Untangling Employee Morale in Buyouts*

Kristina Lalova‡

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Abstract

The paper documents evidence of private equity's focus on post-acquisition performance and their expertise in managing and integrating companies with different attributes. I make the following findings. For the average company in the sample, private equity is more likely to merge with companies with dissimilar employee morale. The search for companies with dissimilarities points to private equity acquirers performing a pre-deal screening process wherein both companies learn about each other and match with each other. Following the acquisition, due to private equity's experience with managing companies with dissimilarities, they grow the companies they acquire, increase operating performance and efficiency of target companies with dissimilarities. This also points to private equity viewing companies with dissimilarities as value-enhancing. For companies with similarities, private equity hurts long-term performance. It is likely that private equity will decide to let go of less efficient workers to achieve those performance goals in dissimilar firms where target employees fit in private equity culture less.

Keywords: buyout deals, private equity motives and expertise, performance and integration

JEL Codes: G24, G41, M51

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‡ Fixed-Term Assistant Professor in Finance, Michigan State University

I. Introduction

According to a recent study by the global consulting firm AlixPartners, PE firms and portfolio companies rate human capital, which is a component of culture, as one of the top factors for the success or failure of a PE investment.[1] Both private equity investors and CEOs state that senior leadership alignment and talent management are leading factors in value creation. Once a private equity firm invests in another company, performance expectations intensify as often management and operations of the company need to be improved. For this to become a reality, the portfolio company and the company's workforce need to modify how things are accomplished, such as establishing new organizational structures, collaborating in new ways, and delivering results in a faster pace. According to the above-mentioned survey, 71% of PE investors and 81% of CEOs emphasize that a company's culture, including the matching between the two companies' management teams and employees, is critical to the successful implementation of strategy.

According to another article by a private equity veteran published in *Global Association of Risk Professionals* states that private equity derives value from improving the workplace culture for team members which is called CultureIRR.[2] Poor workplace behaviors are easy to define and quantify – legal costs, settlement expenses, and risking EPLI premiums. Although these costs can be insignificant over small periods of time, even insignificant costs count when a multiple is attached to them. The author, who has worked in the industry, cautions that the impact of CultureIRR on value created for private equity investors should not be underestimated. He reminds us that proactively investing to improve the working environment for employees who generate value for limited partners is a top priority. In this paper, I empirically explore the questions and considerations mentioned in the two above-mentioned articles and explore the matching between private equity acquirer and target employees in PE-backed deals.

[1] For seven consecutive years now, AlixPartners has monitored the most-significant trends and developments affecting private equity (PE) leadership, through their annual survey of PE firms and portfolio companies (portcos), conducted jointly with Vardis. The survey offers insights on themes relevant to the success of PE investments. Link to the survey: Annual Private Equity Leadership Survey | AlixPartners

[2] Steven Wiesner of *pelotonRPM* writes in the article 'Bad Workplace Culture Is on Private Equity's Profit-Making Radar' that CultureIRR return can be substantial. He states that with maturity comes impact on compliance standards, and that includes best practices for workplace culture, ethics, and respect at portfolio companies. Because of private equity's concern with price, terms, and certainty of close, bad behaviors in the workplace can impair valuations. Link to the survey: Bad Workplace Culture Is on Private Equity's Profit-Making Radar (garp.org)

Prior psychology literature has come up with three different definitions of morale based on the classical "needs psychology", on the hierarchy of needs, and on the interactions among members in a working group (Maslow, 1946; Haire and Gottsdanker, 1951; Mayo, 1933; Viteles, 1953). Those varying but connected definitions of morale serve as a starting ground for examining the impact of employees' perspectives (those toward their connection and purpose in the companies they work for) on PE-backed deal outcomes. More specifically, I focus on the interactions among members in a working group. The paper's setting allows me to provide evidence on the manner in which private equity impacts post-acquisition performance and efficiency and on the manner in which PE's value-enhancing role is evident in PE-backed deals. In this paper, I use a subsample of private equity deals to empirically show the differences between mergers and acquisitions and PE-backed deals. I use Glassdoor employee morale reviews as a proxy for employees' perceptions of company dynamics and their satisfaction with firms' working conditions and their interactions with fellow colleagues. Going forward, I use employee morale, contentment, and satisfaction interchangeably. While prior literature has used the Glassdoor dataset, it has not utilized it in the context of private equity transactions.

I test two main hypotheses in this paper – whether private equity acquirers improve target companies' performance, efficiency, and growth following the deal and whether private equity firms choose targets with different morale attributes and are well-equipped to manage such targets following the acquisition. I test the impact of employee morale similarity on merger probability, short-term and long-term synergies, efficiency, growth, and employment changes in PE-backed deals. Although I expect to find that dissimilar firms in terms of the morale of their employees will be more likely to participate in PE-backed deals, I document that private equity acquirers are not any more or less likely to merge with companies with similar or dissimilar employee morale for the following two reasons. However, I expect to find and document that greater differences between acquirer and target's employee morale would have a positive impact on post-merger synergies and integration because of PE's experience and expertise in managing companies with different attributes and due to a pre-deal screening process that takes place between the PE-acquirer and target companies. To achieve this, I examine the announcement effects and probability of such deals, acquirer companies' long-run operating performance, growth, and efficiency, employment changes following those deals, and returns prior to PE-backed deals.

