-of-the-money/at-the-money/ in-the-money within the convertible arbitrage strategy) (see e.g. Fung and Hsieh, 1997). PE managers typically invest in equity and debt instruments in private companies. However, they are not required to do so. Some PE managers buy majority positions in publicly listed companies and subsequently take them private (leveraged buyouts), form blank check companies (referred to as Special Purpose Acquisition Companies), or provide mezzanine capital. In this paper, we focus only on PE and HF managers who follow an activism strategy in publicly listed companies, meaning that both types of investors use their minority share holdings as a method to exercise their shareholder rights and change the value of the underlying company by, e.g., reducing agency costs.

[5] We only cite papers covering a U.S. perspective, because the HF and PE funds included in the following analyses are all "Anglo-Saxon"-style funds. The PE funds in our sample include the well-known KKR and Apax funds, and all HFs are regulated either under U.S. regulations or under off-shore regulations such as in the British Virgin Islands, the Cayman Islands.

investors (or, as they are referred to in the context of HFs as well as PE funds, "limited partners") sign legal agreements that require them to provide a certain amount of "committed capital." Management (also referred to as a general partner) is responsible for conducting research on investment opportunities and for making investment decisions. The exit from the investment, and the distribution of returns to investors, is the final stage. The entire lifecycle has a duration of about ten years (Sahlman, 1990). During this period, the general partners are not permitted to redeem their limited partnership interests in the PE fund. They can, however, sell their interests on the secondary market to, for example, other investors. This allows limited partners to receive some liquidity without affecting the general partners' liquidity (see, for instance, Achleitner et al., 2010).

Moreover, PE funds focus solely on longer-term investing and increasing value, so they tend to employ expert financial personnel who have strong business backgrounds. These skill sets are necessary for PE funds to develop a profound understanding of target companies' business models, which in turn is vital for increasing value.

In contrast to PE fund managers, redemption risk is one major risk source for HF managers. In fact, HF investments are subject to a "lock-up" period of about twenty months on average (see Prequin, 2012). During this time period, investors are not permitted to redeem investments. Thereafter, HF managers can face capital withdrawals if they have, for example, prolonged periods of negative reporting. They may also face low or no new inflows of cash (Getmansky, 2004) and difficulty with employee retention.

Thus, in order to preserve liquidity, HF managers must adopt a more short-term-oriented viewpoint than PE fund managers (Agarwal, Daniel, and Naik, 2013). Furthermore, because HF managers must be concerned with the acquisition of large shares (block holdings) in companies that cannot be sold relatively quickly, they tend to prefer investments that can be

turned around more quickly. They aim to unwind (sell) their block holdings at low transaction costs.

Activist investors as monitors: *The monitoring hypothesis*

According to upper echelons theory, firm performance can be considered a reflection of the decisions of top managers. The influence top managers can potentially exert over firm performance is called managerial discretion (Finkelstein and Boyd, 1998; Finkelstein, Hambrick, and Cannella, 2009; Finkelstein and Peteraf, 2007; Shen and Cho, 2005). Following Shen and Cho (2005), we can combine the definitions of managerial discretion from both an economic and a management perspective by differentiating between *latitude of objectives* and *latitude of action*. In accordance with the economic perspective of managerial discretion (Jensen and Meckling, 1976; Jensen and Ruback, 1983), *latitude of objectives* refers to the extent top managers are able to pursue their own goals instead of those set by shareholders. *Latitude of action*, which comes from the managerial perspective (Carpenter et al., 2004; Hambrick, 2007; Hambrick and Mason, 1984), refers to the range of actions top managers can use to achieve a particular objective.

Latitude of objectives is closely tied to agency theory. The separation of ownership and control in contemporary corporations can give rise to agency conflicts between shareholders and managers, when managers begin pursuing their own goals rather than operating in shareholders' interests (Fama and Jensen, 1983; Jensen and Meckling, 1976; Jensen and Ruback, 1983). Common solutions to this problem are incentive systems for managers to better align their interests with those of shareholders, and (a closer) monitoring of managers. Such monitoring can be done internally by the firm or externally by shareholders (Fama and Jensen, 1983), although external monitoring is often unattractive to small shareholders

because it tends to be expensive and requires detailed and specialized knowledge. Large shareholders are thus the most likely to engage in monitoring, and its benefits increase with the size of the shareholding, while the monitoring costs remain nearly constant (Grossman and Hart, 1980; Shleifer and Vishny, 1986).

As Shleifer and Vishny (1986) and Boyson and Mooradian (2007) note, with larger investments, it pays for activist investors to closely monitor companies to reduce possible agency costs. Clifford (2008: 335) states that activist investors tend to possess "relative bargaining power with the target firm's management and/or board," while Pound (1992: 7) states that activist investors "buy stakes in publicly held corporations and bargain with management to bring about productive change and thereby realize a profit on their investment." Their compensation system also provides incentives for investors to actively engage in monitoring of portfolio companies. Hence, it is likely that activist investors closely monitor management and do not hesitate to engage in company decisions (Del Guercio et al., 2008).

One way of reducing the *latitude of objectives* for management and thus reduce expected agency costs is to ensure that they share the objectives of shareholders (Jensen, 1986; Jensen and Ruback, 1983). To be precise, this does not mean that all decisions proposed by management would necessarily be "wrong," they may just not be favored by shareholders. This is particularly noticeable by a rapid increase in stock price after an announcement that activist investors are seeking a change in strategy—commonly interpreted as the expected net present value of the change.

Activist investors can similarly reduce the *latitude of actions* available to top managers. For example, activist investors may extract cash from their portfolio companies (Achleitner et al., 2010; Jensen, 1986; Klein and Zur, 2009), thus hindering management from investing in,

e.g., desired acquisitions. In principle, activist investors can focus jointly on a reduction of *latitude of objectives* and *actions*, or exclusively on only one. In general, however, they are not independent of each other, but rather interact in the same direction and do not cancel each other out.[6] Within our research design, we cannot differentiate between them. We are only able to measure the joint effect.

There are a wide range of monitoring mechanisms activist investors can rely on to initiate change and improve company performance (Demsetz and Villalonga, 2001; Denis and Denis, 1995; Denis, Denis, and Sarin, 1997; Denis and Serrano, 1996), such as informal discussions with top management (Pound, 1992), letters to top management (Solarz, 2010), and "vote no" and proxy voting campaigns (Davis and Kim, 2007; Del Guercio et al., 2008; Klein and Zur, 2009; Mallin, 2012; Wahal, 1996). The "ultima ratio" is the dismissal of top management (Bethel, Liebeskind, and Opler, 1998; Fama, 1980; Sudarsanam and Broadhurst, 2012).

From the literature, we conclude that activist investors are more interested in comparatively larger corporate governance/strategy changes than "traditional" institutional investors such as pension or mutual fund managers (Carleton, Nelson, and Weisbach, 1998 and Kahan and Rock, 2007). Traditional institutional investors face several disadvantages compared with HFs or PE funds, such as 1) higher disclosure requirements (Kahan and Rock, 2007), 2) potential political conflicts by pension fund managers (Rock, 1990), 3) no or low relative performance participation, and 4) above average portfolio weights of portfolio companies relative to current peer group funds. In fact, mutual fund managers may have no or even negative incentives to engage in good governance strategies (Kahan and Rock, 2007).

