School of Finance

University of St.Gallen

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FELIX VON MEYERINCK
DAVID OESCH
MARKUS SCHMID

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Is Director Industry Experience Valuable?*

Felix von Meyerinck[a], David Oesch[b], and Markus Schmid[b,#]

[a]*Institute of Finance, University of Hamburg, D-20146 Hamburg, Germany*
[b]*Swiss Institute of Banking and Finance, University of St. Gallen, CH-9000 St. Gallen, Switzerland*

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Abstract

We investigate whether investor reactions to the announcement of a new outside director appointment significantly depend on the director's experience in the appointing firm's industry. We use a sample of 385 outside directors appointed to the board of S&P 500 companies from 2008 to 2010. Our results indicate that companies announcing the appointment of a new director with industry experience exhibit economically and statistically significantly higher announcement returns than companies announcing the appointment of a director without such experience. Our results further show that industry experience gained as an inside director drives this result. Experience as an employee without board membership or as an outside director is not associated with significantly higher announcement returns. These results hold when we control for various other director characteristics and financial and corporate governance variables at the firm level. To alleviate endogeneity concerns, we use the deaths of 166 directors holding 229 outside directorships in listed US firms as an identification strategy. Consistent with the results on appointments, we find significantly more negative announcement returns associated with the deaths of experienced vs. inexperienced directors.

JEL Classification: G32; G34

Keywords: Board of directors; Director appointments; Director deaths; Director skills and experience; Corporate governance

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Corresponding author: Tel.: +41-71-224-70-74; E-mail: markus.schmid@unisg.ch.
Address: Swiss Institute of Banking and Finance, University of St. Gallen, Rosenbergstrasse 52, CH-9000 St. Gallen, Switzerland.

1. Introduction

We investigate whether industry experience of outside directors on corporate boards affects firm value. While the primary focus of the empirical corporate governance literature so far has been on the monitoring role of boards and the independence of directors, the board of directors also serves an advisory role, for which director industry experience is expected to be of great relevance.[1] In this advisory function, boards set the strategic and operational direction of the company (e.g., Armstrong, Guay, and Weber, 2010; Brickley and Zimmermann, 2010). Many surveys conducted among directors suggest that directors consider the advisory role and their legal duty to review the corporation's major plans and actions to be of bigger importance than the monitoring role (e.g., Demb and Neubauer, 1992; Corporate Board Member and PricewaterhouseCoopers LLP, 2008). Moreover, investor interest in industry experience at the board level seems to have increased substantially in the last few years. In particular in the aftermath of the recent financial crisis of 2007/2008, there have been increasing concerns about a lack of sufficient industry experience on corporate boards expressed by the press, shareholder activists, and corporate governance experts at large.[2] Widespread belief that director qualifications and experience matter is also reflected in the new amendments to the Securities and Exchange Commission's disclosure rules introduced in December 2009.[3] Despite the attention that director industry experience has re-

[1] See for example Shleifer and Vishny (1997) and Adams, Hermalin, and Weisbach (2010) for a survey of the corporate governance literature.

[2] Pozen (2010) argues that, besides being too large to operate effectively and not devoting sufficient time to board tasks, today's boards frequently lack sufficient expertise in the relevant industry. Consistently, when assessing the most important skills that companies will look for in directors over the next few years, Bertsch (2011) argues that the focus has shifted from director independence towards directors with industry experience.

[3] On December 16, 2009, the Securities and Exchange Commission adopted amendments to its disclosure rules and forms to enhance the information provided to shareholders. These amendments are intended to improve disclosures regarding risk, corporate governance, director qualifications, and compensation. For more details see: http://www.sec.gov/rules/final/2009/33-9089-secg.htm.

ceived recently, to the best of our knowledge, there is no academic research yet which investigates the value of director industry experience empirically.[4,5]

We fill this gap and answer the question whether board industry experience is perceived as value-relevant by stock market participants. To this end, we investigate whether stockholder reactions to the announcement of a new director appointment significantly depend on the director's experience in the appointing firm's industry. Using a sample of 385 outside directors appointed to the board of S&P 500 companies during the three year period from 2008 to 2010, we find that companies that announce the appointment of a new director with experience in the appointing company's industry exhibit significantly higher announcement returns than companies that announce the appointment of a new director without industry experience. This finding is not only statistically but also economically significant. The economic magnitude of the effect is a two-day announcement return which is on average about 0.7% to 0.9% larger for the appointment of directors with industry experience as compared to the appointment of directors without industry experience. This effect is quite sizable when compared to the average two-day announcement return of the 385 new outside director appointments of approximately 0.08%.

Our results further show that it is experience as an inside director which drives this result. Although these results are statistically weaker, probably due to a reduction in sample size, the economic magnitude of this finding is even larger indicating that the two-day announcement effect of outside director appointments with industry experience as an inside director is between 2.1% and 3.0% larger as compared to the announcement effect of appointments of inexperienced

[4] The only exceptions are two recent studies on the value of financial expertise on bank boards during the recent financial crisis discussed below (Minton, Taillard, and Williamson, 2011; Aebi, Sabato, and Schmid, 2012).
[5] In a recent theoretical study, Levit (2012) shows that a higher level of board expertise is in general positively related to firm value. However, under certain conditions board expertise can destroy shareholder value, for example by reducing managers' incentives to produce and share information.

directors. Hence, the value of industry experience seems to depend on the function / position in which the newly appointed directors gained their industry experience. Experience as an outside director and experience as an employee without board seat are both not associated with significantly higher announcement returns. Hence, our results suggest that investors believe that industry experience gained as an inside director equips new board members best to perform the advisory and monitoring duties of a board member.

To mitigate concerns that our results are driven by other director or firm specific variables and in line with previous research, we control for various other director characteristics including gender, age, independence (versus gray outside directors), and whether the director is the CEO of another company. We also control for various firm level variables including size, profitability and growth potential, and the firms' corporate governance structure as measured by board size, board independence, anti-takeover protection, ownership structure, whether the CEO is also Chairman of the board, and whether the CEO sits on the nominating committee, among others.

We perform a number of robustness tests and extensions to our main analysis. For example, we replace the dummy variables for experience by measures of the extent of such experience (in days of experience). The results of this analysis are consistent with previous findings and suggest that more extensive experience as an inside director is associated with significantly higher announcement returns. We also investigate whether our results are driven by the 74 director appointments to the boards of financial firms in the aftermath of the financial crisis and find this not to be the case. Our results also remain robust when we only consider experience at public companies, cluster the standard errors at the firm or event date level, restrict the sample to new director appointments which are not associated with the immediate replacement of a resigning director, or when we use both the Fama-French 12-industries and 48-industries classifications to measure

industry experience. We also investigate whether industry experience as a CEO is particularly valuable but find this not to be the case. In other robustness tests, we find that the announcement effect does not significantly depend on the appointing firms' past performance. Finally, we analyze whether the value of industry experience depends on how recent this experience is. However, we find no significant difference in the announcement effects associated with more and less recent experience.[6]

Director appointments certainly depend on characteristics and needs of the appointing firms (e.g., the economic situation and governance structure) and availability, career concerns, and preferences of the newly appointed directors. To alleviate such endogeneity concerns associated with director appointments, we compile a sample of 166 directors who die in office and hold a total of 229 outside board seats in listed US companies at the time of their death. Consistent with our findings on director appointments, the announcement returns associated with the deaths of experienced directors are significantly more negative than those of non-experienced directors, and the economic magnitude of the difference is even larger than in the case of director appointments.

By systematically investigating the valuation effect of director industry experience, we contribute to different strands of research. Most importantly, our paper adds to the literature relating director characteristics to the announcement returns upon the directors' appointment to the board.

[6] A potential concern with our sample is related to U.S. Federal Law (the Clayton Antitrust Act of 1914) which has forbidden individuals from serving as directors of competing companies. Even though the intent of the law was to prevent cartels from developing, rather than preventing conflicts of interest, it has a potential effect on the hiring of outside directors with industry experience. Executives are often asked to sign non-compete contracts after leaving their firms which precludes subsequent board service for a competitor. There are also common law doctrines against sharing of proprietary information across companies. All of these will restrict the ability of insiders to serve on boards of other companies in the same industry. As a consequence, there may be an indirect screening effect, in that our sample ends up including many executives of relatively lower quality (those who never sign non-compete agreements or rise to positions of significant responsibility). However, as this is expected to weaken our results, our estimates of the value of director industry experience may be considered to be on the conservative side.

Fich (2005), for example, shows that the announcement effect of a director appointment is significantly higher if this director serves as a CEO of another company. Hence, outside CEOs seem to be considered as sources of superior managerial talent and unique expertise. Consistently, Fich (2005) shows that well-performing CEOs are more likely to be appointed to boards of firms with strong growth opportunities in which their skills are presumably particularly valuable. Fahlenbrach, Low, and Stulz (2010) also find that the stock market reacts more positively to the appointment of a CEO as outside director than to the appointment of other outside directors, but that this finding only holds for the first outside CEO appointed to the board and not for additional appointments. However, they find that CEO directors do not improve the appointing firms' operating performance and decision-making or affect their CEO compensation. Rosenstein and Wyatt (1990) find that stockholder reactions to announcements of independent director appointments are significantly positive. Adams, Gray, and Nowland (2011) find that the appointment of female directors is associated with significantly higher announcement returns than the appointment of male directors.

Our paper also contributes to the literature studying the financial expertise of board members and its effect on various corporate variables. Güner, Malmendier, and Tate (2008) investigate how directors with financial expertise affect corporate decisions. Their results suggest that investment bankers on the board are associated with larger bond issues and worse acquisitions. When commercial bankers join a board, the external funding increases and the investment-cash flow sensitivity decreases. However, this increase in financing is restricted to firms with good credit but poor investment opportunities. Overall, the results of Güner, Malmendier, and Tate (2008) suggest that financial experts on the board exert significant influence, but not necessarily in the interest of shareholders. Similar findings are reported by Dittmann, Maug, and Schneider

(2010). Two recent studies investigate the value of financial expertise on banks' boards during the recent financial crisis of 2007/2008 (Minton, Taillard, and Williamson, 2011; Aebi, Sabato, and Schmid, 2012). Both studies show that a higher percentage of directors with financial expertise is significantly negatively related to crisis performance. Minton, Taillard, and Williamson (2011) additionally show that financial expertise is positively associated with risk-taking levels in the run-up to the crisis. We contribute to this literature by not only focusing on financial expertise but on relevant industry expertise more generally.