The paper documents that private equity firms go after both companies with similar and dissimilar morale, but on average that private equity firms are more likely to go after companies with morale similarities. However, following the acquisition, private equity firms manage companies with similarities more poorly, but manage companies with dissimilarities well. Firms with high employee morale similarity achieve lower operational performance and lower labor restructurings following the deal. I argue this is due to spillover effects of knowledge transfer, learning, and diversity taking place and PE firms prioritizing a culture of high performance and valuing that culture following PE-backed deals. In addition, I find empirical evidence that in private equity deals, private equity firms choose targets that have high marginal value creation potential in terms of lower employee target morale (as seen by aggregated mean target ratings). I document that private equity acquirers value high performance after the deal takes place, that they grow the companies they acquire, and that they increase operating performance and efficiency of target companies following the deal in deals with greater morale dissimilarities between the acquirer and the target. It is likely that private equity decides to let go of less efficient workers to achieve those performance goals in less similar firms where target employees fit in private equity culture less. Following the deal, I argue that private equity acquirers reorganize not only different functions of the company, but also the company's labor force in pursuit of meeting performance goals. Although it is likely that private equity acquirers impose this performance culture on their acquired companies, this is due to their superior experience and ability to manage companies well following acquisitions. Finally, the observed acquirer and target price runup reflects takeover rumors generated from both acquirer and target employees. This points to both acquirer and target employees possessing information prior to deal announcements.

Research utilizing Glassdoor has been growing due to its coverage of public firms and its presentation of employees' perceptions of various firm dimensions. For instance, papers have studied the association between financial reporting and job satisfaction and have found support for employees' reviews being accurate assessments of and revealing value-relevant information about a firm's performance (Ji et al., 2017; Green et al., 2019). Other more recent papers utilizing the Glassdoor dataset focus on themes, such as employee sentiment, gender diversity, misconduct risk, maternity leave benefits, and the relationship between management's ability and a company's ESG efforts (Marchetti, 2019; Chen at al., 2022; Campbell and Shang, 2021; Liu et al., 2022; Welch and Yoon, 2021). In the spirit of previous Glassdoor research, my paper shines light on the

importance of employees' attitudes (looking at level, dispersion, and similarity of ratings) on the target firms private equity acquirers go after, on the success of private equity deals, and on the changes that follow in companies afterwards.

The paper also adds to the private equity literature by providing a different angle of the success of private equity investments. Prior private equity literature has focused on the performance-, value-, and experience-enhancing role of private equity (Cumming and Fleming, 2016; Humphery-Jenner, 2017; Cohn et al., 2020; Hammer et al., 2021). Prior studies also focus on the importance of the human capital element in various different ways (Kaplan, 1989; Muscarella and Vetsuypens, 1990; Davis et al., 2014; Goergen et al., 2014). These papers document a drop in employment following buyout deals and an increase in the pace of job reallocation. More recent private equity literature has studied PE's acquisitions of health care facilities. For instance, Gandhi et al. (2023) examine the impact of private equity ownership on nursing homes and find that PE-owned facilities exhibit greater competitive sensitivity and respond to pro-competitive policies allowing consumers to compare facilities. Liu (2022) finds that PE hospital buyouts lead to healthcare spending which is driven by higher prices at PE-owned hospitals and price spillovers to local rivals. My paper departs from these studies, but still stresses PE's value- and performance-enhancing roles in a different setting.

Other studies have focused on ESG integration and importance in private equity. Since employee well-being is a part of ESG, I highlight the following papers. For example, Brandon et al. (2019) conduct a difference-in-difference analysis to analyze whether portfolio-level ESG footprints improve after institutions sign the PRI and find that there is statistically significant evidence that institutions who are signatories of PRI have better ESG footprints in their equity portfolios than non-signatories. In addition, Yoon and Kim (2020) have documented that active funds have experienced a 4.3% increase in fund flows per quarter in the six months after they have committed to PRI. Onukar (2021) studies whether publicly announced ESG commitments from PE funds are effective in changing the target firm choice in the subsequent LBOs of the committed PE funds which incentivizes them to acquire firms with lower ESG risk exposure. The author documents that a higher number of PE firms commit to ESG investments. I depart from these studies by looking at human capital and governance issues through the lens of a company's employee morale dimensions as an explanatory factor for transaction success.

The remainder of the paper is organized as follows. Section II builds the two hypotheses tested in the paper (whether private equity acquirers improve target companies' performance, efficiency, and growth following the deal and whether private equity firms choose targets with different morale attributes and are well-equipped to manage such targets following the acquisition) based on prior literature. Section III describes the datasets used to test the hypotheses, the matching technique of the various datasets, the main employee morale proxy and additional employee morale proxies, and the sample's summary statistics. Section IV documents the various empirical tests and results related to the two hypotheses in Section II. Section V concludes and highlights the implications of the paper's results.

II. Hypotheses Development

Even though prior finance literature has examined different complementarities between acquirers and targets that could enhance the performance of the merged company in terms of similarities in market-to-book ratios, human capital, product descriptions, and ESG practices (Rhodes-Kropf and Robinson, 2008; Lee et al., 2018; Hoberg and Phillips, 2010; Bereskin et al., 2018), several studies have argued that cultural distance leads to more organizational diversity and internalization of intangible assets (Chakrabarti et al., 2009; Morosini et al., 1998; Steigner and Sutton, 2011). In a PE context, it has been documented that private equity acquirers perform a rigorous pre-deal screening process in which the PE firm and portfolio company match prior to the deal itself where the PE firm and portfolio company negotiate with each other and decide whether they will go through with the deal or not. A paper, which has described this screening process, is Nahata et al. (2014), in which the authors show that greater cultural differences lead to better post-deal performance due to a rigorous pre-deal screening process. Related to this pre-deal screening process, Gompers et al. (2016) show that the most important target screening criteria are the target's management team and the PE firm's ability to add value. Additionally, prior finance literature has focused on PE's superior knowledge and expertise in managing companies. Cumming and Fleming (2016) show that private equity firms act as a complementary knowledge base to a firm's internal operations. Taking these papers into account, I build my first hypothesis. Given private equity's greater knowledge and experience in choosing value-creation targets, private equity acquirers are more likely to merge with companies with dissimilar morale attributes.

