The Value of CEOs' Industry Expertise - Evidence from Mergers & Acquisitions*

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Abstract: We quantify the value of CEO industry-specific experience by using diversifying mergers and acquisitions announcements. In general, we find that industry experienced CEOs add value for their shareholders. The abnormal return is between 1.0% and 1.3% higher when the acquirer's CEO has top management experience in the target's industry. Analyzing potential mechanisms, we provide evidence that CEOs with industry experience in the target's industry negotiate better terms and that this experience is particularly valuable in environments of high informational asymmetries (1.6% - 2.9%). The results also suggest that certain skills of CEOs are neither completely general nor firm-specific but rather specific to an industry.

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1 Introduction

We study the industry-specific human capital of chief executives in the context of mergers and acquisitions. There is mounting evidence that CEOs matter for corporate performance. However, little is known as to which personal characteristics and skills are relevant and how valuable they are. In the course of their career, most CEOs work in different roles and sectors. While there is substantial literature in labor economics on the industry-specific human capital of workers, not much is known about the industry-specific human capital of CEOs.[1] Recently, a number of papers have addressed the rise on importance of general skills of CEOs.[2] We study whether industry experience of CEOs impacts the performance of mergers and acquisitions. When buying a company, CEOs with relevant industry experience might be better at selecting targets, in negotiating with the target's management or in integrating and running the two companies. This paper examines whether industry experience of the acquiring firm's CEO can partly explain the cross-sectional variation in the returns to the shareholders and quantifies the value of industry experience in the context of diversifying mergers and acquisitions.

We construct a new and unique CEO-firm matched panel that allows us to track the full employment history of a sample of US firms' CEOs. In particular, we observe whether

[1] Neal (1995) finds that workers receive compensation for some skills that are neither completely general nor firm-specific but rather specific to their industry or line of work.

[2] Frydman (2007) documents that modern-day executives have work experience in different sectors and that firms hire increasingly from outside their industry. Lazear (2002,2004) and Murphy and Zabojnik (2006) report that the educational and professional background of CEOs has become more general and less specialized. They define general skills as generic management skills that can easily be transfered across firms (and industries).

the CEO of the acquiring company has prior work experience in the target's industry. The final sample consists of 4,844 deals over 1990 - 2007. Conducting a short-run event study of acquisition announcements, we find that the stock market reacts more favorably to diversifying mergers when the acquirer's CEO has work experience in the target's industry. After controlling for firm and deal characteristics and time and industry fixed effects, we find 3-days abnormal announcement returns to the acquirer to be higher (1.3%) for CEOs with top management experience in the target's industry. Given an average abnormal return of (0.5%) for diversifying acquisitions and an average market value of about US$m 8,000, the effect is large in relative as well as in absolute dollar terms. Analyzing potential channels, we provide evidence that experienced CEO negotiate better terms.

One key concern is that target industry experience is correlated with more generic managerial skills or other unobserved characteristics. However, we are able to observe within-CEO variation, i.e. some CEOs acquire multiple firms, some in industries in which they have work experience, and others not. Including manager fixed effects helps us to identify the causal effect of industry experience on acquisition performance. Indeed, the fixed effects control for unobserved but fixed heterogeneity across CEOs such as generic managerial skills, specific talent for performing acquisitions, etc. The effect of experience is statistically significant and higher (3.1%) for top management experience. In order to identify CEO fixed effects, we run this fixed effects regression only for a subsample of CEOs who are doing both diversifying acquisitions with and without experience in the target industry. In the full sample, we can proxy generic managerial skills by controlling for general industry experience (i.e. experience in other industries, not necessarily in the target industry). Including this proxy to our full sample shows that our results are not

driven by generic skills: while the effect of transferable general experience is literally zero, the effect of experience in the target industry is significant and slightly higher than in our baseline analysis (1.6%).

Next, we compare the size of the effects across different types of deals and targets as we expect them to depend on the relative importance of experience. Moreover, it allows us to shed some light on the mechanisms through which industry experience operates. We first compare public and private targets. Private companies have to disclose less information, and information asymmetries are arguably higher between these companies and potential buyers. If experience is valuable we expect it to be relatively more valuable in environments of high informational asymmetries. Our findings support this hypothesis. Experienced CEOs are able to generate between 2.1% and 2.9% abnormal returns compared to non experienced managers if the target is a private company.

Second, by analyzing managerial discretion we investigate heterogeneous effects across targets' industries.[3] Experience should be more valuable in industries where firm performance is likely to be more dependent on CEO skills and decisions. We therefore, expect industry experience to be more valuable when the target is in an industry with high managerial discretion. Using different managerial discretion proxies, we find that abnormal returns are between 1.6% and 2.5% higher when the acquiring CEO is experienced and the target is from a high discretion industry. This supports the view that the return to experience is higher when experience is expected to be more important. For the subsample of publicly listed targets, we are able to analyze combined abnormal returns. We calculate the market-cap weighted average of the abnormal returns to acquirer and target

[3]Managerial discretion is understood as how much influence executives have on organizational outcomes.

as a proxy for the value that is created or destroyed by the deal. We do not find evidence that experienced CEOs create more value in terms of combined view. The effects of experience on the combined abnormal returns is actually negative, though not statistically different from zero. The abnormal returns to the acquirer in public target deals, on the contrary, are positive and significant, confirming our previous results. Together, these findings suggest that experienced CEOs do better when bargaining with the target which might be due to smaller informational asymmetries.

Most, if not all, studies of the effect of CEOs on corporate decisions suffer from endogeneity concerns. CEOs and companies are not matched randomly but CEOs are chosen by the board of directors. Indeed, the industry experience of CEOs might be a criterion for the appointment of a particular CEO. In the case of acquisitions, one concern is that a firm with acquisitions opportunities in a given industry might hire a CEO with expertise on that industry. In that case, the observed abnormal return might purely originate from the firm's opportunities and the effect of the CEO's industry experience might be spurious. Hence, endogenous matching could potentially explain our results or at least bias the findings. However, we provide several pieces of evidence that it is actually the CEO with experience in the target industry who generates the abnormal returns: First, as already discussed, experienced CEOs strike better deals but do not create more value.

Second, experience seems to matter more where it is more valuable (high vs. low discretion, public vs. private target) which is in line with the CEO hypothesis but cannot easily supported by selection.

Third, under the selection hypothesis one would expect the transaction to occur shortly following the CEO appointment.[4] However, we do not find that the likelihood of doing

[4]There is evidence that timing of an acquisition is important: Shleifer and Vishny (2003) build a

an acquisitions with a CEO who has experience in the target industry is higher for more recently hired CEOs. We also find no evidence that recently hired CEOs outperform CEOs that have been in a company for longer.

Fourth, we exploit the fact that mergers occur in waves clustered by industry. We use merger waves as quasi-exogenous events triggering acquisitions. The underlying assumption is that the occurrence of a wave is unexpected by the company and therefore, the appointment of the CEO is assumed to be exogenous to the merger.[5] The effect of industry experience is positive and higher for acquisitions within a merger wave compared to acquisitions outside a wave, providing further evidence that it is not selection that drives our results.

The contributions of this paper are twofold. First, we contribute to research on mergers and acquisitions. Andrade, Mitchell, and Stafford (2001) find that shareholders of the target are the clear winners of a merger.[6] The evidence on value creation for shareholders of the acquiring company is not so clear cut: While some studies find that shareholders break even, most find slightly negative abnormal returns.[7] A large number of studies relates abnormal returns of acquirer and target to firm and deal characteristics. Except for Malmendier and Tate (2008) and Yim (2009), little research has been done on whether the management of acquiring firms affects the performance of M&As. Malmendier and

theory of market timing; Moreover, the investor sentiment might be important or the preemption of potential competitors

[5]We exclude merger waves that are due to deregulation as they are likely to be expected by companies.

[6]They report 16.0% abnormal return within three days around the merger confirming earlier summary papers (e.g. Jensen and Ruback (1983) or Jarrell, Brickley and Netter (1988)).

[7]Andrade, Mitchell, and Stafford report an average three-day abnormal return of -0.7% which is not statistically significant.