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[6]   For example, in the Deutsche Börse Group case, the distribution of cash would decrease the latitude of actions (e.g., mergers and acquisitions), as well as the latitude of objectives (e.g., agency costs related to a value-destroying merger).

However, we know that traditional institutional investors in the U.S. tend to engage in "behind the scenes" discussions with company management and board members to achieve modest changes in governance (Carleton et al., 1998), or they may publish so-called "focus lists" or proposals (which are not believed to have a strong impact). So far, there has been no convincing evidence of this in Germany.

In contrast, to achieve significant changes, activist investors need to demonstrate that they can force management to change its course of action; otherwise, they face being regarded as nothing more than "paper tigers." This finding is in line with the empirical findings of Brav et al. (2008), that the "aggressiveness" of the declared objective in the Securities and Exchange Commission (SEC) 13D filing is positively correlated with announcement returns in the target's shares. Given that activist investors seek return maximization, they are likely to focus on large changes to achieve that goal quickly.

Brav et al. (2008: 1238) find for the U.S. that "[d]uring the year after the announcement of activism, average CEO pay declines by about $1 million dollars, and the CEO turnover rate increases by almost 10 percentage points." Similarly, Bethel, Liebeskind, and Opler (1998) report an increase in CEO turnover after the rise of activist blockholders (22.3%, compared with 15.5% without blockholders). A recent study by Gong and Wu (2011: 196) also documents a "CEO turnover rate of 51 percent within two years of an LBO announcement," and concludes that the more entrenched CEOs, as well as those in companies with high agency costs, are the most likely to be replaced.[7]

In their latest study, Helwege, Intintoli, and Zhang (2012: 36) find that "news of activism is a significant factor in forced CEO turnover." Similarly, Guo, Hotchkiss, and Song (2011) show that post-LBO company performance (measured as cash flow performance) is greater

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[7] As established in the introduction, we focus here on minority holdings, which do not compare exactly to the characteristics of LBO deals.

when the CEO has been replaced, either directly at the buyout or soon thereafter. However, in their study, tax benefits derived from increased leverage are the largest source of returns to pre-buyout capital. As Carl Icahn[8] (2009) stated in an interview: "I have shaken up boards and managements at many companies in which I have invested [...] It is important to get new blood, new strategies and new ideas into underperforming companies."

We argue in this paper, under the *monitoring hypothesis*, that the presence of an activist investor will cause a reduction in the *latitude of objectives* and/or the *latitude of action* available to the company's top managers by close monitoring and disciplining of top management.

Therefore, we propose the following hypothesis:

> *Hypothesis 1: Activist investors will lead to an increase in top management turnover at their portfolio companies.*

***The restraint hypothesis*: Activist investors refrain from promoting turnover**

The tenets of the *monitoring hypothesis* appear especially valid in the U.S., but we argue that the effects of investor activism will be different in Germany because the presence of activist investors is not tied as strongly to increased top management turnover. The German national system provides more checks and balances than Anglo-Saxon systems, and it significantly limits the discretion of individuals (top managers as well as activist investors) with regard to both *latitude of action* and *latitude of objectives*. This reduces the influence of activist investors in two ways: 1) it limits their ability to promote top management turnover, and 2) it limits individual top managers' influence on firm performance (Crossland and

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[8]   Carl Celian Icahn is an American investor and business magnate who has taken significant or controlling stakes in a large number of international corporations over the course of his career. He was the inspiration for the famous speculator "Gordon Gekko" in the movie *Wall Street* in 1987.

Hambrick, 2007). In this context, top manager turnover is much less important to activist investors.

Five characteristics of the German national system appear to be especially important in this respect (cf. Voussem et al., 2013). First, the two-tiered board system clearly separates the top management team from the supervisory board, thus inhibiting CEO duality, a phenomenon that can potentially lead to entrenchment (Finkelstein and D'Aveni, 1994; Tuggle, Sirmon, Reutzel, and Bierman, 2010; Weir, Laing, and Wright, 2005). It therefore creates a context that reduces managerial discretion, because the board can monitor the top management team more independently.

Second, the civil law context (Johnson, La Porta, Lopez-de-Silanes, and Shleifer, 2000; La Porta et al., 1999) focuses on including all stakeholder interests instead of only those of shareholders. It thus reduces the number of options available to top managers to achieve goals, and leads to a decrease in the *latitude of action* for top managers (Shen and Cho, 2005). We follow Crossland and Hambrick's (2011: 803) line of reasoning, that "CEOs of firms in common-law countries will tend to have greater discretion than CEOs of firms in civil-law countries."

Third, employees and unions are represented on the supervisory board, and can therefore participate in all major company decisions in order to ensure their interests are taken into account. This further limits top managers' power to pursue their own goals (Crossland and Hambrick, 2007).

Fourth, the collective responsibility (§77 AktG) of the top management team clearly limits the "narcissism" of individual top managers (Chatterjee and Hambrick, 2007). The limited impact individual members can have leads to less managerial discretion than in the U.S, for example.

Fifth, the banking-oriented system (Elsas and Krahnen, 2004; Gorton and Schmid, 2000), along with the high concentration of ownership (as reported in Becht and Boehmer, 2003), clearly limits managerial discretion.

Furthermore, activist investors have been strongly opposed by the German public, which tends to watch the engagements of activist investors in large corporations very closely, for example, during the so-called "locust debate"[9] (Ernst, Koziol, and Schweizer, 2011). Such public monitoring acts as a check on any overzealous investor activity, particularly the dismissals of top management.

Given that activist investors thus tend to have less experience in operating in the German market than, for example, in the U.S. or U.K., it might be fruitful for them to cooperate more with local top management teams. They may opt to include analysis of the management team into their normal due diligence procedures, in order to profit from their greater level of experience. Evidence from the U.S. supports this line of reasoning, where reports find that returns to investor activism do not come from monitoring activities but instead result from investors' abilities to select companies that will be taken over subsequently, generating takeover premia for the activist investors (Greenwood and Schor, 2009). Therefore, activist investors may want to refrain from excessive monitoring of portfolio companies.

Therefore, we propose the following hypothesis:

Hypothesis 2: Activist investors will refrain from promoting top management turnover in their portfolio companies.

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[9]   In the so-called "locust debate," the then-leader of the German Social Democratic party compared PE firms and HFs to "locusts" that graze underpriced firms, reduce headcount, and then realize profits by selling the firms (*Der Spiegel*, 2005). This inspired a plethora of newspaper articles and public discussions, and resulted in 2008 in the passing of the "Risikobegrenzungsgesetz" Act, which requires investors possessing more than 10% of a firm's voting rights to make public their financial sources and their goals for the investment.

3. DATA AND METHOD

Sample construction

Our sample was constructed in two main steps. First, we identified all top management turnovers in large listed German corporations between 1998 and 2008. Second, we identified ownership by activist PE funds and HFs for large German companies. We then merged the datasets to construct our final dataset.