Our paper is also related to the recent study by Custódio and Metzger (2012) who investigate the value of CEO industry experience in diversifying acquisitions. Specifically, they analyze whether the announcement effect associated with diversifying mergers depends on whether the CEO has work experience in the target firms' industry. They find that the announcement returns to acquirer firms are between two and three times higher when the CEO has experience in the target firm's industry as compared to when the CEO has no such experience. Further, they show that industry-expert CEOs are able to negotiate better deals terms and pay lower premiums and thereby redistribute a larger fraction of the financial surplus associated with the merger to acquirer shareholders. We extend the analysis by Custódio and Metzger (2012) by shifting the focus from CEOs to the board of directors, where industry experience is likely to play a crucial role for an effective execution of a board's monitoring and advisory roles.[7]

The remainder of the paper is organized as follows. Section 2 describes the data and variables. Section 3 presents the empirical main results. Section 4 reports the results from various ro-

[7] Also related to our study, Papageorgiou, Parwada, and Tan (2011) investigate the importance of past work experience of hedge fund managers and Manconi and Spalt (2012) of mutual fund managers. Papageorgiou, Parwada, and Tan (2011) show that both sector specific work experience (hedge funds) and related industry work experience (mutual funds, prime brokerages, custodian firms, and securities brokerages) is associated with superior hedge fund performance. Manconi and Spalt (2012) show that fund managers with experience within a certain industry outperform in this particular industry sub-portfolio.

bustness tests. Section 5 presents the results from an analysis using director deaths as an identification strategy. Section 6 concludes.

2. Data and variables

2.1 Sample selection

We begin our sample collection by reading all proxies filed by S&P 500 companies between 2008 and 2010 to gather all new outside director appointments. Because utilities companies operate in a regulated industry, we drop 39 companies with SIC codes between 4900 and 4942 from our sample. Next, we identify the precise announcement date for every new director using the Factiva newspaper database. This search results in 936 directors who joined the board of directors of a non-utilities S&P 500 company in the calendar years 2008 to 2010.[8]

We apply four filters to these 936 outside director appointments to obtain our final sample. First, we exclude 280 appointments which were announced on days with multiple director appointment announcements as such events do not allow an investigation of the announcement effect for each director separately. Additionally, the appointment of several new outside directors might represent a significant strategic realignment of the company (Rosenstein and Wyatt, 1990). Second, we exclude 256 director appointments which are announced simultaneously with other material company events because these events confound the stock market reaction to the director announcement. Examples of such confounding events are the announcement of quarterly financial statements or dividends, annual general meetings, or the announcement of a material change to the legal structure of the company (i.e., through a merger, spin-off, or major stake transfer), as part of which the new director appointment was announced. Third, we exclude 12 director re-

[8] This number is comparable to the 1,012 first-time director appointments that Shivdasani and Yermack (1999) find during 1994-1996 for Fortune 500 companies, excluding utilities and financial companies.

elections, i.e. elections of directors who, at any time in the past, had already served as directors of the respective company. Fourth, we exclude three companies without sufficient stock market data to be included in the event study analysis which results in the loss of three director appointments. Applying these four filters reduces our sample to 385 first-time outside director announcements.

2.2 Measures of industry experience

For each of the 385 outside director announcements in our sample, we collect data with the goal of constructing an employment history for each director. We start by collecting biographical information disclosed in the proxy statements where the directors were first introduced and then complement this data by using data from BoardEx, Factiva, LexisNexis, and internet searches. We then use this information to construct an employment history for each director, consisting of the position / job description and the companies they have worked for as well as the start and end dates of each position. We classify each employment into three different categories: employment without a board membership, employment with a board membership (i.e., inside directors), and employment as an outside director.

To determine the newly appointed outside directors' industry experience, we then assign a four-digit SIC code to each company a director in our sample has worked for throughout his employment history. Overall, the 385 newly appointed directors in our sample have worked for 2,853 different companies. For the industry classification of the 793 listed U.S. companies, we use the four-digit SIC code from the CRSP and COMPUSTAT databases. Out of the 2,060 companies listed outside the U.S. and private companies, we find 1,244 four-digit SIC codes in Factiva's company database. 816 firms are not covered in Factiva or have no SIC code assigned by Factiva. We conduct a second search for the four-digit SIC code of these firms in the LexisNexis

database and are able to retrieve the SIC codes for another 239 firms. For 577 firms, we are unable to obtain any industry classification. These firms are omitted in the construction of the employment history of the 385 directors. Based on the four-digit SIC codes, we assign every company to the respective Fama-French 12-Industries (FF12) classification industry. We also translate the four-digit SIC codes of all 258 sample firms that appoint a new outside director in our sample into FF12 industries. This allows us to compare the industry classification of the appointing firms to those of firms in which the newly appointed directors were previously affiliated with.

We use this information to construct different measures of industry experience. First, we construct a dummy variable which equals one if the newly appointed director has any type of work experience in the FF12 industry of the appointing company (*Industry exp. (dummy)*). In a next step, we differentiate different types of industry experience and construct the following three variables: a dummy variable whether the newly appointed director has work experience as an employee/executive without board membership in the same FF12 industry (*Exp. employee (dummy)*), a dummy variable whether the newly appointed director has work experience as an employee/executive with additional board membership in the same FF12 industry (*Exp. inside director (dummy)*), and a dummy variable whether the newly appointed director has work experience as outside board member in the same FF12 industry (*Exp. outs. director (dummy)*). Further, we construct four variables which measure industry experience in the FF12 industry of the appointing company in days either in total (*Industry exp. (days)*) or specifically as an employee/executive without board membership (*Exp. employee (days)*), an employee/executive with board membership (*Exp. inside director (days)*), or an outside board member (*Exp. outs. director (days)*). To

account for the skewed distribution of these four variables measuring experience in days, we use the natural logarithm of one plus the number of days of experience.[9]

We also construct a variable measuring the percentage of directors with industry experience on the board of the appointing firms, at the time of the appointment, to control for the existing experience in the appointing firms' board. We follow a similar procedure as outlined above to assess the newly appointed directors' industry experience. We first obtain from RiskMetrics the full list of 2,201 different outside directors on the board in all 344 firm-years (of the 258 different companies) in which a new outside director is appointed to the board. We collect biographical information from the proxy statements, BoardEx, Factiva, LexisNexis, and internet searches and we use this information to construct an employment history for each director. The 2,201 outside directors have worked for 9,724 companies as of the appointment of the new outside director. We are able to retrieve 2,964 SIC codes from CRSP, 634 from COMPUSTAT, 2,184 from Factiva, and 1,057 from LexisNexis.[10] We then translate these four-digit SIC codes into FF12 industry codes and compare them to FF12 industry of the appointing firms to determine whether an outside director on the board has work experience in the same industry. We do not differentiate the type of experience (i.e., employment without board membership, employment with board mem-

[9] When calculating a director's industry experience in days, we avoid double counting that arises if a director exerts a role multiple times within the same hierarchical position in the same FF12 industry. This implies that someone can gain more than one day of industry experience when working one day in the same industry, but only if the positions are on a different hierarchical level. The following example illustrates this procedure: Craig Conway, who became an outside director of Advanced Micro Devices Inc., has been an outside director of Salesforce.com from October 6, 2005, until the event date (September 28, 2009) and an outside director of Unisys Corp. from August 15, 2007, until May 28, 2009. Hence, the number of experience days is adjusted for the duration of the latter position (652 days) since both positions were within the same FF12 industry as the appointing company (Business Equipment), within the same hierarchical experience category (experience as outside director) and the time period of the second position at Unisys Corp. is fully covered by the position in Advanced Micro Devices Inc.

[10] We only classify the directors on the appointing firms' boards into experienced and non-experienced directors. Hence, as soon as one of the directors' previous employments indicates industry experience, we do not continue to look for SIC codes for the remaining firms in their employment histories. This results in 2,246 firms for which it was not necessary to assign a SIC code. For 639 firms, we are unable to obtain any industry classification. These firms are omitted in the construction of the employment history of the 2,201 outside directors on the appointing firms' board.

bership, or outside board membership) and only calculate the percentage of outside directors on the board with any industry experience.

2.3 Additional director characteristics

In addition to the variables related to directors' industry experience, we collect other director-level information for each director appointment from the RiskMetrics Director database. These variables include a director's age, the number of additional directorships a director holds, a dummy whether the director is male, and a dummy indicating whether a director is the CEO of another company (e.g., Fich, 2005; Fahlenbrach, Low, and Stulz, 2010). We use RiskMetrics to classify all newly appointed directors into independent and gray (or affiliated) directors and construct a dummy variable which is equal to one for independent directors. When retrieving data from RiskMetrics in January 2012, data on the year 2010 based on the proxies filed in Spring 2011 was incomplete in RiskMetrics, and we complemented missing information directly from the proxy filings.

2.4 Measures of corporate governance and financial controls

We also collect information on the appointing firms' corporate governance structure and use a similar set of corporate governance variables as used in Hoechle, Schmid, Walter, and Yermack (2012). We obtain information on the entrenchment (or "E-Index") as proposed by Bebchuk, Cohen, and Ferrell (2009) comprising of the six empirically most important anti-takeover provisions included in the governance index (or "G-Index") of Gompers, Ishii, and Metrick (2003), board size, whether a company has a combined CEO and Chairman, whether the CEO is a member of the nominating committee, the percentage of independent outside directors serving on the board, the percentage of directors older than 72 years serving on the board, the

percentage of directors attending less than 75% of board meetings, and a measure of board busyness which is defined as a dummy that equals one if the majority of board members holds more than three other directorships. The data to construct all these variables are obtained from RiskMetrics. In addition, we gather information on institutional ownership from Thomson Financial's CDA Spectrum database.

We also collect firm-level financial variables for the 344 firm-years in which our 258 sample companies appoint new directors. From COMPUSTAT, we obtain information on the companies' total assets, return on assets, market-to-book ratio, and R&D expenses scaled by sales. A detailed overview of all variables used throughout the paper is provided in the Appendix.

2.5 Descriptive statistics

Table 1 reports the number of announcements of outside director appointments by calendar month for the sample period from 2008 to 2010 for the full sample as well as for sub-samples of directors with and without industry experience.[11] Out of our total of 385 director announcements, 216 (56.1%) directors have work experience in the same FF12 industry as the company they are joining. The fraction of experienced directors is slightly above 50% and relatively stable across our sample years. As for the distribution of announcements across calendar months, there is no clear pattern and the number of announcements is lowest in May and highest in December.