Tate document that overconfident CEOs undergo more acquisitions and that they perform worse on average. Yim shows that young CEOs are more likely to announce acquisitions and perform worse. This might be due to lower quality of the acquisitions, also reflected in a lower likelihood of closing the deals. We contribute to this area by showing that industry experience of CEOs matters for the performance of acquisitions. Moreover, we analyze the mechanism that allows experienced managers to perform better: We show that experience is more valuable when it is likely to matter more, i.e. when informational assymetries are high and that experienced CEOs potentially negotiate better terms when bargaining with the target. Our results might also provide a different explanation for Yim's findings as on average young CEOs are less experienced than older ones.

Second, the paper adds to the literature whether, and how much CEOs matter for corporate performance (e.g. Bertrand and Schoar (2003), Adams, Almeida, and Ferreira (2005), Bennedsen, Perez-Gonzalez, and Wolfenzon (2007), Malmendier and Tate (2008), and Graham et al. (2009)). However, with the exception of Bertrand and Schoar who look at MBA graduates and Malmendier and Tate who analyze decisions of overconfident CEOs, none of these studies tries to specify what characteristics of CEOs matter and how those affect corporate decisions.

Xuan (2009) also analyzes CEOs' work experience. He shows how the career paths of CEOs inside a company matter for internal capital allocation across divisions. We complement these papers by showing that CEOs' work experience is beneficial for some corporate decisions. This reinforces the view that the CEO dimension greatly matters for corporate performance. Moreover, we identify the effect of one particular characteristic, namely industry experience.

We also contribute to the current debate on whether CEO jobs place an increasing emphasis on general rather than specialized skills. Analyzing the largest publicly traded firms in the USA over the last century, Frydman (2007) and Lazear (2002, 2004) documents an increase of MBA graduates and higher occupational mobility of executives which Frydman interprets as evidence for the rise in the importance of general management skills. Murphy and Zabojnik (2006) also show that the fraction of MBA graduates among CEOs has increased during the last decades. While our finding are not directly contradicting their results, they suggest a more complex view on the structure of managerial skills. In particular, CEOs gain experience during their career that is specific to a certain sector and not transferable across industries. This has important implications for the understanding of executive compensation or the hiring process of CEOs for instance.

Our paper is closest related to Cremers and Grinstein (2009). Analyzing CEO replacements, they document that managerial talent pools are quite industry-specific and often even firm-specific, and that they impact compensation structure. Our paper is different in at least two dimensions. First, while Cremers and Grinstein look only at the last position of a new CEO, we consider the full employment history of CEOs. This is crucial as it accounts for the fact that executives have worked in different companies and industries prior their appointment. For instance, CEOs in our sample have worked for 2.6 different companies, in more than 1.6 different industries in a top-management position on average.[8] Secondly, while Cremers and Grinstein provide only indirect evidence that industry-specific human capital of CEOs matters by looking at revealed appointment decisions, we show directly how industry experience affects firm performance.

[8] Considering all positions, CEOs worked for more than 6 companies in more than 3 different industries.

The paper proceeds as follows. Section 2 describes the dataset and presents descriptive statistics. Section 3 shows the baseline results of our regression analysis. In section 4 we analyze heterogeneous effects and investigate potential mechanisms. Alternative specifications and robustness checks are analyzed in section 5. Section 6 concludes.

2 Data Description

2.1 CEO-firm matched panel

We construct a manager-firm matched panel that allows us to observe a CEO's full employment history. Our initial sample is the COMPUSTAT ExecuComp file. The Executive Compensation database contains over 2,500 companies. The universe of firms covers the S&P 1,500, including companies that were once part of the 1,500 and companies removed from the index that are still trading from 1992 onwards. For each firm-year, ExecuComp reports the identity of up to 9 executives and their positions, allowing us to identify the current CEO. As ExecuComp keeps track of only S&P 1,500 companies, we supplement the data with information from the BoardEx database. This database collects information on job-history (including company roles and positions), date of birth, and other activities of top executives and non-executives in the US and Europe which allows us to track the work experience of CEOs.

We merge the two datasets by CEO name, company, position/role and year, and construct a CEO-firm-year panel. Due to different spellings and abbreviations we manually validate the entire panel. To construct measures of experience we are interested in characteristics of previous positions of the CEOs. These characteristics include the firm's industry, the

CEO role, and the exact period of each position. To identify the firms' industries, we match the list of CEOs' past companies with different data sources with information on their lines of business. We obtain information on quoted firms from COMPUSTAT and information on private firms from ICARUS.[9]

2.2 Mergers panel

The M&A data comes from the Thomson Financial SDC Platinum database. The initial sample contains all completed mergers and acquisitions in the US stock market over 1990 - 2008. To be included in our final sample, a deal has to meet the following criteria:

- (**Shares Acquired**) We only include transactions in which the control is transferred, i.e. a) the share of the acquiror in the target firm has to be below 50% before and above 50% after the transaction (Item PHDA and A_POSTMERGE-_OWN_PCT). b) alternatively, the acquirer has to buy 50% of the shares outstanding during the merger process (Item PC TOWN).

- (**Absolute Transactions Size**) Following Harford (2005) the transaction value of the merger has to be at least US$50M (Item VAL).

- (**Region**) The acquiror and the target firm are both US corporations and the acquiror is listed on the US stock exchanges. We exclude international (Item MATYPE

[9]Sometimes company names are spelled differently in the datasets or the company in the BoardEx database refers to a subsidiary or a financial shell of the company. A simple example is 'Microsoft Corp' and 'Microsoft Inc'. Therefore, we 1) use a string-search matching algorithm, and 2) manually verify every single match. Companies that we could not match by this routine are manually researched using COMPUSTAT, ICARUS, and online data resources (mainly www.manta.com and www.alacra.com).

IMA) and overseas mergers(Item MATYPE OMA).

- (**Price And Accounting Data**) The stock price and accounting data must be available in CRSP (Center for research in security prices) and in COMPUSTAT in the year before the merger.

We supplement the data with financial items from the COMPUSTAT database.[10] We classify a merger to be diversifying (dummy 0-1) if acquiror and target differ in their Fama-French 12-Industries (FF12) classification. Using this broad classification ensures that industries of diversifying mergers are unrelated. Following Masulis, Wang, and Xie (2007), a transaction is defined to be a "stock deal" (dummy 0-1) if the acquiror pays a positive fraction of the transaction value with its stocks; if the transaction is 100% paid with cash we set the "all cash" dummy equal to 1. Public target, private target and subsidiary target are dummies that classify the public status of the target company. In order to include an intercept we choose subsidiary targets as our base category in the regression analysis. We measure the relative size of acquiror and target as the ratio of the deal value to the market capitalization of the acquiror.[11] Finally, we measure the age (in years) of the CEO at the announcement of the merger and her tenure in the current company (in years).

The key explaining variable in our study is industry-specific experience. We are interested in the impact of CEOs' industry-specific experience on the performance of diversifying mergers and acquisitions. We define a measure of industry experience as follows: for a given deal and a given target's industry we consider a manager as having experience in the target's industry if he worked in the same Fama-French-12 industry before joining the

[10] See data appendix for the definition of all variables.

[11] A large fraction of the targets is private and data on market value are not available.

acquiring firm. This measure includes all roles and positions. We set a dummy variable equal to 1 if the CEO has worked in at least one company in that industry. We refine this measure by defining a measure of top level experience that is equal to 1 if the CEO worked in at least one company in the target's industry as a top manager. Top manager positions/roles include CEO, CFO, COO, Chairman, President, Division CEO, Division CFO, Division Chairman, Division COO, Division President, Head of Division, Regional CEO, Regional CFO, Regional President. We expect top experience to matter more, as non-top level experience might also include positions that are unrelated with a firm's business line (e.g. being a web programmer in the automotive industry) or positions that do not allow to obtain industry specific skills and/or knowledge.

We use the market model as the return-generating process to estimate cumulative abnormal returns CAR. We estimate the Fama-French 3-factor model over a 255 day estimation window ending 21 days prior to the announcement date, using the CRSP value-weighted index as our market proxy. In most specifications we report the CARs to the acquiring firm's stock over a symmetric three-day window around the announcements. Moreover, we also analyze a longer event windows (eleven-days) considering potential information leakage.