- **H1:** For the average company in the sample, private equity is more likely to merge with companies with dissimilar employee morale.

After determining that private equity acquirers go after targets with low employee morale, I examine whether they are able to manage these companies better after the acquisition. In a PE context, PE firms have been known for their incentives to generate significant return performance within a short period of time (Chung et al., 2012; Acharya et al., 2009). Additionally, prior finance literature has documented PE's focus on performance in the context of mergers and acquisitions. Hammer et al. (2021) show that PE-backing enhances merger execution and speed, and that portfolio companies benefit from this boost through improved valuations and margins through the PE owners' deal experience. Humphery-Jenner (2017) show that PE-backing in acquirers is a positive signal for deal success and value in cross-border mergers. The authors argue that PE-backing in an acquirer signals to current and future investors that a transaction creates more value compared to other transactions. Another way, in which companies might achieve better post-merger integration in private equity deals, is through changing companies' labor force composition. Goergen et al. (2014) document greater changes in companies' labor force composition following buyouts in addition to management team's revitalization ability to unlock dormant capabilities and value. Taking these papers into account, I build my second hypothesis that PE firms are better equipped to manage companies with dissimilarities due to their experience in managing such companies. I show that dissimilar deals achieve better post-merger performance, growth, and efficiency.

- **H2:** Despite private equity acquirers being indifferent to morale similarities or dissimilarities, they manage companies with dissimilar morale better after the acquisition.

III. Data and Measurement of Employee Morale

A. Data

I utilize four main datasets to form the main sample – Glassdoor, Refinitiv's SDC, Compustat, and CRSP. Glassdoor is a job and recruiting website which helps employees, job seekers, employers, and recruiters in sharing and finding information about the company of their interest and in posting company reviews, interview questions and reviews, salary details, and any other career-related

decision information. In this study, I focus on the information derived from employee satisfaction surveys. The Glassdoor database has been utilized in previous studies due to its coverage of public firms and its presentation of the perception of a firm's morale from employees' standpoint. The use of Glassdoor has some benefits over the use of databases such as KLD since it offers a more direct way to examine employees' experience, doesn't suffer from self-reported metrics, and allows for more flexibility and breadth to measure employee morale. It is possible that the Glassdoor database is overrepresented with information from a firm's disgruntled and unhappy employees. Still, the oversampling of dissatisfied employees does not appear to be a problem in the database since it has been reported that the lowest number of submitted ratings represents one-star ratings. In my sample, those ratings are rare. Furthermore, another fact to keep in mind is that only employees, who post reviews for their own companies, view the reviews of other firms' employees which adds incentives for employees to post their reviews and eliminates the concern of the oversampling of dissatisfied employees. Additionally, the website administrator's algorithm filters through reviews and eliminates any false reviews.

First, I merge the Glassdoor database with SDC M&A data based on the acquirer's and target's Internet addresses and do a fuzzy match on the acquirer's and target's names. The initial SDC sample of M&A deals spanning from 2008 to 2020 consists of 2,259 deals, while the merged sample includes 616 deals. The M&A-Glassdoor sample is merged with Compustat based on website address and name and then the resulting dataset is merged with CRSP using the Compustat-CRSP link table based on lpermno and permno.[3] When merging with Compustat and CRSP to acquire financial and return information, the M&A sample drops to 255 deals in the period between 2008 and 2020. Out of those 255 deals, 22 deals are private equity-backed deals. I define a PE-backed deal as a deal in which a PE firm has an actual equity ownership stake in the acquirer. Because my sample contains publicly-listed acquirers, PE equity ownership is partial and is not 100 percent.

[3] The approach mentioned to merge Glassdoor and Compustat has also been used by Green et al. (2019) where they also match on Internet address and do a fuzzy match. In a future draft, I will also fuzzy match to check for any missing financial information. In merging Glassdoor with only Compustat I get 1,491,582 reviews for 3,546 firms for firms present in Compustat in 2020. The authors in this paper get 3,906 firms with over one million reviews when merging.

For the pseudo sample, which I use to calculate the probability of a deal in Table 2, I match the main deal sample with other firms present in Compustat and CRSP based on the SIC-industry code, size and book-to-market values and find one pseudo target to match with the actual acquirer based on the actual target's characteristics and one pseudo acquirer to match with the actual target based on the actual acquirer's characteristics. That results in 510 pseudo deals and 765 deals altogether. Following Bena and Li (2014), for each actual deal-pair in every year, I form pseudo pairs by matching the actual acquirer with one matched pseudo target based on the above-mentioned actual target's firm characteristics and by matching the actual target firm with one matched pseudo acquirer based on the above-mentioned actual acquirer's characteristics. Unlike Bena and Li (2014), who find up to five pseudo companies for every acquirer and target, I find only one pseudo company to match on industry, size, and book-to-market.

B. Employee Morale Similarity Measure

Consistent with prior research, I use the cosine similarity measure as introduced in Jaffe (1986) to determine the employee morale similarity between the target and the private equity acquiring firm.