We obtained information on shareholders who owned more than 5%[10] of a company's voting rights from 1998 through the end of 2008 from the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)) database. This database is comparable with the 13D filings in the SEC Edgar database (see Becht and Boehmer, 2003, for a description of the database).

Finally, we used Hoppenstedt Aktienführer, annual reports, and articles from *LexisNexis* to identify each company's *top managers at year-end*, as well as *cumulative bank ownership* (following Andres, Betzer, and van den Bongard (2011)). From these sources, we also obtained other manager-related information such as age.

Our first step was to identify top management turnover, as in Voußem et al. (2013). We began with all companies that were listed for at least on year on the German DAX and MDAX between January 1998 and December 2008. We included all years in our analysis for which a company was part of one of the indices. As a result, the MDAX reduction in 2003 from 70 companies to 50 did not significantly influence our sample, and we also avoided the problem of survivorship bias. Our final sample consisted of 140 companies for which we were able to identify and analyze changes in the CEO and/or CFO positions.

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[10]   In January 2007, the minimum threshold was lowered to 3%.

To identify the names of each person holding the CEO and CFO positions for all companies in our sample at each year-end, we used the Hoppenstedt Aktienführer in combination with companies' annual financial statements. If one of the positions could not be identified clearly, we further drew on articles from LexisNexis. This enabled us to identify the name of the board member holding the respective responsibilities at year-end. For years in which there was a change in the name of the CEO or CFO, we relied on LexisNexis to determine whether more than one change had occurred during the year, and to obtain turnover dates. Additionally, we conducted an in-depth press analysis for the two years prior to each turnover event, so that we could get a more detailed picture of the situation leading to the change in management. In our next step, we eliminated all interim changes (ten cases), those caused by a merger or acquisition (fourteen), the filling of positions that had previously been vacant (three), and changes for which no clear information was available (twenty cases). This left a total of 565 top managers in the sample: 290 CEOs and 275 CFOs (see Table 1).

Insert Table 1 about here

Of these 565 top managers, 345 left their positions during our observation period, while 220 were still in office at the end. Our sample therefore included 2,638[11] years of tenure in positions where the top managers were at risk.

To properly construct the PE subsample, it was critical to identify PE-related transactions in the BaFin database (we followed Mietzner and Schweizer (2013) in the sample generating

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[11] This number represents all the observations in our sample. We assigned one observation point for every year a top manager was in the CEO or CFO position in one of our 140 sample companies between 1998 and 2008. The number of observations is lower than the upper bound $(2(\text{CFO and CEO}) * 140(\text{companies}) * 11(\text{years}) = 3,080)$, however, because not all companies were in one of the indices for the entire eleven-year period, and the position of CFO was not always filled.

process). However, PE funds often conduct acquisitions and accumulate voting rights via special purpose vehicles (SPVs) or complex holding structures, and so the acquirer may not be directly identifiable from the BaFin database.

To address this issue, we began by examining the Thomson Financial Mergers and Acquisitions database, and collecting a raw sample of 31,496 mergers and acquisition transactions (including minority holdings) with targets located in Germany. We identified transactions with a PE fund as the acquirer via a two-step-approach.

First, we constructed an exhaustive list of PE funds using the following data sources: member lists of investment associations such as Bundesverband Investment und Asset Management e.V., Bundesverband deutscher Kapitalbeteiligungsgesellschaften, public rankings of PE funds, Thomson One Banker "Private Equity Flag," and Venture Xpert. We reduced the PE funds to their distinguishing forms by removing any legal form identifiers and non-distinctive terms. Second, we applied a text-matching program to match the list generated in step 1 with the following: acquirer name, the acquirer's direct parent's name, the acquirer's ultimate parent's name, and deal description (deal synopsis). We further added deal descriptive terms to the search criteria applied to the deal synopsis.

The two-step approach resulted in an initial sample of 891 transactions. By deleting double entries, majority acquisitions, and non-publicly listed target firms, we further reduced the sample to 171. The advantage of searching the deal synopsis is to identity PE deals executed by, for example, SPVs that have names unrelated to the parent PE fund's name. Otherwise, a direct search in the BaFin database, as we do for the HF subsample, would be sufficient.

Our next step was to apply individual judgment, and to complement this judgment with practitioners. We excluded all cases involving only company subsidiaries because we expect

that only direct activism at a company level will lead to top management turnover. We then repeated the text-matching program procedure, this time for the complete list with the disclosures obtained from the BaFin database, and we merged those with the 171 transactions from the previous procedure. Lastly, we researched LexisNexis for articles on publicly listed companies in Germany to validate our sample. We found no further events. Our final sample consists of 17 firms on the German DAX and MDAX indices with PE investors who had minority holdings between 1998 and 2008.[12]

In the next step, we used a similar procedure to generate the HF subsample (as per Mietzner and Schweizer (2013)). First, we constructed a complete list of HFs from several databases such as Eureka Hedge and Credit Suisse Tremont. We again removed legal form identifiers and non-distinctive terms to reduce the names to their distinguishing forms. We complemented this with a LexisNexis search for terms such as "hedge fund" or "shareholder activism" for publicly listed companies in Germany in order to complete our list. Second, we used the same text-matching procedure for HFs as we used above for PE funds, in order to match the complete list with the BaFin database.

Our initial sample after this two-step approach consisted of 251 transactions conducted by 81 HFs. Here, it was critical to determine which HFs pursue only pure activism strategies[13] in order to avoid obtaining biased results for the comparison of events where blocks of voting rights are acquired, for example, for investment purposes only (i.e., long-short equity). This

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[12]　To infer meaningful conclusions about the relationship between a PE fund and top management turnover, PE fund managers should follow a similar strategy. To address this point, we searched PE funds' homepages for investment strategies and philosophies. All PE funds in our sample are buyout funds. When comparing investment strategies and philosophies, we found that the funds have a common focus on mid-size to large companies, a long-term approach, and tend to pursue an active ownership approach. Furthermore, all hold minority stakes in the companies, and none are involved in an LBO process. Naturally, these funds are not identical, but we strongly believe they are sufficiently similar to group them together.

[13]　The German Securities Trading Act does not require acquirers to publicize their investment purposes, as do 13G filings in the U.S. Furthermore, all HFs in our sample are classified in the Hedge Fund Research (HFR) Database in the "Event Driven – Activist" sub-strategy (see http://www.hedgefundresearch.com).

reduced our sample to 78 events. In all cases, HF managers have minority holdings in their portfolio companies.

In our next step, we eliminated all events disclosed within three months of a prior announcement of a 5% shareholding by another HF in the same company to avoid confounding events. We again excluded all cases of activism directed at subsidiaries only. Our final sample consists of 12^{14} investments of activist HFs in DAX and MDAX companies between 2001 and 2008.