2.3 Descriptive Statistics

After combining the CEO-company panel with the deal sample we obtain a final data sample of 4,844 mergers between 1990 and 2007. The mergers and acquisitions are conducted by 1,854 different CEOs. As we see in table 1 the average number of deals per CEO is 2.61, with a median of 2. This means that we observe most CEOs doing multi-

ple acquisitions. The key variables in our analysis are different measures of experience. An average CEO has worked in 6.60 companies. Including only top level experience an average CEO had 2.61 different CEO had top positions in companies before joining the acquiring company. Analyzing the industry experience of CEOs, we find that on average a CEO worked in 3.15 different industries (using the Fama-French 12 classification) while he was in only 1.67 different industries at top level positions. On average a CEO is 62 years old (as of today) and male (more than 98%).

Table 2 shows some descriptive deal statistics. Panel A presents the allocation of deals across time and type (diversifying vs. non-diversifying). The fraction of non-diversifying and diversifying mergers remains quite stable over the years (about 75% non-diversifying and 25% diversifying). Panel B presents summary statistics on the deal specific characteristics. In most cases the relative size of the target is smaller than 9% of the acquiror's size measured as market capitalization (about 24% on average). The types of the targets are public, private, and subsidiaries with about equal proportion. About 40% of the bids are considered to be stock deals, i.e. payments where some equity was used to pay of the target. About one third (30%) of the deals were exclusively paid in cash. Panel C identifies the fraction of diversifying mergers where the CEO had experience in the target's industry. About 35% of the CEOs worked in the industry of the target before joining the acquiring company. Only considering top level positions the fraction of experienced CEOs reduces to 16.5%.

Table 3 presents means and medians for corporate financial information. Panel A shows the corporate financial variables of the acquiror. The last two columns present

equivalent summary statistics for the whole COMPUSTAT universe between 1990 and 2005 for comparison. As our initial sample (ExecuComp) covers only the biggest 1,500 US firms, the acquiring firms in our sample are indeed much larger in terms of book value of assets and market capitalization (12,560 and 7,147 on average) than the average or median COMPUSTAT company (1,303 and 1,376).[12] Cash and debt ratios are similar for acquiring firms and the full COMPUSTAT sample. On average, the acquiror's cash flow profitability is about 50% higher than the average COMPUSTAT cash flow profitability (0.35 compared to 0.26). The acquirer has a higher Tobin's q (2.48 compared to 2.11) than the COMPUSTAT average and therefore more valuable growth opportunities. Panel B presents the merger activity of the firms in our sample in the period between 1990 and 2007. More than half of the firms bought 2 or more companies (with an average of 3.37 deals per company).

Table 4 compares key variables across different subsamples. In columns (2)-(6) the sample is split between non-diversifying and diversifying acquisitions, while columns (7)-(11) present diversifying acquisitions with and without top-level experience of the CEO in the target's industry. The averages of most variables are statistically different for diversifying and non-diversifying transactions. Exceptions are leverage, free cash flow, relative deal size and tenure of the CEO. Analyzing diversifying acquisitions with and without top-level experience shows that experienced CEOs perform better on average (0.012 vs 0.004) though the CARs are only weakly statistically different from each other (at 10% level). Most of the control variables are not statistically distinguishable for the two groups. Exceptions are the performance measure, stock payment, the relative deal

[12]Both measures are in Mio. US$.

size and the tenure of the CEO. Acquirers of CEOs that are experienced in the target's industry tend to have a lower profitability (0.291 vs. 0.359). They tend to use more stockpayment (36.9% vs. 29.2%) and the targets are relatively larger (33.1% vs. 19.0%). In addition, the CEOs' tenure on the current position is shorter (5.85 years vs. 14.84 years).

2.4 Empirical Methodology and Variable Construction

We propose to estimate the following regression equation:

$$CAR_{ijm} = \alpha_1 + \alpha_2 ExpTA_i * div_m + \alpha_3 div_m + \alpha_4 X_m + \alpha_5 Y_j + \alpha_6 Z_i + \varepsilon_{ijm}, \qquad (1)$$

CAR_{ijm} stands for the cumulative abnormal returns of merger m conducted by CEO i while working for company j. The dummy div is equal to 1 if the transaction is diversifying and $ExpTA$ is the measure of experience in the target's industry defined above. Note that by definition, $ExpTa$ is only defined for diversifying mergers. Therefore, we only include $ExpTa$ for diversifying mergers in our regression equation, i.e. we interact it with the dummy for diversifying acquisitions. The variables X,Y,Z are deal, company, and CEO related controls respectively, that have been used in cross sectional merger analyses.

The set of controls X includes the relative size of acquiror and target, the method of payment, and the type of the target. Firm specific characteristics Y control for the size of the acquiror, Tobin's Q, free cash flow, leverage, and profitability. As experience will be correlated with age, we also control, as suggested by the empirical literature on wages, for age and age squared as well as for tenure and tenure squared in the set of variables Z. Harford (2005) shows that mergers occur in waves and are clustered within industries. Therefore, we include year, industry and year-industry dummies in all of our specifica-

tions. Finally, we account for cross-sectional correlation of stock returns by allowing for clustering at the level of the announcement date.

The coefficient of interest is the interaction term between diversifying mergers and experience. If industry-specific skills in the target's industry are beneficial for diversifying mergers, we expect the coefficient to be positive.

3 Results - Do experienced CEOs perform better?

3.1 Baseline results

Column (1) of table 5 estimates the model including only year-industry dummies as controls. Having a CEO who has worked in the target's industry in a top management position leads to 1.1% higher abnormal returns on average compared to a CEO not experienced in the target's industry. The coefficient of the experience-diversifying interacted term is significant at a 10% level. The coefficient on diversifying is not distinguishable from zero. In specification (2) we repeat this exercise by including further controls. The effect of experience is slightly higher (1.3%) and significant at a 5% level. The controls in the cross-sectional analysis have the expected signs but most of them are not significantly different from zero (confirming earlier studies). The three consistently significant controls are the type of payment, size, leverage and having a publicly listed target. Paying with equity and being big are, on average, viewed less favourably by the market. These results are consistent with previous empirical studies.[13]

[13]Shleifer and Vishny (2003) build a model where overvalued bidders lock in real assets which is empirically tested by Ang and Chen (2006). Moeller, Schlingemann and Stulz (2005) find that small companies outperform large ones in mergers.

3.2 Unobserved CEO characteristics

As the treatment, i.e. experience in a specific industry, is not randomly assigned, the concern is that selection biases our results. The observed performance difference between acquisitions of CEOs with and without experience can be decomposed into the "average treatment effect on the treated" plus the "selection bias". In our concrete case, industry-specific experience may be merely a proxy for more generic managerial skills or other unobserved characteristics that are driving our results. However, our setup allows us to observe within-CEO variation, i.e. some CEOs undergo multiple acquisitions, some with and some without industry experience. Therefore, we can include manager fixed effects controlling for fixed unobserved heterogeneity across CEOs like generic managerial skills, talent for performing acquisitions or structuring deals. Moreover, we also proxy for inter-industry experience in our analysis controlling directly for generic management skills.

In order to absorb unobserved CEO characteristics that might be correlated with experience we estimate a model where CEO-specific affects fe_i measure unobserved CEO heterogeneity:

$$CAR_{ijm} = \alpha_1 + \alpha_2 ExpTA_i * div_m + \alpha_3 div_m + \alpha_4 X_m + \alpha_5 Y_j + \alpha_6 Z_i + fe_i + \varepsilon_{ijm}, \quad (2)$$

Note that the CEO related variables in Z, namely age at the day of the announcement and tenure inside the current firm, are time-varying and therefore not dropped in this estimation. We restrict our sample to CEOs who conducted at least two diversifying acquisitions. Further we require that the CEOs are experienced in one of the acquisitions and she does not have experience on the other one. Applying these filters leads to a sample

of 470 acquisitions conducted by 213 different CEOs. Table 6 presents the results of our regression analysis. The effect of having top-level experience is much higher (3.1%) and significant at a 5% level. The results provide further confidence in a causal interpretation of our findings as they support the view that the results are not driven by unobserved CEO characterstics like generic management skills or talent for performing acquisitions that are corellated with industry-specific experience.