(1)

$$EmployeeMoraleSimilarity_{ijt} = \frac{X_{it}X'_{jt}}{(X_{it}X'_{it})^{0.5}(X_{jt}X'_{jt})^{0.5'}}$$

To do so, I create vectors corresponding to firm i's and j's scores in each category and aggregate them to create the cosine similarity measure between acquirer and target for every pair in every year in the sample. The respective categories in Glassdoor are *Overall Rating*, *Career Opportunities*, *Compensation Benefits*, *Senior Leadership*, *Work-Life Balance*, and *Culture Values* in the range between 1 and 5 with 1 being the lowest rating and 5 being the highest rating an employee can give to their employer. The cosine similarity measure ranges between 0 and 1 where it equals one for two firms (i, j) whose employee morale is identical, and zero for two firms whose employee morale profiles are orthogonal. To calculate the cosine similarity measure, I take a vector of the rating categories for both the acquirer and the target and measure the similarity between the two for every year. Since the vectors should include non-zero values, I drop any reviews where all ratings are zeros (missing) for either the acquirer or the target. Thus, the reviews in the sample

drop because of the manner, in which the cosine similarity measure is calculated. In addition, I calculate the variability of employee morale ratings using the standard deviation of acquirer, target, and merged firm ratings. I aggregate the individual ratings for each firm in every year and calculate the standard deviation of the resultant values. I do the same for the level of aggregate and various category ratings.

C. Summary Statistics

[Insert Table 1 here]

Table 1 presents the summary statistics for the private equity deal sample. Panel A of Table 1 presents acquirer and target firm characteristics which are consistent with general M&A literature. As one can see, acquirers are larger than targets, have higher profitability, and exhibit lower R&D intensity than target firms. Panel B provides characteristics about sample deals (81% of the firms are in the same industry and 27% are high-tech firms), relative size (the mean target in the sample is 25% the size of the acquirer), and offer structure (77% are all-cash offers and 45% are tender offers). Consistent with the definition of cosine similarity, the measure ranges between 0 and 1 with the mean value being 0.50. Panel C provides summary statistics on the level and variability of employee morale ratings. Both level and variability of target and acquirer ratings decrease from the year before to three months before and a month before. Panel D presents acquirer and target rating categories' statistics. The variability of both acquirer and target ratings is similar, but the level appears to be slightly higher for acquirers' ratings as one would expect that acquirers have more sophisticated morale attributes than targets.

IV. Empirical Tests and Results

A. Employee Morale Similarity and Private Equity Deal-Pair Likelihood

[Insert Table 2 here]

In this section, I test the hypotheses developed in Section II. To test the two hypotheses, I follow prior literature on the value of dissimilarities in an organizational setting (Chakrabarti et al., 2009; Morosini et al., 1998; Steigner and Sutton, 2011). In a PE context, PE firms have been known for their incentives to generate significant return performance within a short period of time even in the

context of PE-backed deals following such acquisitions. I test the impact of employee morale similarity on merger probability, short-term and long-term synergies, efficiency, growth, and employment changes in PE-backed deals. I conjecture that dissimilar firms in terms of the morale of their employees will be more likely to participate in PE-backed deals for the following two reasons. First, differences in morale of companies' management as well as those of rank-and-file employees might positively affect the success of PE merger negotiations. Second, those differences could have a positive impact on post-merger synergies and integration because of PE's experience and expertise in managing companies with different attributes and due to a pre-deal screening process, which takes place between the PE acquirer and target company prior to the deal itself.

In sub-section A, I investigate the relation between companies' employee morale similarity and the likelihood of merger announcements in PE-backed deals. I conjecture that dissimilar firms in terms of their morale are more likely to announce mergers in PE-backed deals. To test this, I document the logit regression estimates of the following model and present the results in Table 2.

(2)

$$ActualDeal_{ijmt} = \alpha + \beta_1 EmployeeMoraleSimilarity_{ijmt-1} + \beta_2 AcquirerControls_{imt-1} + \beta_3 TargetControls_{jmt-1} + \varepsilon_{ijmt}$$

The dependent variable is equal to 1 if the pair of the private equity acquirer and target is an actual deal, and 0 otherwise (that means that the observation is a pseudo one). The main independent variables of interest are employee morale similarity, acquirer and target level of ratings, and acquirer and target variability of ratings interacted with a private equity indicator. In addition, I add acquirer and target controls which include acquirer's and target's book-to-market, ROA (following prior literature, I use the EBITDA divided by the book value of assets), leverage (the book value of leverage divided by the book value of assets), sales growth (this current year's sales divided by prior year's sales), cash (cash and short-term investments divided by the book value of assets) and R&D intensity (R&D divided by the book value of assets).

All models report the results relative to a control sample of pseudo deals matched based on year, industry, size, and book-to-market. Model (1) focuses on employee morale similarity as the main variable of interest. The unique effect of morale similarity on merger probability when the

PE indicator is equal to 0 is positive. The unique effect of morale similarity on merger probability remains positive in Models (4), (5), and (6). When interpreting the unique effect of private equity investment on merger probability, one needs to acknowledge the value of morale similarity. When employee morale similarity is equal to zero, the impact of private equity investment on merger probability is the coefficient behind the PE indicator variable (PE_Indicator). In Models (1), (4), (5), and (6), where I control for morale similarity, the coefficient on PE_Indicator is positive and statistically significant at the 1% level. Since morale similarity is a continuous variable, morale similarity is unlikely to be equal to zero. When employee morale similarity is equal to one, the impact of private equity investment on merger probability is the coefficient behind the PE indicator variable (PE_Indicator) and coefficient behind the interaction between PE indicator variable and morale similarity (CosineSimxPE). Despite the negative coefficient on the interaction variable between morale similarity and the PE indicator variable in Models (1), (4), (5), and (6), the overall impact of private equity investment (with the inclusion of the PE indicator variable (PE_Indicator)) on merger probability is positive.

The two cases above looked at when the two companies have orthogonal morale similarity (when morale similarity is equal to zero) and when the two companies have identical morale similarity (when morale similarity is equal to one). If one looks at the average company in the PE subsample, the impact of private equity on merger probability is still positive. When there is private equity investment present in the acquirer, in all various models with morale similarity (Models (1), (4), (5), and (6)), the impact of morale similarity on merger probability is positive. One can conclude that for the average company in the sample, private equity is more likely to merge with companies with dissimilar employee morale. The marginal impact of private equity investment on merger probability is also positive in models where the interaction between morale similarity and the private equity indicator (CosineSimxPE) is excluded (Models (7), (8), and (9)). The results in this section of the paper support Hypothesis H1.