Next, we merged the three subsamples by ISIN, so that we were able to identify all top managers with activist investors, whether HF or PE fund. This resulted in a sample of 53 top managers with a PE investor, and 34 top managers with a HF investor, representing a total of 261 years of tenure in positions while a PE investor was active in the firm, and 215 years of tenure while a HF investor was active. The *accounting data* was obtained from Thomson's Financial Worldscope database.

Dependent variable

We used ***top management turnover*** as the dependent variable. We created a binary time-varying variable that was coded as 1 for the year a top manager left office, and 0 for all other years. Top managers who were still in office at the end of our study were included as right-censored in the analysis (see the "Data analysis" subsection for a detailed explanation of right-censoring).

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[14] Some firms had more than one top manager in the CEO or CFO position during our sample period because of turnover. Hence, the twelve firms with an active investor result in a list of more than twenty-four top managers (CEOs and CFOs per company). The same effect leads to a list of fifty-three top managers observed for the seventeen companies with PE investors.

Independent variables

The independent variable ***activist investor***[15] is used as a binary variable to test the effect of the prior entrance of an active investor on top management turnover. The variable was coded 1 if a PE fund or a HF was invested in the firm during the tenure of a top manager, and 0 otherwise. ***Private equity fund*** represents the presence of a PE fund in the company. It was created as a binary variable, coded as 1 if a PE fund was invested during the tenure of a top manager, and 0 otherwise. Similarly, ***number of private equity funds*** represents the number of PE funds invested in the company to proxy for a possible syndicate. In comparison, ***hedge fund*** is included in the analysis as a binary variable, constructed similarly to ***private equity fund*** and ***activist investor***. It was coded as 1 if a HF was invested during the tenure of a top manager, and 0 otherwise. Analogously, ***number of hedge funds*** represents the number of HFs invested in the company to proxy for a possible syndicate, or "wolf pack."

Control variables – manager

We included several variables to control for manager-related characteristics. ***Age*** is included in the analysis as a time-varying variable, representing the age of the top manager in years for each year of our analysis to control for top managers' career experience (Cannella and Shen, 2001; Huson, Parrino, and Starks, 2001; Tian, Haleblian, and Rajagopalan, 2011). ***Dismissal*** is also included as a time-varying variable. It is coded as 1 in the year of a forced turnover, and 0 in all other years. To classify the reasons for the turnover, we followed a standard methodology used in prior research (Adams and Mansi, 2009; Parrino, 1997), that is also similar to that described in Voußem et al. (2013). Two researchers independently coded all turnovers as either "forced" or "routine" based on information in newspaper articles

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[15] In alternative analyses, we used the share size of the active investor in percent to examine their influence. This substitution, however, did not alter our results.

retrieved from LexisNexis.[16] A turnover was classified as "forced" if at least one of the following occurred: 1) it was forced by the board without any further comments or reasons, 2) it was forced by the board because of clear differences between the top manager and the board, for example, over the strategic direction of the company, 3) the manager committed serious errors that were provided as reasons for the turnover, or 4) without giving any reasons, the contract was terminated prematurely and unexpectedly. The variable was coded 1 if the top manager's exit was forced, and 0 otherwise. This refers to cases where the top manager was still in office at the end of the observation period, as well as those where the top manager left due to a routine exit. *CEO* is included as a dichotomous variable in our sample, coded as 1 if the top manager served as the CEO of the firm, and 0 otherwise (in those cases, the top manager served as the CFO). If a manager served simultaneously as both CEO and CFO, she or he was coded as CEO, because we consider the CEO role to be more dominant.

Control variables – firm

The firm-related control variables include balance sheet items, firm characteristics, and ownership information. *Company age* is included to measure the age of a company in years since its founding, because the likelihood of failing is higher after a top management succession (Haveman, 1993). *Employees* is included as a measure of the number of employees in the thousands for every fiscal year in the analysis to control for potential company size effects. *Net debt* is used to control for a firm's financial situation, because firm equity is more risky for higher levels of leverage. The variable is measured as the difference between a firm's debt and its cash and cash equivalents, in € millions for every fiscal year. *Return on assets* is included as a measure of firms' accounting-based performance, because it is highly visible to both top managers and investors (Ballinger and Marcel, 2010; Carpenter,

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[16]   We followed the procedure described in Voußem et al. (2013). To confirm the reliability of the coding, we calculated Cohen's (1960) kappa and the Perreault-Leigh (1989) coefficient. Cohen's kappa was 89.5% for CEOs, and 91.3% for CFOs; the Perreault-Leigh coefficient was 94.7% for CEOs, and 96.4% for CFOs.

2002; Shen and Cannella, 2002a). ***Change in return on assets*** is included to measure the difference between this year's and the prior year's return on assets, divided by the prior year's return on assets, for example, as a relative change in return. This variable helps control for the effect of major improvements or declines in accounting-based performance prior to the succession (Ballinger and Marcel, 2010). ***Free cash flow*** is included to gauge agency costs (Gong and Wu, 2011; Jensen, 1986), and is measured in € millions. ***Closely held shares*** is included to control for ownership structure, which can be regarded as a governance structure that can potentially influence succession decisions (Weisbach, 1988). The variable is measured as the percentage of total shares outstanding held by firm insiders for each fiscal year. ***Bank ownership*** is used to control for cumulative bank ownership and can be seen as a proxy for institutional ownership (Johnson and Greening, 1999), measured as the percentage of total shares outstanding held by banks for each fiscal year. ***Log total assets*** is used to control for firm size effects. It is the natural logarithm of a firm's total assets in € millions for each fiscal year in the analysis (Grusky, 1961; James and Soref, 1981; Shen and Cannella, 2002b). ***Capex*** is a firm's capital expenditures every year in € millions, and is included to control for the investment policies of the firms (Greenwood and Schor, 2009). ***EBIT*** is included as an unscaled measure of firm profitability as a further proxy for accounting-based performance, measured in € millions for each fiscal year. ***ROE*** is return on equity and is included for every year of our analysis as a measure of how well the equity provided by stockholders is used by the firm (Graffin, Carpenter, and Boivie, 2011). ***Sales*** is a further proxy for firm size to control for potential "size" effects, and is calculated as total sales in every fiscal year in € millions (Shen and Cannella, 2002b). ***Industry classification*** is included as a control variable for potential industry effects, measured by the first digit of the SIC code (Tushman and Rosenkopf, 1996).

Data analysis

We use continuous time event history analyses to investigate the time span to tenure in the position of a top manager, and its influencing factors, as proposed in Cox (1972) and detailed in Cleves et al. (2008). In management research, event history analyses are a commonly used method to conduct longitudinal studies (see, for instance, Iverson and Pullman, 2000; Arthaud-Day et al., 2006; Yu and Canella, 2007; Ballinger and Marcel, 2010). They offer several advantages over ordinary multivariate regressions. For example, they explicitly consider time (in our case, tenure in the position as a top manager), and they allow us to include all top managers who are still in office at the end of the observation period. Ordinary regression analyses exclude managers still in office at the end of the observation period, known as right-censoring.