Table 2 reports the FF12 industry distribution of the companies appointing the 385 directors in our sample. The two industries with the most new director appointments are Finance and Business Equipment, but neither of these two make up for more than 20% of our total sample. When we compare the number of director announcements with industry experience to the number

[11] The 10 observations in 2007 are director appointments which were announced already in 2007 but became effective in 2008. Therefore, they are included in our sample.

of director announcements without industry experience, Table 2 shows that there exists considerable heterogeneity across industries. While the majority of companies in most industries appoint directors with industry experience, there are some industries (e.g., Consumer Non-Durables and Wholesale) in which more directors without industry experience are appointed to corporate boards than directors with industry experience.

Table 3 presents means and medians for a selection of financial and corporate governance firm characteristics. In Panel A, we report the variables for the full sample of 344 firm-years in which a total of 385 outside directors is appointed to the boards of the 258 S&P 500 firms. In Panels B and C, we report the variables for the announcements of the appointments of experienced and non-experienced outside directors, respectively. Panel D reports the results of tests for the equality of means and medians between announcements of experienced and non-experienced directors for these variables. These tests reveal that companies that appoint directors with industry experience tend to be larger with respect to total assets but smaller with respect to market capitalization. Moreover, firms appointing experienced outside directors to their board have lower market-to-book ratios and are less profitable than firms appointing directors without industry experience. In contrast, firms which appoint experienced directors have somewhat higher institutional ownership. Hence, institutional investors may exert some pressure to appoint directors with industry experience to the boards of poorly performing firms. Notably, companies which announce the appointment of a director with industry experience and companies which announce the appointment of a director without industry experience do not seem to differ much in their corporate governance (*E-Index*) and board characteristics (*Board size*, *% of outside directors on the board*, *CEO in nom. com (dummy)*). The only exception is the dummy variable whether the CEO is also the Chairman of the board which indicates that firms with a combined CEO-

Chairman position are more likely to appoint a director without industry experience. Finally, the results in Table 3 show that more experienced boards are significantly more likely to appoint additional outside directors with board experience. Given the results in Table 3, it will be important to control for these and other financial and corporate governance control variables later in our multivariate analysis.

Table 4 reports director characteristics and director industry experience for the 385 directors considered in our sample as of the day of the announcement of their new board membership. Panel A of Table 4 reports the director characteristics. The mean (median) age of a director when appointed to the boards of our sample firms is 56.43 years (56.69 years) and she holds an average of 1.30 other directorships. 80% of new directors are male, about 22% of the 385 new directors are themselves CEO at another company, and 97% are independent. Panel B reports information on the industry experience of the directors. 56.10% of directors have any type of industry experience in the industry the company whose board they join operates in. 35.84% of directors have such industry experience as an employee without board membership, 24.42% as an inside director, and 27.79% as an outside director. With respect to the length of the industry experience, the average experienced director has 2,958 days of industry experience, of which 1,672 days were gained as a non-director employee, 751 days as an inside director, and 535 days as an outside director. Panel C reports the overall industry experience of all 385 newly appointed directors in the sample in days. The numbers indicate that most of the relevant industry experience was gained as an employee without board membership and at public companies.

3. Empirical analysis

3.1 Descriptive analysis

We examine investor reactions to the announcement of every new outside director appointment in our sample. We compute cumulative abnormal stock returns (CARs) over the 2-day period from the day of the announcement until the day after the announcement.[12] We estimate the market model parameters from t = -220 to t = -21 with t = 0 denoting the day of the announcement. We use the S&P 500 as a proxy for the market return. Both individual stock and index return data are from CRSP. To account for a few extreme observations, we winsorize the two-day CARs at the 1th and 99th percentiles of the distribution.[13] Table 5 reports the mean and median (0, 1) CARs for our sample of 385 outside director appointments. In the full sample including all director appointments, both the mean and the median CARs are small and neither is statistically significantly different from zero. This finding is consistent with earlier studies such as Rosenstein and Wyatt (1997) or Fich (2005). Next, we evaluate the CARs across sub-samples depending on whether the new director has experience in the company's FF12 industry or not. The mean and median CARs for the sub-sample of experienced directors are positive and substantially larger than the mean and median CARs across all director announcements. A *t*-test indicates that the mean is (borderline) statistically significantly larger than zero. A non-parametric Wilcoxon signed-rank test indicates that the median is positive but statistically insignificant. The mean and median CARs for the sub-sample of directors without relevant industry experience on the other hand are both negative and also large in absolute terms as compared to the values for all director appointments. A *t*-test and a non-parametric Wilcoxon signed-rank test indicate that both the mean and median are significantly different from zero. Most importantly, a *t*-test and a non-

[12] We have experimented with alternative event windows. However, the results remain similar to those reported for the (0, 1) window when we use for example a (-1, 1) or (-2, 2) window.
[13] Our results, however, do not change substantially when we omit this winsorization.

parametric Wilcoxon signed-rank test both reveal significantly higher CARs for director announcements where the director has industry experience in the company's industry compared to director announcements where the director has no such experience. This result provides prima facie evidence that investors react more positively to the announcement of appointments of outside directors with industry experience as compared to directors without relevant industry experience. Hence, investors seem to anticipate that directors with industry experience have a better ability to advise managers on strategic issues and to critically monitor executives' behavior and business decisions. It is important, however, that this result is only univariate and may therefore be caused by omitted variables which are correlated with both industry experience and the announcement returns. For instance, if many of the directors with industry experience in our sample are themselves CEO of a company, the positive reaction we document may be due to a CEO effect as documented by Fich (2005). Alternatively, investors may perceive announcements of experienced directors more favorably if the company has a poorer corporate governance structure in place because an experienced director may be better able to monitor the management. Hence, the announcement return may depend on the appointing firm's corporate governance structure.

3.2 Multivariate analysis

We address such issues by estimating multivariate regressions of the CARs associated with the announcement of newly appointed outside directors on various director- and firm-specific characteristics. The main variable of interest in this analysis is a dummy variable whether the appointee has experience in the appointing company's industry. The results are reported in Table 6. We start with a univariate regression which only includes this industry experience dummy variable as explanatory variable. Consistent with the results in Table 5, the coefficient on the experience dummy variable is positive and significant, indicating that investors perceive directors with

industry experience more favorably as compared to non-experienced directors. In Column 2 of Table 6, we control for various director characteristics such as the age of the newly appointed director, the number of other directorships the director holds, and dummy variables indicating whether the director is male, whether she is the CEO of another company, and whether the director is independent. Based on Custódio and Metzger (2012) and the empirical literature on wages we also include age squared. Most importantly, the inclusion of these control variables does not change our result that the announcement effects of new directors with industry experience are significantly higher than the announcement effects of directors without industry experience. The only significant control variable is the variable measuring the directors' additional board seats, i.e., how busy the directors are. Consistent with previous research (e.g., Fich and Shivdasani, 2006), we find the announcement effect of busy directors to be significantly lower possibly due to concerns that they will not devote sufficient time to this particular directorship. Even though the other control variables are not significant, most enter with their predicted sign. The dummy indicating whether the new director is the CEO of another company deserves special attention because earlier research by Fich (2005) and Fahlenbrach, Low, and Stulz (2010) has shown that investors react favorably to director announcements when the new director is the CEO of another company. In fact, the coefficient on the CEO dummy is positive and close to being significant at the 10% level.

In Column 3 of Table 6, we additionally include firm-specific characteristics to control for firm size (the log of total assets), firm performance (ROA), and growth opportunities (R&D expenses scaled by sales and the market-to-book ratio). Including these controls in the regression even slightly increases the size of the coefficient on the industry experience dummy variable. The

coefficient on size is positive and significant at the 10% level, indicating that bigger firms experience on average higher CARs upon the announcement of a new director appointment.

In Column 4 of Table 6, we additionally include control variables related to the appointing company's corporate governance to control for differences in market reactions that are due to differences in the corporate governance structures of the appointing firms. Due to data restrictions from the RiskMetrics database, our sample decreases from 385 to 348 director announcements in this specification. The coefficient on the industry experience dummy variable remains positive and significant but both the magnitude of the coefficient and the statistical significance is slightly reduced as compared to Column 3. Consistent with Fich (2005), the coefficient on the CEO dummy variable is now positive and significant at the 5% level indicating that directors, who are a CEO at another company, are perceived as positive news. Instead of size, ROA is now positive and significant indicating that more profitable firms experience on average higher CARs upon the announcement of a new director appointment. With respect to the firm-level corporate governance controls, we find only the dummy variable whether the CEO is also Chairman of the board to be significant. The negative coefficient shows that the market perceives the appointment of new outside directors more negatively (or less positively) if a company has a combined CEO-Chairman position holding all other firm-specific financial and governance controls as well as the characteristics of the newly appointed directors constant. Finally, in Column 5, we reestimate the regression specification in Column 4 and additionally include year and industry dummies to control for time and industry effects. As the value of director industry experience may substantially differ across industries, it may be especially important to account for industries. The results, however, suggest otherwise and the impact of these additional controls on

the previous results is marginal. The only important change is that the previously significant coefficient on *# Add. directorships* now turns insignificant.[14]

So far, we have established that investors seem to consider director industry experience as beneficial to firm value although the result is statistically not very strong once we control for a large set of director- and company-specific control variables, possibly also due to a reduction in sample size when firm-level corporate governance variables are included in the analysis. The economic magnitude of the effect is a two-day announcement return which is on average about 0.7% to 0.9% larger for the appointment of directors with industry experience as compared the appointment of directors without industry experience. This effect is quite sizable when compared to the average announcement effect associated with the announcement of the 385 new outside directors to the board of approximately 0.08%.

In the next step of our empirical analysis, we examine to what extent investors value different types of industry experience. Hence, in the subsequent analysis we split our industry experience dummy variable into three dummy variables: a dummy variable whether the newly appointed director has work experience as an employee/executive without board membership in the same FF12 industry (*Exp. employee (dummy)*), a dummy variable whether the newly appointed director has work experience as an employee/executive with additional board membership in the same FF12 industry (*Exp. inside director (dummy)*), and a dummy variable whether the newly appointed director has work experience as outside board member in the same FF12 industry (*Exp. outs. director (dummy)*). For easier interpretation of our results, we restrict the sample in this analysis

[14] As the announcement effect associated with the industry experience of newly appointed outside directors may depend on the industry experience already existent in the appointing firms' boards, we reestimate Columns 4 and 5 and additionally include an interaction term between *Industry exp. (dummy)* and *% Directors with experience*. However, the coefficient on this interaction term (and on *% Directors with experience*) is insignificant in both specifications (not reported).

to appointments of outside directors with only one specific type of experience. Hence, we exclude the 127 appointments of outside directors with experience in more than one employment type (for example experience as both employee without board seat and as an outside director either gained at another point in type or simultaneously but in another company).