B. Employee Morale Similarity and Short-Term Synergies

[Insert Table 3 and Table 10 here]

In sub-section B, I investigate the relation between companies' employee morale similarity and short-term synergies (announcement cumulative abnormal returns). I conjecture that the market reacts positively to both similar and dissimilar PE-backed deals. To test this, I present the

association between employee morale similarity and combined announcement returns using a value-weighted portfolio of acquirer and target returns. More specifically, Table 3 presents the association between employee morale similarity and combined announcement returns in a value-weighted portfolio where acquirer and target returns are valued by each firm's valuation, while Table 10 presents the results of regressions using the cumulative abnormal returns between a value-weighted acquirer and target portfolio using alternative event windows ([-1, +1] and [-5, +5] event windows), though the main results are presented in Table 3 with CARs in the [-3, +3] event window. To calculate abnormal returns, I use a market model with the CRSP value-weighted return as the benchmark return, using days -219 through -20 relative to the deal announcement date (t=0) as the estimation period. Cumulative abnormal returns are calculated over the -3 to +3 trading-day period centered on t=0. In addition, I create deciles for both the employee morale similarity measure and take the top and bottom deciles to create high similarity and low similarity variables. Table 3 reports the results of OLS regressions for the 7-day abnormal returns centered at the deal announcement date for a value-weighted portfolio using acquirer and target returns. The deal characteristics used in the three models include indicator variables for firms incorporated in the same state, for firms in the same SIC-industry code, for firms belonging to high technology industries, for the deal being an all-cash deal or a tender offer, and for the relative size of the deal. The firm characteristics included, such as book-to-market, assets, and sales growth, have been shown in prior research to drive such deals.

In Tables 3 and 10, the CAR analysis is presented in a multivariate setting with the CAR for different trading periods, which is an appropriate proxy for a deal's short-term gains, as the dependent variable, the employee morale similarity measure as the main independent variable of interest, and the combined acquirer and target firm characteristics and deal variables as the control variables. All models include year and industry fixed effects. The main variables of interest are Cosine_SimxPE, High_Cosine_SimxPE, and Low_Cosine_SimxPE. High_Cosine_SimxPE and Low_Cosine_SimxPE take the value of 1 if the deal pair is in the top 10% or bottom 10% of the employee morale similarity measure, respectively. I interact the cosine similarity measure, the high cosine similarity dummy variable, and the low cosine similarity dummy variable with the private equity indicator variable. I first test the model with the CARs in the [-3, +3] event window in Table 3, and then the model with the CARs in the [-1, +1] and [-5, +5] event windows in Table 10. I first

discuss the results in Table 3. I find no statistical significance in both Table 3 and Table 10. The market doesn't react either positively or negatively to similar or dissimilar private equity deals.

C. Employee Morale Similarity and Long-Term Synergies

[Insert Table 4 here]

In sub-section C, I investigate the relation between employee morale similarity and long-term synergies (abnormal return on assets). I expect that PE acquirers enhance the performance of the target companies they acquire. To test this, I use the following model and report the results of the model in Table 4.

(3)

$$ROA_{imt+n} = \beta_0 + \beta_1 EmployeeMoraleSimilarity_{imt-1} + \beta_2 PairControls_{imt-1} + YearAndIndustryFEs_{\mathrm{m}} + \varepsilon_{imt}$$

Abnormal operating performance is calculated as return on assets, which is EBITDA scaled by assets in the beginning of the year, a year following the deal announcement minus the median ROA in the firm's SIC-industry code in the corresponding year. The main independent variables of interest remain Cosine_SimxPE, High_Cosine_SimxPE, and Low_Cosine_SimxPE as in the previous two tables. Equation (3) also includes the same pair controls and year and industry fixed effects as in the previous regressions. Models (1) and (2) present results for regressions with abnormal ROA of the merged firm two years after the deal announcement date as the dependent variable, while Models (3) and (4) present results for regressions with abnormal ROA of the merged firm three years after the deal announcement date as the dependent variable.

The results in Table 4 reveal the impact of morale similarity on abnormal performance two and three years after the merger. The unique effect of morale similarity on abnormal ROA, when the PE indicator is equal to 0, is positive as can be seen in Models (1) and (3). When interpreting the unique effect of private equity investment on abnormal ROA two and three years after the merger, one needs to acknowledge the value of morale similarity. When employee morale similarity is equal to zero, the impact of private equity investment on abnormal ROA is the coefficient behind the PE indicator variable (PE_Indicator). In Models (1) and (3), the coefficient on PE_Indicator is positive. Since morale similarity is a continuous variable, morale similarity is unlikely to be equal

to zero. When employee morale similarity is equal to one, the impact of private equity investment on abnormal ROA is the coefficient behind the PE indicator variable (PE_Indicator) and the coefficient behind the interaction between PE indicator variable and morale similarity (CosineSimxPE). Despite the positive coefficient on the interaction variable between morale similarity and the PE indicator variable in Models (1) and (3), the overall impact of private equity investment (with the inclusion of the PE indicator variable (PE_Indicator)) on abnormal ROA is negative. For highly similar deals (those in the highest top 10% of morale similarity), the impact of PE on abnormal ROA two and three years is negative. This points to private equity's ability to manage companies with dissimilarities better than the average industrial acquirer.