To better illustrate right-censoring, consider the following example of a CEO included in our sample from the beginning of 2007 until the end of 2008, when our sample period ends. The manager would still be in office on January 1, 2009, and would be included in the survival probabilities for one and two years in office. But he would not be included in the year three calculations, because in his third year (end of 2009), our sample period is over. In ordinary regressions, the first two observations would be omitted. The inclusion of the first two years serves to reduce survivorship bias (Allison, 1984). Additionally, in some model specifications, such as the Cox (1972) proportional hazard model that we use, it is possible to include time-varying explanatory variables such as return on assets (Tuma and Hannan, 1984; Yamaguchi, 1991).

Regarding the model specification, we chose the Cox (1972) model for event history analysis. Its main advantage is that it does not rely on a previously defined hazard rate (see, for example, Ballinger and Marcel, 2010) and allows for the inclusion of time-varying

covariates (explanatory variables). Thus, we also use control variables that are updated yearly in our analysis. Another advantage of this method is that its interpretations are somewhat similar to those from ordinary multivariate regressions.

The equation for the regressions conducted in our paper is: $h(t|x) = h_0(t) \exp(\beta_1 x_1 + \cdots + \beta_k x_k)$, where β_k are the unknown regression coefficients to be estimated for variables x_k, and h_0 is the baseline hazard function. In the case of a known function $h(t|x)$, the term $\beta_1 x_1 + \cdots + \beta_k x_k$ can be replaced (see, e.g., Yu and Canella, 2007 for a similar presentation). See, for example, the seminal paper by Cox (1972) and the textbooks by Allison (1984) and Cleves et al. (2008) for more details.

4. RESULTS

Table 2 gives the results of the (Cox, 1972) proportional hazard regressions. We tested six models, as follows. Model 1 includes only the control (manager and firm) variables and the industry fixed effects. Model 2 analyzes the effects of investor activism in general (meaning the presence of either a HF or a PE fund). Model 3 analyzes the effects of a PE fund only, while model 4 includes only the effects of a HF. Model 5 includes both PE and/or HF presence. Finally, model 6 uses the number of PE funds and/or HFs, instead of pure presence, to control for the possible formation of so-called wolf packs. All models display a strong statistical significance, with chi-square values > 110, and related probabilities $p < .001$ (see Table 2).

Insert Table 2 about here

Under the *monitoring hypothesis*, we expect activist investors to engage in monitoring of top management and therefore to increase top management turnover. This should result in a positive value for the coefficient of the variables representing activism, because a positive sign means an increase in the probability of turnover. We note that the coefficient for investor activism in model 2 is significant at a 5% level, however, it is negative, with $b = -0.4155$. This implies, on the contrary, that activist investors are actually associated with comparatively longer tenured top managers.

In model 3, the coefficient for PE fund is negative, but not statistically significant. Therefore, the presence of a PE fund does not appear to influence the tenure of a firm's top managers, which could be regarded as support for our *restraint hypothesis*. The coefficient of HF activism in model 4 is again negative, with $b = -0.9703$, and statistically significant at a 5% level. This indicates that, in the presence of a HF, top managers have comparatively longer tenures.

In model 5, which includes both PE funds and HFs, we find again that PE funds do not seem to be associated with top manager tenure. However, the influence of HFs is again negative, with $b = -1.0199$, and is still statistically significant at a 5% level. These results do not change even after controlling for the formation of activist investors in model 6. Thus, in all of our models, we find no support for the *monitoring hypothesis*. We do not find that PE funds are associated with increased management turnover, and we find that HFs are actually associated with reduced top management turnover. We consider this as support for our *restraint hypothesis*, that activist investors in Germany tend to refrain from exerting influence on top management turnover.

For our manager control variables, we find that *age* exhibits a positive and statistically significant coefficient at the 1% level in all five models. This appears plausible because with

increasing age, the probability of a routine retirement and therefore of leaving a position increases. The coefficient for the variable representing turnover reason, *dismissal*, is positive in all five models, and statistically significant at a 1% level. This indicates that top managers who leave a company under a routine event, such as a transition to the supervisory board or into retirement, tend to remain in office longer than top managers who are dismissed from office. This also appears plausible because many of the dismissals are early dissolutions of top managers' contracts, and should thus lead to reduced tenures.

In all five models, the coefficient for the *CEO* dummy variable is negative and statistically significant at a 1% level. This indicates that CEOs have longer tenures than CFOs, which may be attributable to two phenomena: 1) CEOs who feel threatened by weak firm performance may use CFOs as scapegoats (Boeker, 1992; Khanna and Poulsen, 1995) to prevent their own dismissals, and 2) CEOs are sometimes directly related to the founding family or are the founders themselves, and so being linked more directly to the companies means they may tend to stay in office longer.

For our firm-related control variables, we find that *ROA* exhibits a negative and significant coefficient (at a 1% level) in all five models. This is in line with the prior research finding that positive performance leads to comparatively longer tenures for top managers, while negative performance increases the risk of top management turnover and reduces the tenure of top managers (Coughlan and Schmidt, 1985; Warner, Watts, and Wruck, 1988; Weisbach, 1988; Kim, 1996; Huson, Malatesta, and Parrino, 2004; Fee and Hadlock, 2004; Tuggle et al., 2010; Ertugrul and Krishnan, 2011).

Log(Total Assets) is significant in all five models at a 5% level and is also negative, indicating that larger companies are associated with comparatively longer tenures of top managers. This may be attributable to two factors: 1) smaller companies are often managed by

their founders or members of the founding family, who are more entrenched and may therefore stay in office longer, and 2) in larger companies, with more employees, it may take top managers longer to reach the pinnacle of an organization. Thus, these posts may be reached toward the end of a career, when there is less time until retirement. The *age* of the company is significant and positive in all models at a 5% level, except Model 2. All other control variables are insignificant in all six models.

Insert Figure 1 about here

Figure 1 presents a graphic comparison of the results of the Kaplan-Meier estimates of the survivor functions, stratified by the activism variable. The survivor functions show the probability of being in office, depending on tenure. Apparently, the survivor functions for top managers with no active investors and PE investors lie very close together, so that PE investors do not exhibit as much influence on top management turnover. Interestingly, the survivor function for top managers with HFs lies above the other two. This indicates a longer tenure for top managers under HF influence, and hence a reduced probability of top management turnover.

5. DISCUSSION AND CONCLUSION

Overall, our results are contrary to the *monitoring hypothesis*. Based on our reasoning, and analogously to findings from the U.S. (Brav et al., 2008; Del Guercio et al., 2008), we expected fund managers of activist investors to intensely monitor top management and to dismiss top managers more rapidly. However, in Germany, PE funds appear to have no

significant influence on top management turnover, while HFs reduce rather than increase turnover.

Furthermore, we were able to provide empirical support for the restraint hypothesis. In our German sample, HFs tended to have a positive relationship with top manager tenure, thus increasing tenure and reducing top management turnover.

We identified four reasons for this restraint:

First, activist investors are likely to be more limited in their ability to promote top management turnover due to the checks and balances inherent in the German national system. Moreover, the "locust debate" may have increased public scrutiny of their actions, thus serving to limit their available options (particularly compared with activism in the U.S.).