3.3 General skills (industries)

We can not include CEO fixed effects to our analysis of the full sample, we can, however, control for general managerial experience. The positive effects of experience in the target's industry may merely be capturing the effect of having work experience in any different industry on general management experience. Being experienced in the target's industry in a diversifying merger necessarily means that the CEO has worked in at least two different industries (including the current one). It might be possible that managers who have worked in different industries are simply better at diversifying acquisitions. Skills needed for successfully diversifying might be more general, i.e. more related to general cross-industry skills and not necessarily directly related to the industry of the target. In order to discriminate between the benefits of experience related to the target's industry and general experience in different industries, we estimate two alternative models: First, we analyze whether *experience in any other industry* has a similar positive impact on abnormal returns for acquiring shareholders. In a second step we include *experience in any other industry* in our original regression (see equation 2) as further control and check whether the expected effects of the *experience in target's industry* variable are still present. Table 7 presents the results. Column (1) shows the sole effect of having top-level experience in any

other industries (not necessarily in the target's industry) when performing a diversifying merger. The effect is small in absolute terms and it is statistically not distinguishable from zero. This means that work experience in different industries that are unrelated to the target industry cannot explain superior abnormal returns. In specification (2) we add the variable top experience in the target's industry as further controls. The effect of having experience in the target's industry on the acquisition performance is still large and consistent with the previous results. The average abnormal return of a CEO having experience in the target's industry compared to a CEO who is generally experienced in different industries is 1.6%. The effect is significant at a 5% level. Overall, these results suggest that it is experience in the particular industry of the target that matters for the performance and not more general cross-industry experience.

3.4 General skills (companies)

An experienced manager is defined as a manager who has worked in the target's industry in the past. This implies that all experienced managers have work experience in at least two different companies. Therefore, one could argue that it is not industry-specific experience that is driving abnormal returns but more general managerial experience. To address this issue we run additional tests. First, we define an experienced manager as someone who has worked in a different company in the past (irrespective of the industry), considering all kinds of positions. Then, we run the models with our main variable of interest: experience in the target's industry controlling for experience in any other company as well.

Table 7 shows these results. Column (3) presents the results of the model using experience in any other company, irrespective of the industry. We find no evidence that working for other companies in the past helps to generate abnormal returns for the ac-

quirer. Column (4) shows the results for top experience in the target's industry as a control. Similarly to our main specification, industry experience increases cumulative abnormal returns around the merger announcement by approximately 1.3%. The coefficients are precisely estimated (at a 5% level) and are similar to the effects of controlling for general industry experience.

4 Heterogenous Effects - Potential Channels

By exploring heterogeneous effects in our results, we aim, on hand hand, to shed some light on the channels that allow experienced CEOs to perform better in diversifying mergers and, on the other hand, to strengthen our confidence that it is not selection that is driving the results.[14] Experience might matter at different stages of an acquisition process: When selecting targets, implementing the deal or integrating and running the companies. We also expect the return to experience to depend on the relative importance of experience. In the following sections, we show that experience is particularly valuable in environments of high informational asymmetry or of high managerial discretion. Moreover, we provide evidence that experienced CEOs do not create a higher surplus. We then discuss our findings relating to theory. We interpret these results as weak evidence in favor of the hypothesis that experienced CEOs are able to negotiate better terms when bargaining with the target due to lower informational asymmetries.

4.1 Public Status

One source for information asymmetries is the public status of the target. We differentiate between three different types of targets: publicly listed companies, private companies, and

[14] See section 5 for a detailed discussion on selection.

subsidiaries. Private companies have to disclose less information, and information asymmetries are arguably higher between these companies and potential buyers. If industry-specific experience is valuable, we expect experience to be relatively more important in environments of high informational asymmetries. This is supported by our findings in table 8. Column (1) shows that experienced CEOs are able to generate 2.9% abnormal returns compared to non-experienced managers if the target is a private company. The effects of experience are positve but smaller and statistically not different from zero for public and subsidiary targets, suggesting that the advantage of experience is smaller (or even not existent) when information is easily accessable and available.

4.2 Managerial Discretion

Next, we are interested in whether we find heterogeneous results among industries. Having experience in the target's industry should matter more in industries where managerial discretion is high. Following Adams, Almeida and Ferreira (2005), we use an industry index of managerial discretion developed by Hambrick and Abrahamson (1995) aimed to measure how much influence executives have on organizational outcomes.[15] For instance, according to the index, computers are considered to be an industry of high managerial discretion while natural gas distribution is classified as a low managerial discretion industry. The index classifies the 17 industries at the 4-digit SIC code level. However,

[15]This index relies on the theoretical formulation of Hambrick and Finkelstein (1987) who specify seven industry-level factors that determine managerial discretion: product differentiability, market growth, industry structure, demand instability, quasi-legal constraints, powerful outside forces and capital intensity. Hambrick and Abrahamson (1995) index corresponds to a panel rating of managerial discretion by academics for 17 industries. Then, they examine the association between this rating and the determinants of discretion proposed by Hambrick and Finkelstein (1987) and conclude for the validity of the index.

in order to minimize missing values for firms which SIC codes are not covered by this rating, we average the discretion score at Fama-French-12 level, in the same way as in Adams et al. (2005). Then we classify the industry of the target according to this index when available. We obtain a discretion score for about 70% of our observations. We then split the sample along the median value of the discretion index in our sample. Column (2) of table 8 presents results for the high-discretion industry and low-discretion industry group. For high-discretion targets the coefficient of managerial industry experience on the performance is 2.0%. The effect of having experience in the target's industry is not distinguishable from zero if the target is from a low-discretion industry. The results suggest that CEOs are important in industries where experience is more valuable. On the other hand, if CEO skills are not a significant determinant of firm performance, then the lack of industry-specifc skills do not hurt the performance of the acquisition.

As an alternative measure for managerial discretion we use the distribution of managers' fixed effects of a firm performance regression as explained in detail in Metzger (2009): Employing the full BoardEx sample of CEOs of COMPUSTAT companies between 1980 and 2007 we construct a firm-CEO-year panel. We then run a similar regression as Bertrand and Schoar (2003), namely regressing return on assets on company size and year dummies, including firm and CEO fixed effects. We can only identify the fixed effects for managers who we observe in at least two different companies; we keep the fixed effects and their standard errors. We then restrict our sample to fixed effects of managers who only worked in one industry as a CEO and calculate the standard deviation of the fixed effects per Fama-French-12 industry.[16] As a robustness check we weight the standard

[16]The restriction is necessary as otherwise we can not allocate the fixed effect to a particular industry if the CEO worked in more than one industry.

deviation by the standard errors of the individual fixed effects giving less weight to less precisely estimated fixed effects. The standard deviation of the CEO fixed effects tells us how different the impact of different CEOs on performance is in a particular industry. We split the industries along the median value of the standard deviations of managers' fixed effects in high and low discretion industries. Column (3) of table 8 reports the results of the regression analysis which largely confirm the results of the previous discretion measure of Hambrick and Abrahamson. The effect of experience is large and positive for high discretion targets. Experienced CEOs are able to generate 1.6% abnormal returns. When the target is coming from a low discretion industry the coefficients are very small and not distinguishable from zero.

4.3 R&D intensive industries and intangibles

We also employ additional proxies for information asymmetries between the target and potential buyers. In columns (4) and (5) of table 8 we split the industries of the target along high vs. low R&D and high vs. low intangibles industries. We calculate the average R&D expenditures and intangibles across industries over the full horizon (1990-2007) of our sample and split the industries along the median in high and low R&D / intangible industries. Confirming the results from our previous analysis (public status of the target and the managerial discretion), experienced CEOs are able to generate large and postive CARs if the target is from an industry with arguable higher informational asymmetries. The effects are about 1.9% and 1.7% for high R&D and high intangibles industry targets; the effects are smaller and not distinguishable from zero for targets from industries with lower informational asymmetries.

4.4 Combined Returns

About one third of the targets in our sample are publicly listed companies. This allows us to analyze the effect of experience on both the acquirers' as well as the targets' returns. We collect prices and data on the market capitalization of the target from CRSP. We obtain the announcement return (CAR) on the combined companies by calculating the market-cap weighted average of the individual announcement returns of acquirer and target. The combined CAR can be interpreted as a measure for the surplus created by the acquisition. We then run similar regressions as before where we regress the CARs of the acquirer, of the target, and of the combined company on the experience of the CEO and further controls. Table 9 presents the results. As we are restricting our sample to public targets only, we first want to ensure that our sample is comparable to the full sample. Column (2) shows that the returns to the acquirer are very similar if the CEO has top-management experience (2.0%). The dummy whether an acquisitions is diversifying or not for the combined company in column (1) is large and negative (-2.2%). This supports the view that diversifying mergers and acquisitions are creating less surplus on average. Interestingly, we do not find evidence that experience CEOs are better in creating surplus. The effect of industry-experience on the combined return is actually negative. However, the coefficient is statistically not distinguishable from zero.