The two cases above looked at when the two companies have orthogonal morale similarity (when morale similarity is equal to zero) and when the two companies have identical morale similarity (when morale similarity is equal to one). If one looks at the average company in the PE subsample, the impact of private equity on abnormal ROA is positive. When there is private equity investment present in the acquirer, in all the models with morale similarity (Models (1) and (3)), the impact of morale similarity on abnormal ROA is positive. One can conclude that for the average company in the sample, private equity improves profitability two and three years after the merger for the average company in the sample. However, for the top decile of deals merged based on morale similarity, private equity damages abnormal performance. This points to private equity's ability to manage companies with greater dissimilarities better following the merger. The marginal impact of private equity investment on abnormal ROA two and three years after the merger (Models (7) and (8)) is negative in models where the interaction between morale similarity and the private equity indicator (CosineSimxPE) is excluded. Models (5) and (6) are used to validate our results. Instead of a PE indicator, we include an indicator variable to reflect when a deal has no private equity investment. One can see that the signs are changing from negative to positive for the interaction variable. The results in this section of the paper add support to Hypothesis H2.

D. Employee Morale Similarity and Firm Size and Efficiency Measures

[Insert Table 5 here]

[Insert Figure 1 here]

In this sub-section, I explore various other performance measures, such as firm size and efficiency measures (in addition to industry-adjusted abnormal operating performance in sub-section C). I conjecture that private equity acquirers grow the companies they acquire and improve their operating efficiency and that these results are more evident in less similar companies. The results of growth and efficiency tests are presented in Table 5. Panel A documents findings with firm size measures, while Panel B documents findings with efficiency measures. The methodology of performing the analysis is similar to the one presented in the abnormal operating performance section.

The results in Panel A suggest that deals with less similar employees achieve higher abnormal Sales and EBITDA two and three years following the deal. As private equity acquirers acquire companies with less similar employee morale and as those deals achieve higher operating performance (proven in the above sections), here one can observe that private equity acquirers also grow the companies they acquire in terms of their size. This adds another layer to Hypothesis H2 that private equity acquirers have performance goals in mind and achieve them following acquisitions. The results in Panel B suggest that deals with less similar employee morale achieve higher abnormal efficiency in terms of Asset Turnover and Sales per Employee. Overall, the results in Table 5 suggest that private equity acquirers grow the companies they acquire, achieve higher performance targets, and achieve higher efficiency in deals in which targets are more dissimilar to PE-backed companies. Figure 1 shows the coefficients from regressions using performance measures (Panel A with Abnormal ROA), firm size measures (Panel B with Abnormal Sales and Panel C with Abnormal EBITDA), and efficiency measures (Panel D with Abnormal Asset Turnover and Panel E with Abnormal Sales per Employee). In each plot, I report the coefficient for the interaction between cosine similarity and the PE indicator, the coefficient for the cosine similarity measure, and the coefficient for the PE indicator. As one can see, the coefficients on the interaction between cosine similarity and the PE indicator variable are negative for all performance, firm size, and efficiency measures, while the results in Table 5 show that when breaking down the cosine similarity into high and low groups, the coefficients for the interaction between the cosine similarity measure and the PE indicator variable are positive for the low cosine similarity group, which signifies that these companies achieve better performance and efficiency, and grow their companies following deals' completion.

E. Employee Morale Similarity and Employment Changes

[Insert Table 6 here]

In sub-section E, I investigate the relation between employee morale similarity and employment changes in the years following the merger announcement. I expect private equity acquirers to perform greater employment changes following the acquisition, though the effect disappears with time. To test this, I use the following model and report the results in Table 6.

(4)

$$Employment\ Changes_{it+n} = \beta_0 + \beta_1 EmployeeMoraleSimilarity_{it-1} + \beta_2 PairControls_{imt-1} + YearAndIndustry\ FEs_{\mathrm{m}} + \varepsilon_{imt}$$

Table 6 explores the manner in which employees' attitudes are associated with employment changes. Cosine_SimxPE is the main independent variable of interest as in the previous tables. The same pair controls and year and industry fixed effects are included in the equation as in previous regressions. Models (1) and (2) show results of regressions with employment changes one year after the deal as the dependent variable, while Models (3) and (4) show results of regressions with employment changes six years after the deal as the dependent variable. The results suggest that the higher (lower) the similarity in acquirer-target pairs, the lower (higher) the employment changes in those firms. For example, looking at one year following the deal in Table 6, the coefficient on Low_Cosine_SimxPE is positive and statistically significant at the 10% level (44.79), while looking at six years following the deal, the coefficient on High_Cosine_SimxPE is negative and statistically significant at the 1% level (-1.616). In PE-backed deals, more similar firms are less likely to let go of their employees and participate in labor restructurings. It is likely that to achieve high returns for their investors, private equity prioritizes performance and decides to let go of less efficient workers to achieve those performance goals in less similar firms where target employees fit in private equity culture less. The results are consistent with Hypothesis H2.

F. Level and Volatility of Ratings and Acquirer and Target Price Runup

[Insert Table 7 here]

In sub-section F, I investigate the relation between acquirer and target level and volatility of aggregate ratings and acquirer and target separate ratings prior to acquisition announcements. I conjecture that both acquirer and target employees have information on an upcoming PE-backed deal due to a pre-deal matching process between the PE acquirer and the target company. To be specific, Table 7 is related to exploring whether worker morale can predict returns and whether investors can trade on employees' information prior to deal announcements. In Table 7, acquirer and target cumulative abnormal returns in the [-21, - 4] and [-252, -4] event windows are the dependents variables, while the level and standard deviation of acquirer and target ratings, and indicator variables for the high and low level and standard deviation of acquirer and target ratings each interacted with a private equity indicator are the main independent variables of interest. The regressions also include control and deal variables, and year and industry fixed effects.