Second, individual top managers have less influence on firm performance in Germany than in the U.S. because of the reduced discretion in the former (Crossland and Hambrick, 2007, 2011). As a result, it iwould be rational for activist investors tonot focus as much on individual top managers. However, in light of the prolonged tenure of top managers with HFs as activist investors, this seems a somewhat unlikely explanation, because we would then expect activist investors not to have any influence on top management tenure.

Third, it is possible that activist investors in Germany particularly value the inclusion of top managers in their due diligence process ex ante, and emphasize management audits. Contrary to the famous cases of top management turnover in German corporations after investor activism, such as Deutsche Börse, activist investors may in general focus on selecting companies that already have the "right" top management (such as in the Medion case). One indication in favor of this explanation is that some of the particularly long-tenured top managers that we observe with HFs are company founders who are serving as CEOs (or even

members of founding families), which virtually excludes a forced turnover. In such cases, HF managers most likely focus on different strategies than investor activism.

Fourth, the sources of value creation may come into play. Activist investors in Germany may not focus on intense monitoring, but instead may be able to choose companies on the basis of whether they are likely to be acquired by other companies. This would lead to takeover premia that can increase investor returns (Greenwood and Schor, 2009). Alternatively, the returns to investor activism could result from the tax benefits as consequences of increased leverage, as described by Guo, Hotchkiss, and Song (2011).

Theoretical implications

While much of the finance research on activist investors has focused on their sources of value creation (Clifford, 2008; Greenwood and Schor, 2009; Renneboog, Simons, and Wright, 2007), management research has recently shifted its attention to the strategic consequences for portfolio companies (Connelly, Tihanyi, Certo, and Hitt, 2010). Our paper contributes to both research streams—activist investors and upper echelons theory — by tying them together.

More specifically, we focused on one important outcome of investor activism: top management turnover. Our aim was to increase the understanding of how activist investors can influence top management. Little research has yet been conducted on this issue (Brav et al., 2008; Del Guercio et al., 2008), especially in a low discretion context like Germany.

Regarding upper echelons research, we make two contributions. First, by setting our analysis in a low discretion country (Crossland and Hambrick, 2007, 2011), we show that the governance context can substantially influence the effects of investor activism. We thus provide additional evidence that the impact of the upper echelon theory in management in high discretion countries, such as the U.S., differs substantially from those for low discretion

countries (Bethel et al., 1998; Brav et al., 2008). While some research exists for the consequences of investor activism in the U.S. (Del Guercio et al., 2008; Gillan and Starks, 2000; Gong and Wu, 2011; Helwege et al., 2012; Smith, 1996; Wahal, 1996), research for low discretion countries such as Germany is rather limited (Achleitner et al., 2010; Mietzner et al., 2011; Sudarsanam and Broadhurst, 2012). By analyzing activist investors as determinants of managerial discretion, we are able to shed light on market-related mechanisms of managerial discretion. In this way, we extend upper echelons research beyond its usual focus on firm-related mechanisms of governance (Beck and Wiersema, 2011; Wiersema and Zhang, 2011).

Furthermore, we use an event history analysis to take advantage of our panel data by including all top managers who are still in office at the end of our sample period. Our sample is thus more representative of the "true" tenure of top managers. Ordinary regression analyses exclude top managers still in office from samples, which reduces average tenure. We believe our method is especially valuable in a context where tenure is the main point of interest. Although this method has frequently been applied in turnover research (see, for instance, Ballinger and Marcel, 2010; Morita et al., 1993; Shen and Cannella, 2002b), to the best of our knowledge, we are the first to tie it to investor activism.

Limitations of our research and implications for future studies

We believe our paper is the first to study the consequences for top managers of portfolio companies under the presence of activist investors for a low discretion country, and to show that the effects of investor activism differ in that context. However, our study is subject to four limitations.

First, our analyses have been conducted in a single governance setting, and our results differ in many aspects substantially from those in an American context. Although analyses in different contexts can be enlightening, a promising direction for future studies might be a

direct comparison of the influence of activist investors on portfolio companies under different governance contexts.

Second, we cannot fully rule out alternative explanations for our results. Activist investors may effectively and conveniently correct improper behavior in top management, so that a dismissal of top management, as the "ultima ratio" of monitoring, may not be required. However, we found no empirical evidence of this for Germany. In the U.S., however, we have seen cases where pension fund managers engaged in "behind the scenes" discussions with company management and board members, and wrote "open letters" to management in order to achieve only moderate governance changes (Carleton et al., 1998; Kahan and Rock, 2007). Given that, we cannot completely rule out that "behind the scenes" activism efforts by HF or PE managers do not take place at all. On the contrary, we find evidence for HF managers successfully replacing top management, as in the Deutsche Börse case.

From the U.S.-based literature, we conclude that activist investors are more interested in larger corporate governance/strategy changes in their target companies than pension or mutual fund managers. To achieve such changes, we believe activist investors feel it is necessary to demonstrate their ability to force management to change their course of action, or they risk being regarded as nothing more than "paper tigers." This is also in line with Brav et al.'s (2008) empirical finding that the "aggressiveness" of the stated objective in the SEC filing is positively correlated with the target company's announcement returns. Given that activist investors seek the maximum return on their investments, they are likely to focus on larger changes and push strongly to achieve them, instead of acting "behind the scenes." A detailed analysis of some of the "behind the scenes" actions investors have undertaken may also shed more light on this point, especially in the less documented German context.

Third, our study analyzes CEOs and CFOs, because these are the two individuals most directly responsible for a firm's finances and strategy. Both positions interact closely with the capital markets, and should therefore be known to investors (Chava and Purnanandam, 2010; Gore, Matsunaga, and Yeung, 2011; Naranjo-Gil, Maas, and Hartmann, 2009; Zorn, 2004). However, future research could be extended to include the Chief Operating Officer (COO) as the manager responsible for improving company operations (Hambrick and Cannella, 2004), or to the entire top management team.

Despite the above-mentioned limitations, we find strong evidence that the corporate governance system has an impact on investor activism behavior. We show that, in a low discretion country, the power to exchange top management as the "ultima ratio" is lower than it is in the U.S., which supports our *restraint hypothesis*.