4.5 Discussion

When buying a company, relevant industry experience of a CEO may add value in different ways.

1. **Target's selection:** In the selection process of a potential target, an experienced CEO might have a superior overview on the market environment; for example com-

petitors, customers, and suppliers. Moreover, industry-specific knowledge of the financial statements, being important inputs to the decision making process, might be important.

2. **Negotiation:** When bargaining with the target, experience might be also an important determinant of success. Having access to better information or being an industry expert might help when negotiating with the target. Given that an acquisition is an asymmetric information scenario, where one party has an informational advantage, the informed party's (the target) self-interest is served by deceiving the uninformed party (the acquiror) into believing that the available surplus is smaller than it really is. Moreover, the level of experience might affect the bargaining power of both parties.

3. **Integration:** Experience might be beneficial in the post-deal stage when integrating and running the two companies. This is particularly true if the organizational design and the operations are very specific to each of the industries. The knowledge of both industries might alleviate this complexity and facilitate the coordination of the two organizational designs. Moreover, experience in the target's industry might be beneficial for running the company in case management is partly industry specific.

Hypotheses 1 (selection) and 3 (integration) imply that experienced CEOs generate higher surplus. On the contrary, the implication of hypothesis 2 (bargaining) is that experienced CEOs are able to lock a bigger fraction of the surplus. In general, these effects are not mutually exclusive, i.e. it is possible that experienced CEOs increase the surplus and, at the same time, negotiate better terms. However, by analyzing the combined return to acquirer and target, we do not find evidence that experienced CEOs are better in creating surplus as we do not find a positive effect of experience on the

combined abnormal return. This is suggesting that the positive abnormal returns for the acquirers are created during the bargaining process.

Our results relate to findings by Mantecon (2008) and Eckbo and Langohr (1989) who show that information asymmetries between the target and the market affect the return to bidders' and targets' shareholders. Mantecon argues that information asymmetries lead to less competition, i.e. to a reduced pool of potential buyers, and ultimately, weakens the bargaining power of the target. This is consistent with Bradley, Desai, and Han (1988) who show that competition among bidding firms increases the returns to targets and decreases the returns to acquirers. Eckbo and Langohr (1989) claim that the success from acquisition activity depend on whether the bidder's initial information advantage can be maintained throughout the process, providing some evidence from changes to public disclosure rules in France, that might, by revealing information in the initial offer, stimulate competing bids.

Our results are consistent with these findings. We do not find evidence that experienced CEOs create more surplus, suggesting that the positive returns for the acquirers are created when bargaining with the target. By analyzing heterogeneous effects, we find the effect of having experience to be higher for private targets or for targets from high managerial discretion[17] industries supporting the view that informational asymmetries matter. However, our interpretation heavily relies on the observation that experienced CEOs are not better in creating a higher surplus. A shortfall of our data is that we can only get a proxy for the surplus for one third of our observations (for the public targets) and it is not clear if the findings generalize to all deals. Moreover, our estimate for the effect of experience on the combined return is, though not positive, not very precisely

[17]Prendergast (2002) shows that uncertain environments optimally lead to more delegation.

estimated.

5 Identification Concerns and Robustness Tests

5.1 Selection

While our results are consistent with the hypothesis that industry experience is beneficial while diversifying via acquisition, a key concern is that selection or endogeneity is driving our results.

Selection emerges from the fact that CEOs and companies are not matched randomly but CEOs are chosen by the board of directors. Industry experience of CEOs might be a selection criterion of the board for the appointment of a particular CEO. In the present case, one may be concerned about the following scenario: Given a company has (to us) unobserved opportunities towards a certain industry and therefore, intends to buy a company in that particular industry, the board might hire an industry expert for doing the acquisition. Hence, endogenous matching could potentially explain our results or, at least, bias the findings. The case of a spurious correlation, however, needs strong and, as we argue, unrealistic assumptions about the behavior of a firm. Suppose a company has unobserved opportunities towards a particular industry and it is planning to acquire a certain company from that industry. In addition, it expects an industry experienced CEO to add value and therefore, hires an industry expert from that particular industry. However, effectively industry experience of CEOs do not matter at all for acquisitions and the total observed effect arises only from unobserved opportunities at the company level. In that case, our findings would reflect only a spurious correlation. In what follows we provide several pieces of evidence suggesting that it is not selection that is driving

our results and supporting the view that the positive impact of industry experience on acquisition performance is causal.

5.1.1 Merger Waves

Previous research by Harford (2005) shows that mergers and acquisitions seem to occur in waves, that they cluster within these waves, and that they might be triggered by technical shocks to the economy as a whole or to specific industries. Assuming that these shocks and the need to acquire are less likeley to be foreseen by the board of directors when appointing a new CEO, we build a subsample of mergers where the acquirer comes from an industry that is hit by a merger wave at the date of the announcement. We define an acquisition being part of a merger wave if the announcement date of the merger is between 6 months before and 6 months after the date of a merger wave and the industry of the acquirer corresponds to the affected industry (as identified by Harford (2005)). We further exclude waves that are due to regulation as these waves are likely to be expected by the firms. By applying this definition we identify 677 mergers that are involved in a merger wave. Table 10 presents the results. Experience of the CEOs is positive and significant (at a 10% level) for top-level experience within and outside merger waves supporting the view that it is not selection that is driving our results. Moreover, the effects are stronger within a wave (2.4% vs. 1.1%) suggesting that experience is more valuable in unexpected situations.

5.1.2 Timing of Experienced Acquisitions

If a company is planning to buy a particular company in a certain industry and therefore, hires an experienced CEO to conduct the acquisition, we would expect to observe this announcement shortly after the appointment. We therefore estimate the probability of

making a diversified acquisitions and having an experienced CEO as a function of the CEO tenure. The dependent variable is a dummy that is equal to one if the CEO has previous experience in the target's industry. Our covariates consist of a set of dummy variables for different years of tenure of the CEO. If companies appoint experienced CEOs in order to execute acquisition for them we would expect to observe higher coefficients on the dummies that stand for recent hires. We use OLS as well as probit estimation. Column (1) and (2) of table 11 present the results using OLS and Probit respectively. There is no monotonic relationship between the probability of observing an experienced acquisition and the appointment of the experienced CEO. These findings are supportive of the view that industry-experience in connection with acquisitions considerations play, if any, a rather minor role when appointing a CEO.

5.1.3 Timing and Returns

As a further robustness check we analyze the returns directly. If selection is driving the results we would expect that the positive abnormal returns to be generated by recently appointed CEOs. We therefore interact the experience measure with dummies reflecting the relative year of the appointment. Table 12 shows that there is no monotonic relationship between the appointment of experienced CEOs and abnormal returns. When precisely estimated, the returns are positive and at similar levels (between 2.7% and 3.9% for CEOs appointed 3,6, or 8 years before the acquisition). The coefficients in the other years are not statistically different from zero. Overall, the findings suggest that selection can not explain the positive returns of experienced CEOs which reinforces the view that industry experience is actually generating them.

5.1.4 Additional Evidence from previous Analysis

The results of the previous section 4 are further evidence for allowing a causal interpretion of the positive effect of industry-specific experience on announcement returns. When analyzing the combined abnormal returns for public targets, we do not find evidence that experienced CEOs are better in creating synergies. As the effect of experience on abnormal returns of the acquiring company is positive, our results suggest that experienced CEOs are better in negotiating terms that are favorable to the shareholders of the acquiring company. Moreover, when analyzing heterogeneous effects across industries or public status of the target we provide further evidence that the observed effects are generated by the CEOs rather than by selection. Overall, our findings suggest that experience matters more where it is more valuable (high vs. low discretion, public vs. non-public target) which is in line with the CEO hypothesis but can not easily supported by selection.