The most notable results are contained in Panel A in the [-252, -4] event window (one year before). The main independent variables of interest are MeanxPE and SDxPE for both acquirer and target portfolios (which indicates an interaction between the level and variability of employee morale for both acquirer and target companies and a private equity indicator). Models (1) and (2) show the results of regressions with cumulative abnormal returns in the [-21, -4] and [-252, -4] event windows before the deal announcement date for the acquirer, while Models (3) and (4) show the results of regressions with cumulative abnormal returns in the [-21, -4] and [-252, -4] event windows before the deal announcement date for the target. The coefficient on MeanxPE in the [-21, -4] event window before the deal for an acquirer portfolio (Model (1)) is positive and statistically significant at the 5% level which means that a one unit increase in MeanxPE leads to a 0.582% increase in acquirer portfolio returns, while the coefficient on SDxPE in the [-21, -4] event window before the deal for an acquirer portfolio is negative and statistically significant at the 5% level which means that a one unit increase in SDxPE leads to a 1.05% decrease in acquirer portfolio returns. The coefficient on MeanxPE in the [-21, -4] event window before the deal for a target portfolio (Model (3)) is positive and statistically significant at the 10% level which means that a one unit increase in MeanxPE leads to a 0.258% increase in target portfolio returns in the specified event window before the deal announcement date. The results in the table give support to Hypothesis H1 that it is likely that private equity acquirers perform a pre-deal screening process, wherein both companies learn about each other and that both firms' employees have knowledge

of the deal prior to the deal announcement. This employee knowledge of an incoming PE-backed deal is a positive signal for deal quality.

G. Level and Volatility of Ratings and Probability of Private Equity Deal and Price Runup Using Breakdown of Ratings

[Insert Table 8 and Table 9 here]

In sub-section G, I investigate the relation between acquirer and target level and volatility of rating categories and acquisition probability in Table 8, while I investigate the relation between acquirer and target level and volatility of rating categories and price runup in Table 9. Tables 8 and 9 provide an analysis of the informational content of individual rating categories one month before deal announcement in probability of private equity deal and price runup regressions. Table 8 provides additional insight on the employee contentment characteristics of the target companies PE acquirers go after, while Table 9 provides insight on the impact of individual rating categories on the price runup prior to deal announcement. Table 8 has the same setup as Table 2 and presents the results of a logistic regression of actual deals relative to a matched sample of pseudo deals based on industry, size, and book-to-market characteristics. The main independent variables of interest are the individual rating categories interacted with a private equity indicator variable. The most notable results in Panel A of Table 8 are for the interaction variables between private equity and work-life balance. The lower the variability of work-life balance from the perception of acquirer employees, the higher the probability of a private equity deal (the coefficient on WL_SD_AcqxPE is negative and statistically significant at the 10% level). Despite documenting that private equity acquirers merge with companies with low morale (as displayed by aggregating target ratings and taking their mean in Table 2), I don't find any effect that acquirers go after targets with low morale as shown by the various rating categories.

Table 9 presents results of regressions with acquirer and target returns over the year before the deal announcement date as predicted by the individual rating categories of acquirer and target ratings. Panel A shows results of regressions with CARs in the [-21, -4] event window as predicted by acquirer rating categories one month before the deal announcement, while Panel B shows results of regressions with CARs in the [-21, -4] event window as predicted by target rating categories one month before the deal announcement. The main independent variables of interest are again the different employee morale categories each interacted with a private equity indicator.

The results in Panel A show that investors holding acquirer companies with high levels of career opportunities, culture values, and low levels of senior leadership (as seen and perceived by acquirer employees) achieve higher abnormal returns in the [-21, -4] event window.

Model (1) shows that a one unit increase in CO_Mean_AcqxPE leads to a 3.72% increase in CARs in the [-21, -4] event window and a one unit increase in CO_SD_AcqxPE leads to a 6.92% decrease in CARs in the same event window. Another notable result is included in Model (4) – a one unit increase in SL_Mean_AcqxPE leads to a 21.2% decrease in CARs in the [-21, -4] event window and a one unit increase in SL_SD_AcqxPE leads to a 21.4% increase in CARs in the same event window. The most significant results in Panel B come from portfolios of holding target companies with low target employees' perceptions of compensation benefits and overall rating. Model (1) shows that a one unit increase in CO_SD_TxPE leads to a 2.94% decrease in CARs in the [-21, -4] event window. Model (6) shows that a one unit increase in OR_Mean_TxPE leads to a 2.38% decrease in CARs in the [-21, -4] event window. The results in Tables 8 and 9 are consistent with Hypothesis H1 and add explanatory power to the matching process between private equity acquirers and targets that happens prior to the deal and show that both acquirer and target employees hold information on an upcoming deal one month before deal announcement as reflected in acquirer and target price runup.

H. Impact of Pre-Merger Employee Morale on Post-Merger Employee Morale

[Insert Figure 2 here]

In sub-section H, I explore the impact of pre-merger morale on post-merger morale. In Figure 2, I explore how the various groupings, signifying the difference between acquirer and target one year before the merger announcement, impact post-merger acquirer morale at the year of the merger, one year after the merger, two years after the merger, and three years after the merger. The post-merger acquirer morale is impacted in cases where the acquiring company is merging with a target with less similar employee morale. As one can see, the impact of pre-merger morale on post-merger morale in high morale similarity mergers remains consistent following the years of the merger. However, the impact of pre-merger morale on post-merger morale in low morale similarity mergers is positive within the first two years of the merger announcement after which it becomes negative in the following two years which adds proof that private equity dampens the impact of employee morale. One could conclude that the similarity between acquirer and target before the

merger has a greater impact on the post-merger acquirer employee morale level in cases in which the employee morale similarity between acquirer and target is low than in cases in which the similarity between acquirer and target is high.