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Table 1: Sample Composition

		Number	
		Absolute	**Relative**
I. Top Managers total		**565**	**100.00%**
Position	CEOs	290	51.33%
	CFOs	275	48.67%
Status	In Office	220	38.94%
	Exited	345	61.06%
Investor Experience	No Activist Investor	478	84.60%
	Private Equity Fund	53	9.38%
	Hedge Fund	34	6.02%
II. Top Managers Exits		**345**	**100.00%**
Exit Reason	Routine	226	65.51%
	Dismissal	119	34.49%

Table 2: Regression Results

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Explanatory Variables						
Active Investor	---	-0.4155 *	---	---	---	---
		(0.2521)				
Private Equity Fund	---	---	-0.0862	---	0.1494	---
			(0.2698)		(0.2803)	
Hedge Fund	---	---	---	-0.9703 *	-1.0199 *	---
				(0.3960)	(0.4072)	
Number of PE	---	---	---	---	---	0.3181
						(0.2292)
Number of HF	---	---	---	---	---	-0.8465 **
						(0.3129)
Control Variables - Manager						
Age	0.05377 **	0.05034 **	0.05337 **	0.0502 **	0.0508 **	0.0520 **
	(0.0102)	(0.0103)	(0.0102)	(0.0102)	(0.0103)	(0.0103)
Dismissal	1.06801 **	1.06167 **	1.06792 **	1.0589 **	1.0589 **	1.0531 **
	(0.1448)	(0.1449)	(0.1448)	(0.1453)	(0.1454)	(0.1456)
CEO	-0.48925 **	-0.47285 **	-0.48630 **	-0.4842 **	-0.4898 **	-0.5015 **
	(0.1346)	(0.1348)	(0.1349)	(0.1350)	(0.1355)	(0.1357)
Control Variables - Firm						
Employees	-0.00193	-0.00222	-0.00197	-0.00237	-0.0023	-0.0023
	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)
Company Age	0.00257 *	0.00226	0.00250 *	0.00255 *	0.0027 *	0.0028 *
	(0.0012)	(0.0013)	(0.0013)	(0.0012)	(0.0013)	(0.0013)
Net Debt	-0.00118	-0.00098	-0.00115	-0.00091	-0.0010	-0.0010
	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)
ROA	-0.02977 **	-0.03037 **	-0.02989 **	-0.02904 **	-0.0287 **	-0.0283 **
	(0.0068)	(0.0068)	(0.0068)	(0.0067)	(0.0068)	(0.0068)
Change in ROA	0.01676	0.01943	0.01747	0.01485	0.0136	0.0123
	(0.0115)	(0.0118)	(0.0118)	(0.0111)	(0.0112)	(0.0109)
Free Cash Flow	0.00637	0.00639	0.00641	0.00586	0.0057	0.0057
	(0.0116)	(0.0116)	(0.0116)	(0.0116)	(0.0116)	(0.0117)
Bankownership	-0.00403	-0.00412	-0.00398	-0.00409	-(0.0041)	-(0.0040)
	(0.0073)	(0.0073)	(0.0073)	(0.0073)	(0.0073)	(0.0073)
Closely held shares	0.00341	0.00291	0.00342	0.00277	0.0028	0.0029
	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)
Log(Total Assets)	-0.11507 *	-0.11778 *	-0.11638 *	-0.11618 *	-0.1146 *	-0.1111 *
	(0.0518)	(0.0520)	(0.0520)	(0.0516)	(0.0516)	(0.0515)
Capex	0.00025	0.00114	0.00027	0.00119	0.0011	0.0012
	(0.0366)	(0.0364)	(0.0366)	(0.0363)	(0.0363)	(0.0363)
EBIT	0.05567	0.04909	0.05559	0.04150	0.0414	0.0424
	(0.0668)	(0.0679)	(0.0671)	(0.0653)	(0.0645)	(0.0636)
ROE	-0.00008	-0.00007	-0.00007	-0.00007	-0.0001	-0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Sales	0.00521	0.00589	0.00529	0.00680	0.0068	0.0065
	(0.0104)	(0.0103)	(0.0104)	(0.0103)	(0.0103)	(0.0103)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1879	1879	1879	1879	1879	1879
Log Likelihood	-1330.79	-1329.3158	-1330.738	-1326.842	-1326.704	-1326.068
LR χ²	111.70	114.65	111.80	119.59	119.87	121.14
Prob. > χ²	0.0000 **	0.0000 **	0.0000 **	0.0000 **	0.0000 **	0.0000 **

standard errors in parentheses

* indicates statistical significance at the 5% level.

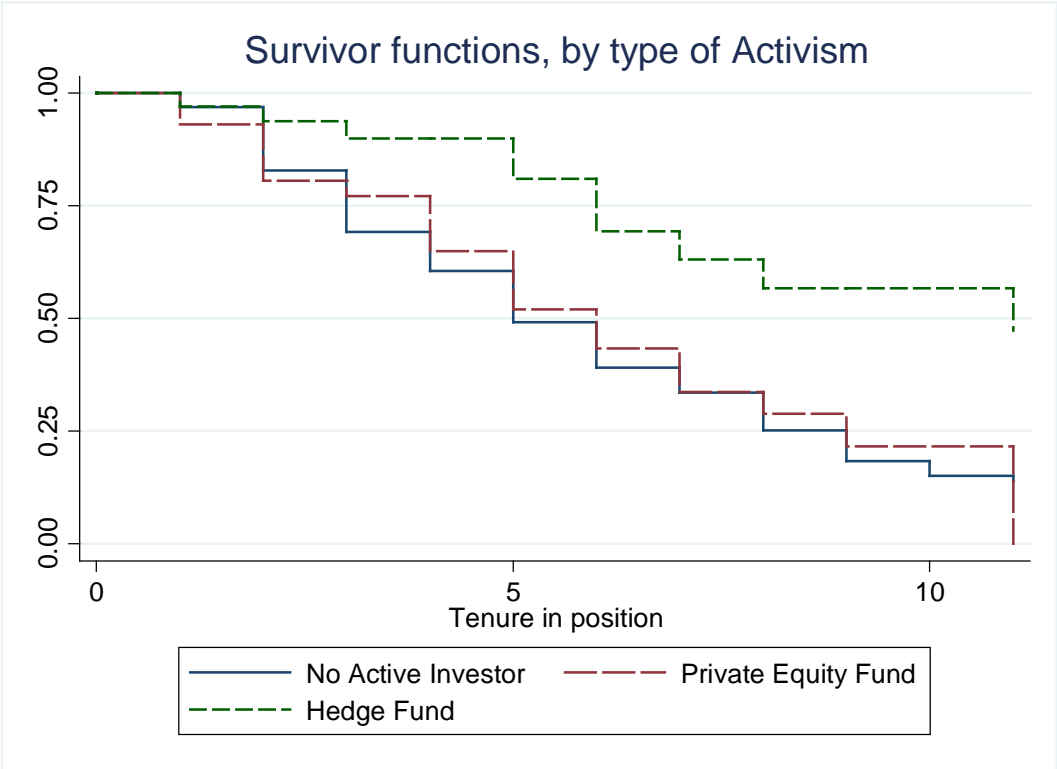** indicates statistical significance at the 1% level.