5.2 Robustness Tests

5.2.1 All and Low-Ranked experience

Managers might have better opportunities to accumulate industry specific skills and knowledge in higher level positions. A possible explanation is a better access to information and different (e.g. more strategic) tasks that are involved in high positions. In table 13 we analyze broader measures of experience. In specification (1) we consider all previous positions in the target industry irrespective of the level. As expected the effect is smaller (1.0%) though still significant. Moreover, we run a placebo test where we analyze the impact of experience that is likely to be unrelated with the industry in the firm. Examples are low-ranked jobs like office workers or interns as well as non-business positions (e.g. web programmer working for a car maker). Experience that is unrelated

to the business or of a lower level of decision power or information access does not help to perform better when acquiring a new segment. The effect is 0.4% and not distinguishable from zero. However, we might also capture only a time effect as most of the low-ranked experience probably comes from the early stage of the career (see our alternative measure of experience that accounts for the recency of the experience). In this setting we are not able to differentiate these two effects.

5.2.2 Recency of experience

As industries (e.g. due to technological changes or due to changes in the market) change over time it is interesting to analyze how the value of experience changes with the recency of the experience. Therefore, we look at two alternative measures of experience that incorporate a time component. First, we consider an experience to be "recent" if it was gained within the last 10 years before the announcement of the merger, and to be "old" if it is older than 10 years. Second, we refine this measure by sub-classifying the recent experience into experience gained within the last 5 years and experience gained between 6 and 10 years before the announcement of the acquisition. Table 14 reports the results. Column (1) and (2) show the effect of top-level experience for the two alternative measures. The results suggest that experience diminishes over time and only rather recently gained experience helps to perform better when diversifying. The first specification shows very strong and statistically effects of having experience (2.0%) that was gained within the last 10 years before. The coefficient of old experience is small and not distinguishable from zero. Analyzing the finer measure of recency in specification (2) shows similar results. The recent experience matters more; the impact peaks for experience that was gained between 5 and 10 years ago. However, the two coefficients of the recent experience are not statistically distinguishable from each other.

5.2.3 Exclusion of conglomerates

Some companies are multi-segment firms, i.e. operating in different industries. In our previous specifications we only consider the biggest segment of the acquiring firm when defining their industry. A concern might be that our results are purely driven by companies that have large secondary segments in the industry of the target, i.e. the mergers are not really diversifying and the positive effect of experience of the CEO is actually driven by potential synergies for instance. We therefore restrict our sample to firms that report either only one business segment (according to COMPUSTAT segments) or where the largest business segment is accountable for at least 90% of the sales. In column (1) of table 15 only single segment firms are considered. The effect of experience is still positive and even higher than compared to our baseline specification (3.7%). The results for companies with the largest segement accounting for at least 90% of the sales (column (2)) are similar, though a bit smaller (3.2%) and not distinguishable from zero when considering all levels of experience. Overall, the results seem to suggest that experience is more valueable when specialised firms diversify.

5.2.4 Diversifying only

By looking at diversifying acquisitions only we allow the covariates to have different slope coefficients for diversifying and non-diversifying acquistions. The restriction leads to a sample of 1,189 acquistions. We then replicate our analysis by regressing abnormal returns on the industry experience of the CEO and firm and deal characteristics as well as year and industry fixed effects. The results in table 16 support our previous findings: CEOs who have experience in the industry of the target do better on average. Experienced CEOs are able to generate 1.0% abnormal return if they worked in the industry of the

target. This effect is significant at a 5% level. The finding shows that the results also hold for the smaller sample. However, the bigger sample helps to estimate the other coefficients leading to more precise estimates.

5.2.5 Alternative Event Window

In our previous specifications we use a 3 days event window to compute cumulative abnormal returns around the deal's announcement: from 1 day before the announcement until 1 day after. We test for the robustness of previous results using an alternative event window: from 5 days before the announcement until 5 days after. This approach allows us to account for possible information leakage regarding the acquisition before the public announcement. If this is the case, part of the abnormal returns driven by the event would be realized before the announcement. The result is shown in table 17. The effect of top management experience, confirming our previous, is larger (1.3%) and significant. Overall, the result is consistent with our previous results though they are a bit weaker. However, by increasing the length of the event window we also increase the likelihood that unrelated events to the merger are affecting abnormal returns.

6 Conclusion

This paper examines the effect of industry-specific human capital of CEOs on the performance of diversifying mergers and acquisitions. We use a new and unique dataset that tracks the complete employment history of CEOs allowing us to construct a measure of industry-specific experience. Conducting a short-run event study of acquisition announcements, we find that the stock market reacts more favorable to diversifying mergers when the acquiring CEO has prior work experience in the target's industry. The results suggest

industry-specific experience is an important determinant of success of diversifying acquisitions. The effect of industry-specific experience is particularly pronounced if the CEO has top management experience.

In addition, we quantify the relative importance of this experience and we find evidence that experience is more valuable if the target is from an industry of high managerial discretion or it is a private company. Exploring potential mechanisms, we find that experienced CEOs are more likely to add value by negotiating better terms for the existing shareholders and that the value is larger in environments of higher informational asymmetries.

Frydman (2007) and Murphy and Zabojnik (2006) posit that the drastic increase of executive compensation is due to a shift from firm-specific skills towards general managerial ability that has intensified the competition among companies for CEOs. Our results suggest a complexer view of CEO skills: Some skills of CEOs are neither completely general nor firm-specific but rather specific to an industry.

This paper does not explore the implications of the importance of industry-specific skills for the understanding of compensation or CEO hiring. Do companies pay for these skills? Are they an important determinant when hiring a new CEO for instance? Another natural extension to the paper is to examine the interplay between work experience and education. Does education matter? Are education and experience substitutes? These are questions for future research.

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A Tables

Table 1: Descriptive Statistics: CEOs

Panel A shows experience and characteristics of CEOs. Work experience (companies) counts the number of different companies the CEOs worked in. Experience is splitted up in "all experience" and TOP experience; while the first measure considers all kinds of positions / roles in a firm the latter one focuses on top positions (CEO, CFO, COO, Chairman, President, Division CEO, Division CFO, Division Chairman, Division COO, Division President, Head of Division, Regional CEO, Regional CFO, Regional President). Work experience (industries) conducts the same analysis for industries. Panel B presents age, gender, and education of the CEOs. Age is measured in Dec. 2008.

Paniel A: Industry experience

	All experiences			TOP experience		
	mean	median	N	mean	median	N
Work experience (Companies)	6.60	6	1854	2.61	2	1854
Work experience (Industries)	3.15	3	1854	1.67	1	1854

Panel B: CEO characteritics

	mean	median	N
Age	61.89	62	1854
Gender			
female	1.39%		1854
male	98.61%		1854
Merger experience	2.61	2	1854

Table 2: Descriptive Statistics: Deals

Panel A displays the total number of mergers in the sample by time period; the total number represents the number of mergers with return data of the acquirer available. The first column shows all mergers and columns two and three splits the sample in mergers of companies that are operating in the same and in different industries respectively (non-diversifying and diversifying mergers). Panel B presents deal characteristics. The transaction value is the total value of consideration excluding fees and expenses. The public status of the target can take values {private, public, subsidiary}. The relative size is the ratio of deal value and the marketcap of the acquiror, stock deal is a dummy equal to 1 if there are stocks in the consideration package and all-cash deal is equal to 1 if the whole acquisition is paid in cash. Percentage Cash/Stocks/Others denote the respective fraction on the consideration. Contested bid is a dummy equal to 1 if there is at least one company challenging the acquiror. Panel C shows the experience in mergers of the CEO and her industry experience (all) in her diversifying mergers. Merger experience measures the number of mergers a CEO has made in this sample. Industry experience in diversifying mergers represents the fraction of diversifying mergers where the CEO worked in the target's industry before (allowing for all kind of experiences).