We start by estimating a regression that includes all three measures of director experience. The results are reported in Column 1 of Table 7 and show that only the coefficient on *Exp. inside director (dummy)* is positive and significant at the 10% level. The economic magnitude of this effect is much larger than before and indicates that the appointment of an outside director with industry experience as an inside director is associated with a two-day announcement return which is 2.4% higher than for other appointments. However, probably due to the smaller sample size, the statistical significance of the result is weaker than in Table 6. In Column 2, we additionally control for the director characteristics and in Column 3 for the company financials. The coefficient on *Exp. inside director (dummy)* remains positive and of comparable magnitude as in Column 1, but is only borderline significant in Column 3.

In Column 4, we additionally control for the firms' corporate governance structure and in Column 5 we also add industry and year dummy variables. In both specifications, the economic magnitude of the coefficient on *Exp. inside director (dummy)* remains similar and indicates two-day CARs which are higher by 2.2% and 2.1%, respectively, as compared to announcements of director appointments without experience as an inside director. However, the coefficient on *Exp. inside director (dummy)* is (borderline) insignificant in both specifications. In Column 4, the coefficient on *Exp. employee (dummy)* is positive and significant at the 10% level. The size of this coefficient is substantially smaller in all five specifications, however, indicating a two-day CAR which is about 0.6 to 0.9% larger for directors with experience as employee/executive without

board seat as compared to directors without experience. Summarizing, the results presented in Table 7 provide some evidence that investors differentiate between different types of experience and that they value experience gained as an inside director the highest. We caution, however, that even though this result is economically significant, it is not statistically significant in all specifications, possibly due to the relatively small sample size. As we will show below, the statistical significance of this result is larger throughout several robustness tests and extensions.

4. Robustness tests

4.1 Does the amount of experience matter?

So far, we measured industry experience only binary. To investigate whether more experience, as measured by a longer employment in the respective industry, is valued by investors, we replace the dummy variables in Tables 6 and 7 by variables which measure the length of the respective experience in days. Specifically, we replace *Industry exp. (dummy)*, *Exp. employee (dummy)*, *Exp. inside director (dummy)*, and *Exp. outs. director (dummy)* by *Industry exp. (days)*, *Exp. employee (days)*, *Exp. inside director (days)*, and *Exp. outs. director (days)*. The latter four variables correspond to the natural logarithm of one plus the total number of days of experience in the respective category (employee, inside director, and outside director). We attempt to avoid double counting in the measurement of the length of the industry experience by counting days of experience on one particular hierarchical level only once for directors holding multiple positions on this hierarchical level within the relevant industry. Hence, the number of days of experience in the three categories employee, inside director, and outside director add up to the value of the variable *Industry exp. (days)*. We start with univariate regressions which only include the four alternative measures of industry experience in days. The results are reported in Columns 1 to 4 of Table 8. Most importantly, the results are consistent with those in Tables 6 and 7 and indicate that

experience in general (*Industry exp. (days)*) and experience as an inside director (*Exp. inside director (days)*) matter while experience as an employee (*Exp. employee (days)*) and experience as an outside director (*Exp. outs. director (days)*) do not, at least not in a statistically significant way. In Column 5, we include all three measures of different types of industry experience simultaneously and the full set of director- and firm-specific control variables.[15] The coefficient on *Exp. inside director (days)* remains positive and significant while the coefficients on the other two experience variables remain insignificant. Again the economic magnitude of the results is meaningful. An increase in the general industry experience in days (*Industry exp. (days)*) by one standard deviation (4,336 days) is associated with an increase in two-day CARs of approximately 0.4%. Similarly, an increase in the industry experience as an inside director in days (*Exp. inside director (days)*) by one standard deviation (1,820 days) is associated with an increase in two-day CARs of approximately 0.4%. These figures are again quite sizable when compared to the average two-day CAR of only 0.08%. Hence, we conclude that experience as an inside director is associated with a significantly higher announcement effect and that the announcement effect is higher the more extensive this experience is.

4.2 Are financial firms different?

One concern with our results so far may be that the effect may be strongly affected by the 74 director appointments to the boards of financial firms. 58 (78%) of these newly appointed directors have industry experience. In the smaller sample in Table 7, 35 of the 258 directors are appointed to the board of financial services firms and 19 (54%) of these directors have industry experience. In the aftermath of the recent financial crisis, lack of financial expertise on the banks' boards was often stressed as one of the main problems facilitating excessive risk taking resulting

[15] Total industry experience in days (*Industry exp. (days)*) has to be excluded for multicollinearity reasons.

in poor bank performance and sometimes even collapse (e.g., Pozen, 2010). Consequently, we could expect that banks were particularly keen to appoint directors with financial (i.e., industry) experience to their boards and that such appointments were positively perceived by stockholders. Hence, we reestimate the results in Table 7 and exclude director appointments to the boards of financial firms from the sample. Most importantly, the results are similar to those reported in Table 7 but somewhat stronger with respect to both the economic and statistical significance of the coefficients on the measures of industry experience. For space reasons, we only report the results of the full specification in Column 5 of Table 7. These results are reported in Column 6 of Table 8. The coefficient on the *Exp. inside director (dummy)* variable is now again positive and significant and indicates a two-day announcement effect which is 3.0% higher for appointments of directors with experience as an inside director.

To investigate whether the value of industry experience differs significantly between financial and non-financial firms, we reestimate the regression in Column 6 of Table 8, but instead of dropping the 31 director appointments to the boards of financial firms from the analysis we include interaction terms between the three experience dummy variables a dummy variable for financial firms (i.e., firms with a FF12 industry code of 11 corresponding to an SIC code between 6000 and 6999). The results are reported in Column 7 of Table 8 and are largely consistent with those in Column 6. The only significant industry experience variable is *Exp. inside director (dummy)*. Moreover, the economic magnitude of the effect remains virtually unchanged and points to a two-day announcement effect which is 2.8% higher for outside directors with industry experience as an inside director. None of the interaction terms between the industry experience dummy variables and the dummy variable for financial firms is significant indicating that the

announcement effect of different types of industry experience does not significantly differ between financial and non-financial firms.

4.3 Additional robustness tests

We perform a number of additional robustness tests to our main analyses. First, we investigate whether industry experience gained as a CEO is particularly important. However, when we include dummy variables for experience as an inside director and as a CEO simultaneously, the coefficient on the CEO dummy variable is always insignificant indicating that experience as a CEO is not more valuable than experience gained as any other inside director (62 of 94 directors (66%) with experience as an inside director have industry experience as a CEO). Therefore, we do not report the results from this analysis in a table.

Second, we test the robustness of our results with respect to a narrower and therefore more precise industry classification system than FF12. The disadvantage of using a narrower classification, however, is that we observe a smaller number of director appointments with industry experience and may end up with too little variation. In particular, in combination with our relatively small sample and the large set of control variables in some of our specifications, a low variation in our measure of industry experience will make it hard to observe any significant results. Therefore, instead of constructing alternative industry experience variables which are based on the Fama-French 48-industries (FF48) classification, we construct a weighted measure of industry experience which is defined as follows: The variable takes on a value of one if the newly appointed director has any type of work experience in the FF12 industry of the appointing company, it takes on a value of two if the newly appointed director has any type of work experience in the FF48 industry of the appointing company, and it is equal to zero otherwise. The results from

reestimating Table 6 using this alternative measure of industry experience, *Industry exp. (FF12/FF48)*, are reported in Table 9. Most importantly, the coefficient on the measure of industry experience is positive and significant in all five specifications. In addition, the coefficients on the control variables are similar to those reported in Table 6. Hence, by attributing a larger weight to a more narrowly defined industry experience neither significantly strengthens nor weakens our results.

Third, we attempt to control for a potential effect of retiring / exiting directors. We do this in two different ways. First, as we cannot directly observe whether a newly appointed director replaces another director, we add a control variable which is equal to one if the number of directors on the boards remains unchanged from the last filing before to the first filing after the appointment. As decision making processes are presumably easier in boards with an odd number of directors, we additionally construct variables whether the board changes from an odd to an even number or from an even to an odd number. The coefficients on all three of these additional control variables are insignificant in all specifications and the coefficients on the industry experience variables are virtually unaffected by their inclusion. Second, we restrict our sample to appointments of outside directors which are not associated with the immediate replacement of exiting directors, i.e., within two days before or after a current director is announced to resign from the board. If the appointment takes place in close proximity of the announcement of a resignation of a director, the announcement effect is likely to reflect both the new director joining the board and another director leaving the board (i.e., the relative quality of the two directors). In 29 of the 385 director appointments in our sample (7.53%), the exit of another director is announced within either two days before or two days after the announcement date of a new director. If we exclude

these 29 appointments from our sample, the results again remain virtually unchanged. Therefore, we do not report the results from these analyses in a table for space reasons.

Fourth, we investigate whether the announcement effect associated with a new outside director appointment, and in particular with an outside director with industry experience, is significantly related to the appointing firm's past performance. We could for example expect that the appointment of an outside director with industry experience is perceived by shareholders as particularly beneficial when the firm performed poorly during the last few years. On the other hand, we might expect that, in case they have sufficient power, CEOs of poorly performing firms seek to appoint lower quality directors (i.e., without industry experience) to secure their position. In this latter case the appointment of an inexperienced director would be particularly harmful. To test whether the announcement effect depends on the firms' past performance, we complement the regressions in Table 6 by adding a measure for the firms' past performance and an interaction term between *Industry exp. (dummy)* and past performance. We consider three alternative measures of past performance: past sales growth over the last three years, cumulative stock returns over the last 36 months before the appointment, and change in profitability (ROA) over the last three years. For all three alternative measures of past performance and across all regression specifications, we find the coefficient on past performance and on the interaction term between past performance and industry experience to be insignificant. Moreover, the coefficient on industry experience remains virtually unchanged. Hence, the announcement effect associated with industry experience does not depend on the appointing firms' past performance. Absent any significant findings, we do not report the results of this robustness test in a table for space reasons.