Figure 1: Survivor functions by type of Activism

Appendix A: Mean, Standard Deviations and Correlations for Models 1-2

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) Active Investor	0.13	0.34	1.00																
(2) Age	52.71	7.59	-0.17	1.00															
(3) Dismissal	0.18	0.39	0.00	-0.04	1.00														
(4) CEO	0.52	0.50	0.02	0.32	0.14	1.00													
(5) Employees	47.82	90.84	-0.03	0.11	0.17	-0.01	1.00												
(6) Company Age	76.44	54.70	-0.22	0.11	-0.01	0.04	-0.06	1.00											
(7) Net Debt	7.95	37.97	-0.02	0.07	0.03	0.01	0.19	0.03	1.00										
(8) ROA	4.51	6.89	-0.05	0.02	-0.14	0.00	-0.09	0.04	-0.10	1.00									
(9) Change in ROA	-0.23	6.74	0.05	-0.01	-0.01	0.00	-0.01	0.05	0.00	0.01	1.00								
(10) Free Cash Flow	1.43	5.57	0.01	0.06	0.03	-0.02	0.36	-0.01	0.57	-0.06	0.00	1.00							
(11) Bankownership	3.61	8.46	-0.01	0.03	0.14	-0.01	0.26	0.05	0.05	-0.04	0.01	0.09	1.00						
(12) Closely held shares	44.90	25.21	-0.08	-0.07	0.05	-0.01	-0.26	-0.06	-0.12	-0.04	-0.07	-0.15	-0.08	1.00					
(13) Log(Total Assets)	15.27	1.97	-0.10	0.15	0.10	-0.03	0.59	0.10	0.44	-0.21	0.00	0.40	0.21	-0.11	1.00				
(14) Capex	1.01	3.30	0.06	0.07	0.06	-0.01	0.63	-0.12	0.22	-0.07	0.00	0.40	0.13	-0.22	0.43	1.00			
(15) EBIT	0.85	1.96	-0.07	0.12	0.03	0.00	0.55	0.05	0.65	-0.04	0.00	0.56	0.13	-0.25	0.59	0.49	1.00		
(16) ROE	3.99	378.35	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.02	0.04	0.01	0.01	-0.01	0.03	0.01	0.01	1.00	
(17) Sales	12.03	22.93	-0.01	0.12	0.09	-0.01	0.86	-0.03	0.39	-0.11	0.01	0.52	0.17	-0.29	0.67	0.81	0.68	0.01	1.00

N=1879 Observations

Appendix B: Mean, Standard Deviations and Correlations for Models 3-5

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) Private Equity Fund	0.08	0.28	1.00																	
(2) Hedge Fund	0.08	0.27	0.30	1.00																
(3) Age	52.71	7.59	-0.11	-0.10	1.00															
(4) Dismissal	0.18	0.39	0.04	-0.04	-0.04	1.00														
(5) CEO	0.52	0.50	0.02	0.00	0.32	0.14	1.00													
(6) Employees	47.82	90.84	-0.05	-0.04	0.11	0.17	-0.01	1.00												
(7) Company Age	76.44	54.70	-0.20	-0.09	0.11	-0.01	0.04	-0.06	1.00											
(8) Net Debt	7.95	37.97	-0.01	-0.03	0.07	0.03	0.01	0.19	0.03	1.00										
(9) ROA	4.51	6.89	-0.05	0.02	0.02	-0.14	0.00	-0.09	0.04	-0.10	1.00									
(10) Change in ROA	-0.23	6.74	0.06	0.01	-0.01	-0.01	0.00	-0.01	0.05	0.00	0.01	1.00								
(11) Free Cash Flow	1.43	5.57	0.01	-0.02	0.06	0.03	-0.02	0.36	-0.01	0.57	-0.06	0.00	1.00							
(12) Bankownership	3.61	8.46	0.01	-0.03	0.03	0.14	-0.01	0.26	0.05	0.05	-0.04	0.01	0.09	1.00						
(13) Closely held shares	44.90	25.21	0.01	-0.07	-0.07	0.05	-0.01	-0.26	-0.06	-0.12	-0.04	-0.07	-0.15	-0.08	1.00					
(14) Log(Total Assets)	15.27	1.97	-0.14	-0.05	0.15	0.10	-0.03	0.59	0.10	0.44	-0.21	0.00	0.40	0.21	-0.11	1.00				
(15) Capex	1.01	3.30	0.00	0.05	0.07	0.06	-0.01	0.63	-0.12	0.22	-0.07	0.00	0.40	0.13	-0.22	0.43	1.00			
(16) EBIT	0.85	1.96	-0.07	-0.05	0.12	0.03	0.00	0.55	0.05	0.65	-0.04	0.00	0.56	0.13	-0.25	0.59	0.49	1.00		
(17) ROE	3.99	378.35	0.00	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.02	0.04	0.01	0.01	-0.01	0.03	0.01	0.01	1.00	
(18) Sales	12.03	22.93	-0.06	0.00	0.12	0.09	-0.01	0.86	-0.03	0.39	-0.11	0.01	0.52	0.17	-0.29	0.67	0.81	0.68	0.01	1.00

N=1879 Observations

Appendix C: Mean, Standard Deviations and Correlations for Model 6

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) Number PE	0.10	0.36	1.00																	
(2) Number HF	0.10	0.39	0.50	1.00																
(3) Age	52.71	7.59	-0.08	-0.07	1.00															
(4) Dismissal	0.18	0.39	0.04	-0.04	-0.04	1.00														
(5) CEO	0.52	0.50	0.01	-0.01	0.32	0.14	1.00													
(6) Employees	47.82	90.84	-0.06	-0.05	0.11	0.17	-0.01	1.00												
(7) Company Age	76.44	54.70	-0.20	-0.10	0.11	-0.01	0.04	-0.06	1.00											
(8) Net Debt	7.95	37.97	-0.02	-0.04	0.07	0.03	0.01	0.19	0.03	1.00										
(9) ROA	4.51	6.89	-0.02	0.03	0.02	-0.14	0.00	-0.09	0.04	-0.10	1.00									
(10) Change in ROA	-0.23	6.74	0.05	0.01	-0.01	-0.01	0.00	-0.01	0.05	0.00	0.01	1.00								
(11) Free Cash Flow	1.43	5.57	0.00	-0.03	0.06	0.03	-0.02	0.36	-0.01	0.57	-0.06	0.00	1.00							
(12) Bankownership	3.61	8.46	0.02	-0.03	0.03	0.14	-0.01	0.26	0.05	0.05	-0.04	0.01	0.09	1.00						
(13) Closely held shares	44.90	25.21	0.01	-0.05	-0.07	0.05	-0.01	-0.26	-0.06	-0.12	-0.04	-0.07	-0.15	-0.08	1.00					
(14) Log(Total Assets)	15.27	1.97	-0.15	-0.07	0.15	0.10	-0.03	0.59	0.10	0.44	-0.21	0.00	0.40	0.21	-0.11	1.00				
(15) Capex	1.01	3.30	-0.01	0.02	0.07	0.06	-0.01	0.63	-0.12	0.22	-0.07	0.00	0.40	0.13	-0.22	0.43	1.00			
(16) EBIT	0.85	1.96	-0.07	-0.06	0.12	0.03	0.00	0.55	0.05	0.65	-0.04	0.00	0.56	0.13	-0.25	0.59	0.49	1.00		
(17) ROE	3.99	378.35	0.00	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.02	0.04	0.01	0.01	-0.01	0.03	0.01	0.01	1.00	
(18) Sales	12.03	22.93	-0.07	-0.03	0.12	0.09	-0.01	0.86	-0.03	0.39	-0.11	0.01	0.52	0.17	-0.29	0.67	0.81	0.68	0.01	1.00

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