Panel A: Classification by time period and type of the deal

	All		Diversifying	
Years	No.		No.	
1990-1994	618	(12.8%)	151	(24.4%)
1995-1999	1722	(35.5%)	427	(24.8%)
2000-2004	1622	(33.5%)	382	(23.5%)
2005-2007	882	(18.2%)	233	(26.4%)
	4844	(100%)	1193	(24.6%)

Panel B: Deal-Statistics

	Mean	Median
Transaction value in Mio. US (TV)$	970.08	200.00
Relative size	23.75	8.83
TV/assets (market)	13.76%	4.75%
TV/equity	23.75%	8.82%
Private target	32.11%	
Public target	35.59%	
Subsidiary target	31.68%	
Stock deal	40.95%	
All-cash deal	30.07%	
Perc. Cash	39.31%	
Perc. Stocks	32.56%	
Perc. Other or Unknown	28.42%	

Panel C: Industry experience in diversifying mergers

	All experiences		TOP experience	
	mean	N	mean	N
Industry exp. in div. mergers	34.95%	1193	16.51%	1193

Table 3: Descriptive Statistics: Companies

Panel A shows data on corporate size, profitability and growth opportunities of the acquirer. The market value of equity (market capitalization in millions of US-$) is computed as common shares outstanding times the fiscal year closing price. Cash and debt are normalized by the bookvalue of total assets. Tobin's Q is the market value of total assets divided by the book value of total assets and book-to-market (BM) is defined as the ratio of book value of equity and marketcap. Profitability is measured as the ratio of operating cash flows divided by the market value of total assets. Panel B presents the experience in mergers by the companies. Merger experience denotes the number of acquired firms per company in this sample.

Panel A: Financial Data

	Aquirer		COMPUSTAT	
	Mean	Median	Mean	Median
Assets (book)	12,560.25	1,634.30	1,303.15	74.31
Market capitalization	7,146.63	1,816.75	1,376.95	64.87
Cashassets (book)	0.146	0.068	0.167	0.082
Debtassets (book)	0.189	0.161	0.176	0.112
Debtassets (market)	0.129	0.095	0.132	0.071
Tobin's q	2.48	1.68	2.106	1.41
BM (equity)	0.483	0.439	0.684	0.517
OCF/assets (book)	0.349	0.327	0.264	0.275

Panel B: Companies experience

	mean	median	N
Merger experience	3.37	2	1438

Table 4: Descriptive statistics: Univariate Analysis

This table compares key variables across different sub-groups of the acquisitions. Columns 2-4 contrast non-diversifying and diversifying acquistions; columns 5-7 contrast diversifying acquisitions where the CEO does not have experience in the target's industry with diversifying acquistions of experienced CEOs.
The market value of equity (market capitalization in millions of US-$) is computed as common shares outstanding times the fiscal year closing price. Cash and debt are normalized by the bookvalue of total assets. Tobin's Q is the market value of total assets divided by the book value of total assets and book-to-market (BM) is defined as the ratio of book value of equity and marketcap. Profitability is measured as the ratio of operating cash flows divided by the market value of total assets.
The transaction value is the total value of consideration excluding fees and expenses. The public status of the target can take values {private, public, subsidiary}. The relative size is the ratio of deal value and the marketcap of the acquiror, Stockpayment is a dummy equal to 1 when more than 50% of the transaction is paid with stocks. Percentage Cash/Stocks/Others denote the respective fraction on the consideration. Contested bid is a dummy equal to 1 if there is at least one company challenging the acquiror.

	non-diversifying vs. diversifying			without experience vs. with experience		
	non-div.	div.	diff.	no exp.	with exp.	diff.
CAR	0.000	0.005	-0.006**	0.004	0.012	-0.008*
Leverage	0.147	0.151	-0.004	0.148	0.161	-0.013
Tobin's Q	2.792	2.475	0.317*	2.384	2.862	-0.478
Size	8.191	7.967	0.224***	7.971	7.952	0.018
Free cash flow	0.035	0.034	0.002	0.033	0.038	-0.005
Cash flow / TA	0.306	0.346	-0.041***	0.359	0.291	0.068***
Stock deal	0.443	0.307	0.136***	0.292	0.369	-0.077**
All-cash deal	0.282	0.358	-0.076***	0.366	0.324	0.041
Relative deal size	0.242	0.224	0.018	0.199	0.331	-0.132***
Public target	0.401	0.297	0.104***	0.291	0.324	-0.033
Privat target	0.298	0.325	-0.027*	0.326	0.320	0.006
Subsidiary target	0.295	0.371	-0.076***	0.376	0.351	0.025
GIM index	9.269	9.786	-0.517***	9.792	9.754	0.038
Age	54.174	54.761	-0.586**	54.759	54.769	-0.010
Tenure	13.843	13.739	0.104	14.838	8.991	5.847***

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 5: Experience in Target's Industry - Effects on Diversification

This table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)
TOP-experience x diversifying	0.011*	0.013**
	[1.867]	[2.221]
Diversifying	0.000	-0.003
	[0.132]	[-1.060]
Acquiror's size		-0.003***
		[-3.682]
Tobin's q		-0.000
		[-0.901]
Free cash flow		-0.002
		[-0.089]
Cash flow measure		-0.004
		[-0.575]
Leverage		0.030***
		[2.941]
Relative deal size		-0.007
		[-1.522]
Stock deal		-0.007**
		[-2.403]
All-cash deal		0.005**
		[2.030]
Public target		-0.020***
		[-7.203]
Private target		0.001
		[0.262]
Age		-0.002
		[-1.410]
Age square		0.000
		[1.486]
Tenure		-0.000
		[-0.837]
Tenure square		0.000
		[0.860]
Intercept -0.290***	0.115*	
	[-13.595]	[1.812]
Year x Industry dummies	✓	✓
Observations	5244	4844

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 6: Fixed effects

This subsample consists only of acquisitions of CEOs who made at least two diversifying acquisitions whereas she is experienced in one industry and inexperienced in the other. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)
TOP-experience x diversifying	0.031**
	[2.327]
Fixed Effects	√
Year and Industry dummies	√
Deal and Firm controls	√
Observations	470
Clusters	213

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 7: Other Industries or Companies

The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. Two different measures of experience are presented: TOP experience (TA) is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. TOP experience (other industry) are dummy variables equal to 1 of the CEO has experience in any other industry but the current one (industry of the acquirer). TOP experience (other companies) are dummy variables equal to 1 of the CEO has experience in any other company but the current one. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)	(3)	(4)
TOP-experience (TARGET) x diversifying		0.016**		
		[2.461]		
TOP-experience (other Ind.) x diversifying	0.002	-0.004		
	[0.593]	[-0.993]		
TOP-experience (TARGET) x diversifying				0.013**
				[2.188]
TOP-experience (other comp.) x diversifying			0.003	-0.001
			[0.734]	[-0.217]
Year x Industry dummies	√	√	√	√
Deal and Firm controls	√	√	√	√
Observations	4844	4844	4844	4844

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 8: Target Heterogeneities

In specification (1) the public status (public, private, subsidiary) is analyzed. In specification (2) and (3) of the model we split the sample along the index of managerial discretion of the target's industry. In column (2) we use an index developed by Hambrick and Abrahamson (1995). We first match the index (when available) with the industry of the target before splitting the sample along the median value of the discretion index in our sample. In column (3) we use the index of managerial discretion of Metzger (2009) which constructed by analyzing the distribution of managers' fixed effects across industries. We first match the index with the industry of the target before splitting the sample along the median value of the discretion index in our sample. In specification (4) we split industries along the median value of the average R&D spending in high and low R&D industries. In specification (5) we split industries along the median value of the average intangibles in high and low intangibles industries. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)	(3)	(4)	(5)
Public - TOP-exp. x div.	0.006				
	[0.711]				
Private - TOP-exp. x div.	0.029***				
	[2.649]				
Subsidiary - TOP-exp. x div.	0.005				
	[0.534]				
Discretion high - TOP-exp. x div.		0.020*	0.016**		
		[1.933]	[2.182]		
Discretion low - TOP-exp. x div.		0.002	0.008		
		[0.225]	[0.934]		
R&D high - TOP-exp. x div.				0.019***	
				[2.723]	
R&D low - TOP-exp. x div.				0.002	
				[0.236]	
Intangibles high - TOP-exp. x div.					0.017**
					[1.987]
Intangibles low - TOP-exp. x div.					0.010
					[1.433]
Year x Industry dummies	√	√	√	√	√
Deal and Firm controls	√	√	√	√	√
Observations	4844	4844	4844	4785	4785