Fifth, we investigate whether the value of director industry experience depends on how recent the industry experience is. Specifically, we investigate whether the market reaction differs

depending on whether the newly appointed outside director's industry experience was gained within the last five years or more than 10 years ago. Custódio and Metzger (2012) find that more recently gained experience is more important and that only CEOs with industry experience in the target firm's industry within the last five years are able to negotiate better merger terms. However, we find no evidence that the market values more (less) recent industry experience higher than less (more) recent experience.

Sixth, we construct an alternative set of experience variables and consider only experience in listed U.S. firms. Again, we find the results to remain similar. Finally, we investigate whether our results are robust to using standard errors that cluster at the firm level and standard errors that cluster at the event date level. This may be potentially important as we have some firms in our sample which appoint more than one director to their board. Moreover, we have some dates on which more than one director is appointed to a board (of a different company, however). Director appointments to the board of one particular firm and appointments taking place on one particular day may not constitute independent observations. However, the results remain virtually unchanged when we cluster either at the firm or at the event date level and therefore are not reported in a table.

5. Identification through director deaths

One issue potentially plaguing our analysis of director appointments above is that the board of directors is an endogenously determined institution (e.g., Hermalin and Weisbach, 1988, 1998, 2003). The positive market reaction to the appointment of experienced directors could be driven by the need for change in the appointing firms, not the contribution of industry experience. It might thus be difficult to empirically identify a causal relationship between director industry ex-

perience and firm value. We tackle this identification challenge by using the deaths of incumbent directors to alleviate the endogeneity concerns related to the appointment and composition of the board of directors (e.g., Nguyen and Nielsen, 2010; Fracassi and Tate, 2012). Director deaths offer plausibly exogenous identification of how markets value director industry experience because deaths occur randomly and are likely to be exogenous to current firm and market conditions. While there is a literature using CEO and directors deaths as an identification strategy, it is surprisingly small given the appeal of this approach.[16]

We start compiling our sample of director deaths by collecting data on departures of S&P 1500 board members between 2007 and 2011. We decided to widen both the stock universe (from the S&P 500 to the S&P 1500) and the time period (from 2008-2010 to 2007-2011) due to the small number of outside director deaths in our original sample (46). For every director departure, we search LexisNexis, Factiva, and SEC filings for information on whether the director departure was due to death, retirement, or other reasons. We retain all director departures where the director died in office and use the first date on which we can find a public mention of the death of the director as event date. Our sample consists of all directorships held by deceased directors on the day of their death with sufficient data on CRSP, resulting in 166 director deaths with 229 directorships in listed US firms. As there is usually a difference between the date on which we find the very first mention of the death of a director (e.g., an industry blog) and the first mention of

[16] Johnson, Magee, Nagarajan, and Newman (1985) use 53 sudden deaths of executives to estimate the value of their continued employment and find positive market reactions to the death of founder-CEOs and negative reactions to the death of professional CEOs. Worrell, Davidson, Chandy, and Garrison (1986) analyze 127 announcements of executive deaths and find negative (positive) announcement returns associated with the deaths of CEOs (chairmen). Slovin and Sushka (1993) report positive stock price reactions to the deaths of 85 inside blockholders. Salas (2010) investigates 184 sudden CEO deaths and finds positive price reactions for entrenched CEOs. Bennedsen, Pérez-Gonzàlez, and Wolfenzon (2010) test for the impact of CEOs on performance by analyzing the effect of CEO deaths and deaths of the CEOs' immediate family members. They find that CEOs' deaths and deaths in CEOs' families are strongly correlated with declines in firms' operating profitability, investment, and sales growth and conclude that CEOs are instrumental for firm performance. Nguyen and Nielsen (2010) use 229 sudden director deaths to investigate the value of director independence and find more negative returns to the announcement of independent director deaths. Finally, Fracassi and Tate (2012) use both director deaths and retirements to analyze the valuation effect of CEO-director ties and find that CEO-director ties are associated with weaker monitoring and lower value.

the death of a director in a media outlet with wider reach (e.g., an obituary published in a newspaper), we use a larger event window (i.e., a seven-day window from day t = -3 to day t = 3) than for the director announcements above where the event date was more easily determined. To determine whether a deceased director had industry experience, we collect biographical information from proxy filings, LexisNexis, and BoardEx in the same spirit as for director announcements above. 155 directorships held by 113 deceased directors are classified as directors with experience and the remaining 74 held by 69 deceased directors as directorships without experience.

As before, we start with a univariate analysis of the announcement returns associated with director deaths. The results are reported in Table 10. The average (median) seven-day announcement return is a negative but insignificant -0.33% (-0.09%). Comparing the announcement returns associated with the deaths of experienced versus non-experienced directorships, we find the mean and median CARs for the sub-sample of experienced directorships to be negative and significant. In contrast, the mean and median CARs for the sub-sample of non-experienced directorships are both positive and (borderline) significant. Consistently, a *t*-test and a non-parametric Wilcoxon signed-rank test both reveal significantly lower CARs for director death announcements where the director has industry experience in the company's industry compared to director death announcements where the director has no such experience. The economic magnitude of this difference (2.27% difference in means and 1.83% difference in medians) is sizeable and much larger than the difference in CARs upon announcement of new outside directors as reported in Table 5. Hence, investors react more negatively to the announcement of outside director deaths if directors have industry experience as compared to directors without relevant industry experience.

To corroborate these results in a multivariate setup, we estimate similar cross-sectional regressions as reported in Table 6 for outside director appointments. Again, we start by regressing

the CARs on a dummy variable whether the deceased outside director has industry experience and then extend the set of control variables to include additional director-specific variables, firm-specific financial controls, firm-specific corporate governance variables, and year and industry fixed effects. In contrast to Table 6, however, we only include one firm-specific corporate governance variable, a dummy whether the CEO is also chairman of the board. The reason is that the set of eight corporate governance variables used in Table 6 is available from RiskMetrics for 158 director death events only. Moreover, with the exception of the dummy whether the CEO is also chairman of the board, none of the other firm-level governance variable was significant in the previous tables. Hence, we hand-collected the additional 60 observations for the CEO-chairman dummy variable from the firms' proxy statements (the control variables from COMPUSTAT are available for 218 events). The results are reported in Table 11. The only significant variable in all five regression specifications is the experience dummy variable. The coefficient is always negative, significant at the 5% level, and indicates a sizable discount associated with the deaths of experienced as compared to non-experienced outside directors of about 2.1% to 2.4% over a seven-day event window. Hence, by using outside director deaths as an identification strategy to alleviate endogeneity concerns, we corroborate pervious findings that director industry experience is valuable.

5. Conclusion

Is directors' industry knowledge relevant? Despite the importance and timeliness of this issue, academic research has been surprisingly silent on this important question so far. In this paper, our aim is to provide the first systematic empirical evidence to help answer this question and enhance our understanding of the importance of board member characteristics. To this end, we study market reactions to the announcements of 385 new outside directors at 258 S&P 500 com-

panies between 2008 and 2010. We document in univariate and multivariate analyses that investors react significantly more positively to director announcements where the director has previous experience in the industry which the company announcing a new director operates in. We also provide evidence that investors do not consider every kind of industry experience equally important. Specifically, our analyses suggest that investors value more highly industry experience as an inside director compared to industry experience as an employee or an outside director. Our results are robust to the inclusion of a number of firm- and director-level control variables which could potentially influence investors' reactions to new outside director announcements. Moreover, we investigate a sample of 166 outside director deaths to alleviate endogeneity concerns associated with director appointments. Consistent with our findings on director appointments, the announcement returns around the deaths of experienced directors are significantly more negative than those of non-experienced directors and the economic magnitude of the difference is even larger than in the case of director appointments.

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Table 1: Distribution of event dates over time

The table reports the number of outside directors appointed to the board of S&P 500 companies over the three-year time period from 2008 to 2010 by calendar year and overall. The sample also includes 10 director appointments which became effective in 2008 but were announced in 2007. The table reports the total number of outside director appointments (All), the number of appointments of directors with industry experience (Experience), and the number of appointments of directors without industry experience (Non-experience) by calendar year and in total. The sample includes a total of 385 outside director appointments.

			Event Month												
			1	2	3	4	5	6	7	8	9	10	11	12	Sum
Event Year	2007	All	0	0	0	0	0	0	0	0	1	0	0	9	10
		Experience	0	0	0	0	0	0	0	0	1	0	0	4	5
		Non-experience	0	0	0	0	0	0	0	0	0	0	0	5	5
	2008	All	16	21	0	8	5	8	18	7	18	12	12	13	138
		Experience	11	12	0	4	4	6	9	5	13	6	8	7	85
		Non-experience	5	9	0	4	1	2	9	2	5	6	4	6	53
	2009	All	9	11	10	6	3	16	14	5	10	11	12	19	126
		Experience	4	2	7	3	2	7	7	2	7	8	7	10	66
		Non-experience	5	9	3	3	1	9	7	3	3	3	5	9	60
	2010	All	11	11	10	7	4	15	8	8	12	8	6	11	111
		Experience	6	6	4	3	3	11	2	5	6	5	4	5	60
		Non-experience	5	5	6	4	1	4	6	3	6	3	2	6	51
	Sum	All	36	43	20	21	12	39	40	20	41	31	30	52	385
		Experience	21	20	11	10	9	24	18	12	27	19	19	26	216
		Non-experience	15	23	9	11	3	15	22	8	14	12	11	26	169

Table 2: Distribution of director appointments across FF12 industries

The table reports the number (Number) and percentage (%) of outside director appointments to the boards of S&P 500 firms across the 12 Fama-French industries for all director appointments, appointments of directors with industry experience, and appointments of directors without industry experience. The sample period is 2008 to 2010 and the sample includes a total of 385 outside director appointments. Utilities companies (SIC codes 4900 to 4942) are excluded from the sample. Therefore, there are no observations in Fama-French industry 8 (Utilities).