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 9: Combined CARs

This specification analyzes public targets only. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (AC), or the target (TA), and of the combined firm (AC-TA: weighted by market cap) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	AC-TA	AC	TA
TOP-experience x div.	-0.023	0.020*	0.011
	[-0.643]	[1.866]	[0.328]
Diversifying	-0.022**	-0.004	-0.018
	[-2.033]	[-0.742]	[-0.941]
Year x Industry dummies	√	√	√
Deal and Firm controls	√	√	√
Observations	1673	1673	1673

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 10: Merger Waves

This subsample consists only of mergers that were announced during a merger wave. Harford (2005) provides a measure of clustered merger activity that specifies year, month and industry of a merger wave. We define a merger being part of a merger wave if it the acquirer belongs to the affected industry and the merger was announced any time in between 6 months before and 6 months after the date that is identified by Harford. We exclude waves that are due to deregulation. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)
Within wave - TOP-experience x diversifying	0.024*
	[1.704]
Outside wave - TOP-experience x diversifying	0.011*
	[1.836]
Year x Industry dummies	√
Deal and Firm controls	√
Observations	4844

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 11: Probability of Experienced Merger by Appointment Date

The table shows the regression of the a dummy that is equal to 1 if the merger is by a CEO that is experienced on the appointment of the CEO, different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dep. Var. = exp. merger	OLS (top-exp.)	probit (top-exp.)
Appointment in t = 0	0.241***	0.896***
	[2.805]	[2.859]
Appointment in t = -1	0.108**	0.486***
	[2.377]	[2.629]
Appointment in t = -2	0.151***	0.630***
	[3.323]	[3.533]
Appointment in t = -3	0.211***	0.812***
	[5.181]	[5.201]
Appointment in t = -4	0.202***	0.786***
	[4.396]	[4.487]
Appointment in t = -5	0.141***	0.599***
	[2.903]	[3.125]
Appointment in t = -6	0.090*	0.419**
	[1.924]	[2.168]
Appointment in t = -7	0.046	0.237
	[0.926]	[1.093]
Appointment in t = -8	0.152***	0.633***
	[2.616]	[2.813]
Appointment in t = -9	0.074	0.360
	[1.208]	[1.392]
Appointment in t = -10	0.060	0.300
	[1.091]	[1.273]
Year x Industry dummies	√	√
Deal and Firm controls	√	√
Observations	1240	1240

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 12: Merger Performance by Appointment Date

The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on the appointment of the CEO, different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)
Appointment in t=-1 & Top experience x div.	0.011
	[0.590]
Appointment in t=-2 & Top experience x div.	0.013
	[0.968]
Appointment in t=-3 & Top experience x div.	0.027*
	[1.700]
Appointment in t=-4 & Top experience x div.	-0.002
	[-0.192]
Appointment in t=-5 & Top experience x div.	-0.012
	[-1.218]
Appointment in t=-6 & Top experience x div.	0.030**
	[2.433]
Appointment in t=-7 & Top experience x div.	-0.014
	[-0.939]
Appointment in t=-8 & Top experience x div.	0.039**
	[2.187]
Appointment in t=-9 & Top experience x div.	-0.005
	[-0.196]
Appointment in t=-10 & Top experience x div.	0.005
	[0.341]
div_ff12	-0.003
	[-1.065]
Year x Industry dummies	√
Deal and Firm controls	√
Observations	4711

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 13: All experience and unrelated experience

In this sample we analyze experience of low hierarchy levels or experience that is unrelated to the actual business of an company. Examples are internships in a particular industry or working as a web programmer in the automotive industry. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. Experience in target's industry is a dummy that is 1 if the CEO has experience in the target's industry. Unrelated experience is a dummy that is equal to 1 if the CEO worked in a position that is likely to be unrelated with the industry in the firm. Examples are low-ranked jobs like office workers or interns as well as non-business positions in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)
Any experience x diversifying	0.010**	
	[2.369]	
Unrelated-experience x diversifying		0.004
		[0.684]
Diversifying	-0.004	-0.001
	[-1.532	[-0.513]
Year x Industry dummies	√	√
Deal and Firm controls	√	√
Observations	4844	4844

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 14: Recency

This table analyzes the different effect of the recency of the experience on the performance. We make two different splits of the experience by recency. The experience was obtained i) less than 10 years ago vs. more than 10 years ago and ii) less then 5 years ago vs. between 5 and 10 years ago vs. more than 10 years ago. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)
TOP-experience (less than 10 years ago) x diversifying	0.020***	
	[2.624]	
TOP-experience (more than 10 years ago) x diversifying	-0.003	
	[-0.259]	
TOP-experience (less than 5 years ago) x diversifying		0.009
		[0.892]
TOP-experience (between 5 and 10 years ago) x diversifying		0.032***
		[2.921]
TOP-experience (more than 10 years ago) x diversifying		-0.003
		[-0.253]
Diversifying	-0.002	-0.002
	[-0.915]	[-0.922]
Year x Industry dummies	✓	✓
Deal and Firm controls	✓	✓
Observations	4844	4844

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 15: No conglomerates

In this sample we exclude conglomerates from our analysis. Columns (1) and (2) report regression results of firms that have business in only one segment according to the COMPUSTAT segment data. In columns (3) and (4) we consider only firms where the biggest segment is accountable for at least 90% of the total sales. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience (TA) is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	(2)
Conglomerate - TOP-experience x diversifying	0.012	0.010
	[1.591]	[1.319]
Focussed firm - TOP-experience x diversifying	0.038**	0.034***
	[2.485]	[2.625]
Diversifying	-0.005	-0.005
	[-1.648]	[-1.523]
Difference	0.026*	0.024**
Year x Industry dummies	√	√
Deal and Firm controls	√	√
Observations	1336	1549

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 16: Diversifying only

This subsample consists only of diversifying acquisitions. The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 1 day before the announcement until 1 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1))
TOP-experience x diversifying	0.010**
	[2.004]
Year x Industry dummies	√
Deal and Firm controls	√
Observations	1189

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 17: 11 days event window

The table shows the regression of the mergers' cumulative abnormal stock price returns of the acquiror (CAR) on different manager, deal, and company characteristics. The cumulative abnormal returns come from an event study using the Fama-French three-factor model and an event window from 5 day before the announcement until 5 day afterwards. TOP experience is a dummy that is equal to 1 if the CEO worked in a TOP position in the target's industry. Bidder and deal characteristics are in the appendix. All regressions include age, age squared, tenure, and tenure squared of the CEO at the date of the announcement of the merger. All standard errors are clustered by event date to account for cross-sectional correlation of stock returns.

Dependent Variable = CAR	(1)	
TOP-experience x diversifying	0.013**	
	[2.220]	
Diversifying	-0.003	
	[-1.109]	
Year x Industry dummies	√	√
Deal and Firm controls	√	√
Observations	4844	

*** p< 0.01, ** p< 0.05, * p< 0.1

Table 18: Definition of variables

Variable	Definition
Panel A: Bidder characteristics	
Leverage	Book value of debts over market value of total assets.
Tobin's Q	Ratio of market value of assets to book value of assets. The market value of total assets is defined as the book value of total assets plus market capitalization minus book value of equity. The market capitalization is computed as common shares outstanding times the fiscal year closing price. The book value of equity is defined as stockholders' equity minus preferred stock liquidating value plus balance sheet deferred taxes and investment credit minus post retirement assets.
Size	Logarithm of the book value of total assets
Free cash flow	Operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets.
Cash flow / TA	Operating cash flows (sales minus costs of good sold minus selling and administrative expenses plus depreciation and goodwill expenses) over total assets.
Panel B: Deal characteristics	
Stock deal	A dummy that is equal to 1 if the acquiror pays a positive fraction of the transaction value with its stocks.
All-cash deal	A dummy that is equal to 1 if the transaction is 100% paid with cash.
Relative deal size	Ratio of the deal value and the market capitalization of the acquiror.
Public target	Status of the target is "public company".
Private target	Status of the target is "private company".
Subsidiary target	Company is a subsidiary of a company.
Diversifying dummy	We classify a merger to be diversifying if acquiror and target differ in their Fama-French 12-Industries (FF12) classification.
Panel C: Other variables	
Age	Finally we measure the age (in years) of the CEO at the announcement of the merger.
Tenure	The tenure of the CEO in the current company (in years).
CARs	Three-day (eleven-day) cumulative abnormal return (in percentage points) calculated using the Fama-French 3-factor model. The market model parameters are estimated using the return data for the period (-270,-21).

B Data