		All Director Appointment Announcements		Experienced Director Appointment Announcements		Non-Experienced Director Appointment Announcements	
Ind.	Name	Number	%	Number	%	Number	%
1	Consumer (Non-Durables)	35	9.09%	13	6.02%	22	13.02%
2	Consumer (Durables)	5	1.30%	0	0.00%	5	2.96%
3	Manufacturing	46	11.95%	26	12.04%	20	11.83%
4	Oil	19	4.94%	7	3.24%	12	7.10%
5	Chemicals & Allied Products	17	4.42%	5	2.31%	12	7.10%
6	Business Equipment	64	16.62%	40	18.52%	24	14.20%
7	Telephone & Television Transmission	14	3.64%	7	3.24%	7	4.14%
8	Utilities	0	0.00%	0	0.00%	0	0.00%
9	Wholesale	39	10.13%	14	6.48%	25	14.79%
10	Healthcare	37	9.61%	18	8.33%	19	11.24%
11	Finance	74	19.22%	58	26.85%	16	9.47%
12	Other	35	9.09%	28	12.96%	7	4.14%
Sum		385	100%	216	100%	169	100%

Table 3: Company characteristics

The table reports several company characteristics of S&P 500 firms that announce the appointment of a new outside director to the board for all outside director appointments (Panel A), appointments of experienced outside directors on the board (Panel B), and appointments of non-experienced outside directors on the board (Panel C). Panel D reports the differences in company characteristics between firms that announce the appointment of experienced and firms that announce the appointment of non-experienced directors. The test for differences in means is based on a standard *t*-test and the test for difference in medians on a Wilcoxon signed-rank test. The sample period is 2008 to 2010 and the sample includes a total of 385 outside director appointments announced by 258 companies in 344 firm-years. Definitions and data sources of all variables are provided in the Appendix. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

Panel A: Company characteristics for all outside director announcements

	Mean	Median	N
Total assets [mill. USD]	46,441.74	12,879.07	385
Market capitalization [mill. USD]	23,479.01	10,239.25	385
Net income [mill. USD]	995.03	542	385
MTB-ratio	3.06	2.34	385
ROA	4.80%	5.36%	385
E-Index	2.97	3.00	373
Institutional Ownership (%)	80.92%	83,49%	385
Board size	10.52	10.00	348
CEO-Chair (dummy)	0.72	1.00	348
CEO in nom. com. (dummy)	0.26	0.00	348
% of outside directors on the board	81.33%	83.33%	348
% Directors with experience	54.95%	55.56%	385

Panel B: Company characteristics for announcements of experienced outside directors appointments

	Mean	Median	N
Total assets [mill. USD]	56,883.71	12,053.90	216
Market capitalization [mill. USD]	20,145.28	9,470.01	216
Net income [mill. USD]	588.50	463.35	216
MTB-ratio	2.97	2.20	216
ROA	3.43%	4.65%	216
E-Index	2.99	3.00	208
Institutional Ownership (%)	82.31%	85.05%	216
Board size	10.44	10.00	193
CEO-Chair (dummy)	0.67	1.00	193
CEO in nom. com. (dummy)	0.28	0.00	193
% of outside directors on the board	82.13%	83.33%	193
% Directors with experience	62.81%	66.67%	216

Panel C: Company characteristics for announcements of non-experienced outside directors appointments

	Mean	Median	N
Total assets [mill. USD]	33,095.80	13,249.60	169
Market capitalization [mill. USD]	27,739.88	11,832.52	169
Net income [mill. USD]	1,514.61	826.00	169
MTB-ratio	3.17	2.38	169
ROA	6.54%	6.90%	169
E-Index	2.95	3.00	165
Institutional Ownership (%)	79.14%	80.29%	169
Board size	10.62	10.00	155
CEO-Chair (dummy)	0.79	1.00	155
CEO in nom. com. (dummy)	0.24	0.00	155
% of outside directors on the board	80.36%	81.82%	155
% Directors with experience	44.91%	45.45%	169

Table 3 – Continued

Panel D: Tests for difference in means and medians of company characteristics between announcements of experienced and non-experienced outside directors

	Mean		Median	
	Difference	*t*-value	Difference	*z*-value
Total assets [mill. USD]	23,787.91	1.86*	-1,195.70	-0.37
Market capitalization [mill. USD]	-7,594.60	-2.07**	-2,362.51	-1.85*
Net income [mill. USD]	-926.11	-2.46**	-362.65	-3.14***
MTB-ratio	-0.20	-0.34	-0.18	-0.82
ROA	-3.11%	-2.87***	-2.25%	-2.87***
E-Index	0.04	0.26	0.00	0.11
Institutional Ownership (%)	3.17%	2.00**	4.76%	2.63***
Board size	-0.18	-0.84	-0.00	-0.90
CEO-Chair (dummy)	-0.12	-2.47**	-0.00	-2.45**
CEO in nom. com. (dummy)	0.05	0.97	0.00	0.97
% of outside directors on the board	1.77%	1.61	1.51%	1.42
% Directors with experience	17.90%	7.23***	21.22%	6.71***

Table 4: Director characteristics and director industry experience

Panel A of the table reports several director characteristics for the sample of 385 outside directors appointed to the board of S&P 500 firms in the three-year period from 2008 to 2010. Panel B reports information on the directors' industry experience based on a comparison of the appointing firm's Fama-French industry classification with the industry classifications of all past employers. Variables measuring experience in working days are adjusted for double-counting, i.e., if a director's past employment history includes two simultaneous appointments in the same industry, we count every such day as just one day of industry experience. Panel C reports the overall industry experience of all sample directors in working days and again based on comparing the appointing firms' Fama-French industry classification with the industry classifications of all past employers. In Panel C, every employment day of work experience in the industry of the appointing firm is counted as experience day. Hence, if a director's past employment history includes two simultaneous appointments in the same industry, we count every such day of a double appointment as two days of industry experience. Definitions and data sources of all variables are provided in the appendix.

Panel A: Director characteristics

	Mean	Median	N
Age [years]	56.43	56.69	385
Number of directorships held	1.30	0.00	385
Gender			
male	80.00%		385
female	20.00%		385
CEO of another corporation at time of appointment	22.08%		385
Independent (as compared to gray) outside director	97.14%		385

Panel B: Director experience based on FF12 industries

	Mean	Median	N
Industry experience [Dummy]	56.10%		385
Industry experience as employee [Dummy]	35.84%		385
Industry experience as inside director [Dummy]	24.42%		385
Industry experience as outside director [Dummy]	27.79%		385
Total industry experience [Days]	2,958.12	280	385
Industry experience as employee [Days]	1,672.36	0.00	385
Industry experience as an inside director [Days]	750.83	0.00	385
Industry experience as an outside director [Days]	534.92	0.00	385

Panel C: Aggregate director experience based on FF12 industries

	Days	%
Entire industry days	1,208,048	100.00%
as employee	651,340	53.92%
as inside director	252,956	20.94%
as outside director	303,752	25.14%
at public companies	811,694	67.19%
at private companies	396,354	32.81%

Table 5: Cumulative abnormal returns around outside director appointments

The table reports the mean and median cumulative abnormal returns (CARs) for the sample of all 385 outside director announcements as well as the sub-samples of announcements of outside directors with and without industry experience. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a two-day event window from t = 0 to t = 1. The table reports t-values based on a standard parametric t-test and a non-parametric Wilcoxon signed-rank test. The test for differences in means and medians in the last row of the table are based on a standard t-test and a Wilcoxon signed-rank test, respectively. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	N	Mean CAR	Median CAR	*t*-value	*z*-value
All Outside director appointments	385	0.0765%	0.0399%	0.47	0.03
Subsamples					
Outside directors with experience	216	0.4220%	0.1251%	1.72*	1.36
Outside director without experience	169	-0.3651%	-0.2751%	-1.89*	-1.65*
Difference between experienced and non-experienced outside directors		0.7872%	0.4001%	2.41**	2.04**

Table 6: Cross-sectional OLS regressions of CARs on industry experience dummy variable

The table reports results from cross-sectional OLS regressions of the CARs on a dummy variable whether the newly appointed outside director has industry experience. Column 2 additionally includes a set of director control variables, Column 3 director and firm controls, and Columns 4 and 5 director, firm, and corporate governance controls. Column 5 also includes year and industry dummy variables (not reported for space reasons). The industry dummy variables are based on the Fama-French 12 industry classification. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a two-day event window from t = 0 to t = 1. Definitions and data sources of all variables are provided in the appendix. The t-values are based on White (1980) heteroskedasticity-robust standard errors and are reported in parentheses. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	(1)		(2)		(3)		(4)		(5)	
Constant	-0.004	*	0.034		-0.002		-0.003		0.036	
	(-1.889)		(0.869)		(-0.033)		(-0.041)		(0.498)	
Industry exp. (dummy)	0.008	**	0.008	***	0.009	***	0.007	**	0.007	**
	(2.518)		(2.680)		(2.976)		(2.115)		(1.971)	
Age			-0.001		-0.001		-0.001		-0.002	
			(-0.579)		(-0.358)		(-0.451)		(-0.815)	
Age squared			0.000		0.000		0.000		0.000	
			(0.707)		(0.476)		(0.622)		(0.947)	
# Add. directorships			-0.002	*	-0.002	*	-0.002	*	-0.002	
			(-1.685)		(-1.836)		(-1.656)		(-1.471)	
Male (dummy)			-0.005		-0.007		-0.006		-0.005	
			(-1.209)		(-1.562)		(-1.388)		(-1.196)	
CEO (dummy)			0.005		0.005		0.008	**	0.007	*
			(1.518)		(1.273)		(2.002)		(1.703)	
Independent (dummy)			-0.018		-0.016		-0.010		-0.012	
			(-1.183)		(-1.077)		(-0.601)		(-0.710)	
Ln(Total assets)					0.003	*	0.001		0.001	
					(1.759)		(0.580)		(0.447)	
ROA					0.030		0.042	**	0.051	**
					(1.644)		(2.189)		(2.587)	
R&D / sales					-0.022		-0.010		0.017	
					(-1.330)		(-0.578)		(0.754)	
Market-to-book					-0.000		-0.001		-0.000	
					(-0.892)		(-0.841)		(-0.810)	
E-Index							0.000		0.001	
							(0.368)		(0.654)	
Institutional ownership							-0.002		-0.004	
							(-0.110)		(-0.228)	
Ln(Board size)							0.009		0.007	
							(0.898)		(0.651)	
CEO-Chair (dummy)							-0.008	*	-0.010	**
							(-1.956)		(-2.371)	
CEO in nom. com. (dummy)							-0.003		-0.001	
							(-0.727)		(-0.169)	
% Outside directors							-0.000		0.002	
							(-0.002)		(0.100)	
% Directors older than 72							-0.005		0.003	
							(-0.300)		(0.170)	
Director non-attendance							0.004		0.001	
							(0.090)		(0.028)	
Busy board (dummy)							-0.000		-0.000	
							(-0.078)		(-0.025)	
% Directors with experience							0.002		-0.005	
							(0.231)		(-0.609)	
Year and industry dummies	No		No		No		No		Yes	
Observations	385		385		385		348		348	
R-square	0.015		0.037		0.065		0.076		0.125	

Table 7: Cross-sectional OLS regressions of CARs on different industry experience dummy variables

The table reports results from cross-sectional OLS regressions of the CARs on different measures of industry experience of the newly appointed outside directors. The three measures of industry experience are: a dummy variable whether the newly appointed director has work experience as an employee/executive without board membership in the same FF12 industry (*Exp. employee (dummy)*), a dummy variable whether the newly appointed director has work experience as an employee/executive with additional board membership in the same FF12 industry (*Exp. inside director (dummy)*), and a dummy variable whether the newly appointed director has work experience as outside board member in the same FF12 industry (*Exp. outs. director (dummy)*). Column 2 additionally includes a set of director control variables, Column 3 director and firm controls, and Columns 4 and 5 director, firm, and corporate governance controls. Column 5 also includes year and industry dummy variables (not reported for space reasons). We restrict the sample in this table to the 258 appointments of outside directors with only one specific type of experience and exclude 127 appointments of outside directors with experience in more than one employment type. The industry dummy variables are based on the Fama-French 12 industry classification. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a two-day event window from t = 0 to t = 1. Definitions and data sources of all variables are provided in the appendix. The t-values are based on White (1980) heteroskedasticity-robust standard errors and are reported in parentheses. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	(1)		(2)		(3)		(4)		(5)	
Constant	-0.004	*	0.028		0.021		0.043		0.056	
	(-1.879)		(0.625)		(0.469)		(0.667)		(0.920)	
Exp. employee (dummy)	0.007		0.007		0.007		0.009	*	0.006	
	(1.350)		(1.276)		(1.418)		(1.859)		(1.209)	
Exp. inside director (dummy)	0.024	*	0.022		0.024	*	0.022		0.021	
	(1.682)		(1.505)		(1.660)		(1.587)		(1.622)	
Exp. outs. director (dummy)	0.002		0.003		0.004		0.005		0.002	
	(0.361)		(0.639)		(0.834)		(0.794)		(0.397)	
Age			-0.001		-0.001		-0.001		-0.001	
			(-0.661)		(-0.458)		(-0.469)		(-0.364)	
Age squared			0.000		0.000		0.000		0.000	
			(0.630)		(0.400)		(0.542)		(0.393)	
# Add. directorships			-0.001		-0.001		-0.001		-0.002	
			(-0.738)		(-0.991)		(-0.818)		(-1.168)	
Male (dummy)			0.000		-0.001		-0.003		-0.004	
			(0.057)		(-0.147)		(-0.671)		(-0.908)	
CEO (dummy)			0.001		0.001		0.003		-0.000	
			(0.254)		(0.195)		(0.783)		(-0.010)	
Independent (dummy)			-0.004		-0.004		0.021		0.019	
			(-0.223)		(-0.218)		(1.240)		(1.188)	
Ln(Total assets)					0.000		-0.001		-0.000	
					(0.140)		(-0.292)		(-0.054)	
ROA					0.020		0.027		0.044	*
					(0.936)		(1.160)		(1.764)	
R&D / sales					0.006		0.043		0.112	
					(0.084)		(0.611)		(1.567)	
Market-to-book					-0.001		-0.001		-0.001	
					(-1.413)		(-1.116)		(-1.171)	
E-Index							0.000		0.001	
							(0.129)		(0.388)	
Institutional ownership							-0.023		-0.023	
							(-1.496)		(-1.502)	
Ln(Board size)							0.001		0.001	
							(0.100)		(0.051)	
CEO-Chair (dummy)							-0.011	**	-0.015	***
							(-2.292)		(-3.115)	
CEO in nom. com. (dummy)							-0.005		-0.002	
							(-1.007)		(-0.432)	
% Outside directors							-0.010		-0.006	
							(-0.524)		(-0.307)	
% Directors older than 72							-0.003		0.008	
							(-0.186)		(0.430)	
Director non-attendance							-0.084		-0.082	
							(-1.644)		(-1.569)	
Busy board (dummy)							-0.001		-0.002	
							(-0.257)		(-0.574)	
% Directors with experience							-0.010		-0.015	

				(-1.400)	(-1.610)
Year and industry dummies	No	No	No	No	Yes
Observations	258	258	258	235	235
R-square	0.030	0.033	0.061	0.112	0.203

Table 8: Robustness tests – Cross-sectional OLS regressions of CARs on measures of industry experience

The table reports results from cross-sectional OLS regressions of the CARs on different measures of industry experience of the newly appointed outside directors. The measures of industry experience are: the natural logarithm of one plus the number of days of total industry experience in the same FF12 industry (*Industry exp. (days)*), the natural logarithm of one plus the days of industry experience as an employee/executive without a board membership in the same FF12 industry (*Exp. employee (days)*), the natural logarithm of one plus the days of industry experience as an employee/executive with additional board membership in the same FF12 industry (*Exp. inside director (days)*), the natural logarithm of one plus the days of industry experience as outside board member in the same FF12 industry (*Exp. outs. director (days)*), a dummy variable whether the newly appointed director has work experience as an employee/executive without board membership in the same FF12 industry (*Exp. employee (dummy)*), a dummy variable whether the newly appointed director has work experience as an employee/executive with additional board membership in the same FF12 industry (*Exp. inside director (dummy)*), and a dummy variable whether the newly appointed director has work experience as outside board member in the same FF12 industry (*Exp. outs. director (dummy)*). Columns 1 to 4 report the results of univariate regressions of the CARs on different measures of industry experience in working days. Column 5 reports the results from a multivariate regression of the three alternative types of industry experience in working days and the full set of director, firm, and corporate governance controls as wells as year and industry dummy variables (not reported for space reasons). Column 6 replicates Column 5 in Table 7 and includes the three dummy variables for different types of experience along with the full set of control variables but excludes 31 director appointments to the board of financial firms from the sample. Column 7 also replicates Column 5 in Table 7 and, instead of omitting financial firms, additionally interacts the three industry experience dummy variables with a dummy variable for financials (FF12 industry code 11 or SIC codes between 6000 and 6999). The industry dummy variables are based on the Fama-French 12 industry classification. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a two-day event window from t = 0 to t = 1. Definitions and data sources of all variables are provided in the appendix. The t-values are based on White (1980) heteroskedasticity-robust standard errors and are reported in parentheses. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
Constant	-0.003	*	-0.001		-0.002		0.000		0.022		0.099	*	0.060	
	(-1.827)		(-0.766)		(-0.932)		(0.231)		(0.302)		(1.875)		(1.001)	
Industry exp. (days)	0.001	**												
	(2.431)													
Exp. employee (days)			0.001						-0.000					
			(1.592)						(-0.035)					
Exp. inside director (days)					0.001	**			0.001	*				
					(2.202)				(1.675)					
Exp. outs. director (days)							0.000		-0.000					
							(0.330)		(-0.301)					
Exp. employee (dummy)											0.005		0.006	
											(0.928)		(0.993)	
Exp. inside director (dummy)											0.030	*	0.028	*
											(1.881)		(1.686)	
Exp. outs. director (dummy)											0.002		0.003	
											(0.300)		(0.401)	
*Exp. employee * Financials*													0.005	
													(0.298)	
*Exp. inside director * Financials*													-0.020	
													(-0.936)	
*Exp. outs. director * Financials*													0.001	
													(0.044)	
Age									-0.001		-0.000		-0.001	
									(-0.458)		(-0.276)		(-0.440)	
Age squared									0.000		0.000		0.000	
									(0.559)		(0.245)		(0.467)	
# Add. directorships									-0.002		-0.001		-0.002	
									(-1.125)		(-0.927)		(-1.155)	
Male (dummy)									-0.007		-0.007	*	-0.003	
									(-1.445)		(-1.724)		(-0.828)	
CEO (dummy)									0.005		0.002		0.001	
									(1.177)		(0.463)		(0.141)	
Independent (dummy)									-0.012		-0.000		0.016	
									(-0.765)		(-0.044)		(0.932)	
Ln(Total assets)									0.001		0.001		-0.000	
									(0.381)		(0.334)		(-0.022)	
ROA									0.052	***	0.046	*	0.046	*
									(2.717)		(1.833)		(1.869)	
R&D / sales									0.024		0.126	*	0.116	
									(1.044)		(1.701)		(1.630)	
Market-to-book									-0.001		-0.001		-0.001	
									(-0.843)		(-1.380)		(-1.175)	
E-Index									0.002		0.000		0.001	
									(0.837)		(0.069)		(0.384)	
Institutional ownership									-0.001		-0.027		-0.023	
									(-0.067)		(-1.551)		(-1.475)	

Ln(Board size)					0.006		-0.007		0.001	
					(0.566)		(-0.609)		(0.059)	
CEO-Chair (dummy)					-0.010	**	-0.015	***	-0.015	***
					(-2.474)		(-3.104)		(-3.020)	
CEO in nom. com. (dummy)					-0.000		-0.001		-0.002	
					(-0.038)		(-0.110)		(-0.484)	
% Outside directors					0.005		-0.020		-0.005	
					(0.287)		(-1.135)		(-0.246)	
% Directors older than 72					0.004		0.011		0.006	
					(0.247)		(0.565)		(0.338)	
Director non-attendance					-0.003		-0.102	*	-0.081	
					(-0.074)		(-1.808)		(-1.555)	
Busy board (dummy)					0.000		-0.000		-0.002	
					(0.123)		(-0.099)		(-0.597)	
% Directors with experience					-0.006		-0.014		-0.015	
					(-0.665)		(-1.491)		(-1.623)	
Year and industry dummies	No		No		No		No		Yes		Yes		Yes	
Observations	385		385		385		385		348		204		235	
R-square	0.017		0.009		0.017		0.000		0.129		0.225		0.207	

Table 9: Cross-sectional OLS regressions of CARs on industry experience measure based on FF12 and FF48
The table reports results from cross-sectional OLS regressions of the CARs on a measure of industry experience which is equal to one if the appointed director has work experience in the same FF12 industry, equal to two if she has work experience in the same FF48 industry, and 0 otherwise. Column 2 additionally includes a set of director control variables, Column 3 director and firm controls, and Columns 4 and 5 director, firm, and corporate governance controls. Column 5 also includes year and industry dummy variables (not reported for space reasons). The industry dummy variables are based on the Fama-French 12 industry classification. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a two-day event window from t = 0 to t = 1. Definitions and data sources of all variables are provided in the appendix. The t-values are based on White (1980) heteroskedasticity-robust standard errors and are reported in parentheses. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	(1)		(2)		(3)		(4)		(5)	
Constant	-0.002		0.028		-0.008		-0.007		0.033	
	(-1.277)		(0.700)		(-0.183)		(-0.103)		(0.461)	
Industry exp. (FF12/FF48)	0.004	**	0.004	**	0.004	**	0.004	*	0.003	*
	(2.028)		(2.027)		(2.345)		(1.825)		(1.655)	
Age			-0.001		-0.000		-0.001		-0.002	
			(-0.377)		(-0.154)		(-0.363)		(-0.730)	
Age squared			0.000		0.000		0.000		0.000	
			(0.512)		(0.276)		(0.530)		(0.862)	
# Add. directorships			-0.002		-0.002	*	-0.002		-0.002	
			(-1.563)		(-1.711)		(-1.601)		(-1.405)	
Male (dummy)			-0.005		-0.006		-0.006		-0.005	
			(-1.156)		(-1.506)		(-1.349)		(-1.164)	
CEO (dummy)			0.005		0.004		0.008	**	0.007	*
			(1.479)		(1.231)		(2.036)		(1.716)	
Independent (dummy)			-0.018		-0.016		-0.010		-0.012	
			(-1.167)		(-1.052)		(-0.593)		(-0.710)	
Ln(Total assets)					0.003	*	0.001		0.001	
					(1.737)		(0.571)		(0.465)	
ROA					0.030		0.043	**	0.051	***
					(1.629)		(2.230)		(2.603)	
R&D / sales					-0.024		-0.011		0.016	
					(-1.484)		(-0.664)		(0.717)	
Market-to-book					-0.000		-0.001		-0.000	
					(-0.858)		(-0.839)		(-0.804)	
E-Index							0.000		0.001	
							(0.377)		(0.695)	
Institutional ownership							-0.001		-0.004	
							(-0.079)		(-0.215)	
Ln(Board size)							0.009		0.006	
							(0.875)		(0.603)	
CEO-Chair (dummy)							-0.008	**	-0.010	**
							(-1.972)		(-2.422)	
CEO in nom. com. (dummy)							-0.003		-0.001	
							(-0.721)		(-0.156)	
% Outside directors							0.000		0.002	
							(0.028)		(0.109)	
% Directors older than 72							-0.006		0.002	
							(-0.375)		(0.096)	
Director non-attendance							0.003		0.000	
							(0.060)		(0.004)	
Busy board (dummy)							-0.000		0.000	
							(-0.005)		(0.065)	
% Directors with experience							0.002		-0.005	
							(0.328)		(-0.566)	
Year and industry dummies	No		No		No		No		Yes	
Observations	385		385		385		348		348	
R-square	0.010		0.031		0.059		0.074		0.123	

Table 10: Cumulative abnormal returns around outside director deaths

The table reports the mean and median cumulative abnormal returns (CARs) for the sample of 229 outside director deaths as well as the sub-samples of announcements of outside director deaths with and without industry experience. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from *t* = -220 to *t* = -21. The CARs are calculated over a two-day event window from *t* = -3 to *t* = 3. The table reports *t*-values based on a standard parametric *t*-test and a non-parametric Wilcoxon signed-rank test. The test for differences in means and medians in the last row of the table are based on a standard *t*-test and a Wilcoxon signed-rank test, respectively. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	N	Mean CAR	Median CAR	*t*-value	*z*-value
All Outside director deaths	229	-0.3329%	-0.0850%	-0.87	-0.65
Subsamples					
Outside directors with experience	155	-1.0675%	-0.7613%	-2.34**	-1.94*
Outside director without experience	74	1.2059%	1.0670%	1.78*	1.66*
Difference between experienced and non-experienced outside directors		-2.2734%	-1.8283%	2.81***	2.45**

Table 11: Cross-sectional OLS regressions of CARs around outside director deaths on experience variable
The table reports results from cross-sectional OLS regressions of the CARs on a dummy variable whether the deceased outside director has industry experience. Column 2 additionally includes a set of director control variables, Column 3 director and firm controls, and Columns 4 and 5 director and firm controls as well as one firm level corporate governance variable, whether the CEO is also chairman of the board. Column 5 also includes year and industry dummy variables (not reported for space reasons). The industry dummy variables are based on the Fama-French 12 industry classification. The CARs are calculated as the realized return minus the expected return as estimated by a market model estimated over a 200-day estimation window from t = -220 to t = -21. The CARs are calculated over a seven-day event window from t = -3 to t = 3. Definitions and data sources of all variables are provided in the appendix. The t-values are based on White (1980) heteroskedasticity-robust standard errors and are reported in parentheses. ***, **, * denotes statistical significance at the 1%, 5%, 10% level.

	(1)		(2)		(3)		(4)		(5)	
Constant	0.012	*	-0.190		-0.164		-0.163		-0.162	
	(1.784)		(-1.267)		(-0.920)		(-0.908)		(-0.889)	
Industry exp. (dummy)	-0.023	***	-0.021	**	-0.021	**	-0.021	**	-0.024	**
	(-2.786)		(-2.399)		(-2.416)		(-2.417)		(-2.145)	
Age			0.006		0.006		0.006		0.005	
			(1.287)		(1.127)		(1.120)		(0.966)	
Age squared			-0.000		-0.000		-0.000		-0.000	
			(-1.202)		(-1.059)		(-1.051)		(-0.887)	
# Add. directorships			-0.002		-0.003		-0.003		-0.002	
			(-1.595)		(-1.404)		(-1.401)		(-1.002)	
Male (dummy)			0.000		-0.000		-0.000		-0.000	
			(0.289)		(-0.176)		(-0.183)		(-0.274)	
CEO (dummy)			-0.006		-0.003		-0.002		0.004	
			(-0.374)		(-0.162)		(-0.142)		(0.228)	
Independent (dummy)			-0.000		-0.002		-0.002		-0.005	
			(-0.047)		(-0.206)		(-0.190)		(-0.517)	
Ln(Total assets)					-0.004		-0.004		-0.004	
					(-1.263)		(-1.279)		(-1.266)	
ROA					-0.003		-0.003		-0.005	
					(-0.061)		(-0.064)		(-0.097)	
R&D / sales					-0.001		-0.001		-0.002	
					(-0.259)		(-0.268)		(-0.844)	
Market-to-book					-0.000		-0.000		-0.000	
					(-1.337)		(-1.356)		(-1.162)	
CEO-Chair (dummy)							-0.001		0.003	
							(-0.126)		(0.383)	
Year and industry dummies	No		No		No		No		Yes	
Observations	229		225		218		218		218	
R-square	0.034		0.050		0.059		0.059		0.147	

Appendix: Variable definitions

Panel A: Industry experience

	Definition	Source
Industry exp.(dummy)	Dummy equal to 1 if the appointed director has work experience in the same FF12 industry, 0 otherwise	BoardEx/Lexis-Nexis/Factiva
Exp. employee (dummy)	Dummy equal to 1 if the appointed director has work experience as an employee/executive without board membership in the same FF12 industry, 0 otherwise	BoardEx/Lexis-Nexis/Factiva
Exp. inside director (dummy)	Dummy equal to 1 if the appointed director has work experience as an employee/executive with additional board membership in the same FF12 industry, 0 otherwise	BoardEx/Lexis-Nexis/Factiva
Exp. outs. director (dummy)	Dummy equal to 1 if the appointed director has work experience as outside board member in the same FF12 industry, 0 otherwise	BoardEx/Lexis-Nexis/Factiva
Industry exp.(days)	Natural logarithm of one plus the days of total industry experience in the same FF12 industry of the newly appointed director; adjusted for double counting	BoardEx/Lexis-Nexis/Factiva
Exp. employee (days)	Natural logarithm of one plus the days of industry experience as an employee/executive without a board membership in the same FF12 industry; adjusted for double counting	BoardEx/Lexis-Nexis/Factiva
Exp. inside director (days)	Natural logarithm of one plus the days of industry experience as an employee/executive with additional board membership in the same FF12 industry; adjusted for double counting	BoardEx/Lexis-Nexis/Factiva
Exp. outs. director (days)	Natural logarithm of one plus the days of industry experience as outside board member in the same FF12 industry; adjusted for double counting	BoardEx/Lexis-Nexis/Factiva
Industry exp. (FF12/FF48)	Measure of industry experience which is equal to 1 if the appointed director has work experience in the same FF12 industry, equal to 2 if she has work experience in the same FF48 industry, 0 otherwise	BoardEx/Lexis-Nexis/Factiva

Panel B: Director-specific controls

	Definition	Source
Age	Age of the appointed director	BoardEx/RiskMetrics
Age squared	Age of the appointed director squared	BoardEx/RiskMetrics
# Add. directorships	The number of other current directorships hold by the appointed director	BoardEx/RiskMetrics
Male (dummy)	Dummy equal to 1 if appointed director is male, 0 otherwise	BoardEx/RiskMetrics
CEO (dummy)	Dummy equal to 1 if appointed director is CEO of another company at the time of the appointment, 0 otherwise	BoardEx/Proxy filings
Independent (dummy)	Dummy equal to 1 if the newly appointed director is independent (and not gray), 0 otherwise	RiskMetrics/Proxy filings

Panel C: Firm-specific controls

	Definition	Source
Ln(Total assets)	Natural logarithm of total assets	COMPUSTAT
ROA	Net income / total assets	COMPUSTAT
Market-to-book	Market value equity / book value equity	CRSP/COMPUSTAT
R&D / sales	R&D expenses / total sales	COMPUSTAT
E-Index	Entrenchment index as proposed by Bebchuk, Cohen, and Ferrell (2009)	RiskMetrics
Institutional own.	Percentage ownership of blockholders with >5% ownership	CDA Spectrum
Ln(Board size)	Natural logarithm of board size	RiskMetrics
CEO-Chair (dummy)	Dummy equal to 1 if the CEO is also chairman of the board, 0 otherwise	RiskMetrics
CEO in nom. com. (dummy)	Dummy equal to 1 if the CEO is a member of the nominating committee, 0 otherwise	RiskMetrics
% Outside directors	The percentage of outside directors on the board	RiskMetrics
% Dir. older than 72	The percentage of directors on the board who are older than 72 years	RiskMetrics

Director non-attendance	The percentage of directors on the board attending less than 75% of the board meetings	RiskMetrics
Busy board (dummy)	Dummy equal to 1 if the majority of board members holds more than 3 other directorships, 0 otherwise	RiskMetrics
% Directors with experience	The percentage of directors on the board with work experience in the same FF12 industry	BoardEx/Lexis-Nexis/Factiva