I. Cross-Sectional Variation in Post-Deal Integration Needs

[Insert Table 11 here]

In this sub-section, I implement cross-sectional analyses to provide further evidence on the integration channel between PE-backed acquirers and targets. Specifically, I examine whether the impact of employee morale similarity on short-term and long-term synergies (cumulative abnormal returns and abnormal operating performance, respectively) is significantly stronger in situations in which post-deal integration would be of greater importance to the acquiring firm. In Panels A and B of Table 11, I examine whether certain industries in the sample exhibit greater sensitivity of expected deal synergies to the measure of employee morale in PE-backed deals.

First, I compare the effects of employee morale similarity for firms in capital-intensive industries and those in labor-intensive industries. To classify capital- or labor-intensive industries, I follow prior literature and define capital-intensive industries as those with SIC code smaller than 5000 and define labor-intensive industries as those with SIC code higher than or equal to 5000. I define a deal as capital- (labor-) intensive if the acquirer is from capital- (labor-) intensive industries. I run analyses of short- and long-term deal synergies (as in Tables 3 and 4) for these subsamples. I report the results in Models (1), (5), and (9) for capital-intensive industries and in Models (2), (6), and (10) for labor-intensive industries. In the main specification in Model (5) with CARs in the [-3, +3] event window, the coefficient on Cosine_SimxPE is positive and statistically significant at the 1% level, while in the other two with alternative event windows of [-1, +1] and [-5, +5] days around the deal announcement date, the coefficients are positive and statistically significant at the 1% level in a similar manner. Therefore, I find evidence that the effect of employee morale similarity will be greater in private equity deals with acquirers from capital-intensive industries. I do the same analysis with abnormal operating performance one, two, and three years after the deal. I report the results in Models (1), (5), and (9) for capital-intensive industries and in Models (2), (6), and (10) for labor-intensive industries in Panel B. The most significant result to point out is in Model (10) where I find that labor-intensive industries with more similar employee morale achieve lower abnormal ROA three years after the deal. The

coefficient on Cosine_SimxPE is negative and statistically significant at the 5% level (-1.375). Taking together the results from Panel A, I can see that the impact of employee morale similarity on CARs is more pronounced in capital-intensive industries, while the impact of employee morale similarity on abnormal ROA is more pronounced in labor-intensive industries.

I also examine whether the effects of employee contentment similarity are greater for deals in which acquirers and targets have greater operational overlap. I don't find any evidence that deals, in which acquirers and targets are in the same industry, require stronger cultural fit. Both within- and cross-industry deals exhibit significant results that employee contentment similarity has an impact on short-term synergies (as proxied by CARs using different event windows). For instance, in the main specification with CARs in the [-3, +3] event window, I find that the coefficient on Cosine_SimxPE is positive and statistically significant at the 1% level for both within- and cross-industry private equity deals. The same applies to the results in cross-sectional regressions in within- and cross-industry private equity deals with abnormal ROA. For instance, in the main specifications with abnormal ROA two and three years after the deal, I find that the coefficient on Cosine_SimxPE is negative and statistically significant at the 1% level for both within- and cross-industry private equity deals.

V. Conclusion

The paper documents evidence of the ways in which private equity deals differ from mergers and acquisitions – PE's focus on performance metrics and their intensive pre-deal screening process. PE firms' incentives differ in terms of operational and daily business practices from those of the portfolio companies they acquire. Second, another aspect of PE-backed deals, which make them different from regular mergers, is the way the PE firm and portfolio company match prior to the deal itself where the PE firm and portfolio company negotiate with each other and decide whether they will go through with the deal or not. I would assume that at this point PE firms make their so-called performance culture transparent to the portfolio company. I would also assume that in subsequent PE-backed deals, PE acquirers similarly perform a pre-deal screening process during which they screen their potential targets and decide whether they would go through with the deal

or not. I find empirical evidence that private equity acquirers tend to match with targets with morale dissimilarities.

I also document evidence of private equity's ability to manage companies with morale dissimilarities better. I find that long-term abnormal operating performance of dissimilar deals is higher and that labor restructurings are higher showing that private equity firms acquire companies to turn them around and reorganize the acquired companies' labor force. Additionally, private equity acquirers grow the companies they acquire and increase their operating efficiency in deals with morale dissimilarities. As the deal nears, it is likely that PE acquirers learn about and reveal targets' employee morale as a result of a pre-deal screening process private equity firms participate in which leads to both acquirer and target employees having deal-related information prior to the deal announcement. Thus, my paper makes the following contributions to the private equity literature. Private equity acquirers match with companies with morale dissimilarities due to their view of companies with greater differences being value-enhancing. I document that PE firms value high performance, grow the companies they acquire and increase their operating efficiency, and that they are well-equipped and well-experienced to manage dissimilar to them companies better than those similar to them.

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Table 1: Summary Statistics

Table 1 reports summary statistics for the private equity sample. Panel A provides summary statistics of acquirers and targets in the actual deal sample; Panel B provides additional statistics of the merged sample; Panel C provides statistics on acquirer and target overall level and dispersion of ratings in the Glassdoor data; Panel D provides statistics on acquirer and target individual categories of ratings in the Glassdoor data. All definitions of the respective variables and their calculations are provided in Appendix 1.

Panel A: Acquirer and Target Characteristics

Variable	Observations	Mean	Standard Deviation
Assets_Acq	22	19569.290	51244.950
BTM_Acq	22	0.6211400	0.2705941
ROA_Acq	22	0.1115502	0.0925145
Sale_Growth_Acq	22	0.9964944	0.2800459
Cash_Acq	22	0.1680935	0.1736280
Book_Leverage_Acq	22	0.2818161	0.2993146
RDA_Acq	22	0.0274936	0.0398988

Variable	Observations	Mean	Standard Deviation
Assets_T	22	13109.420	50685.850
BTM_T	22	0.6848915	0.3888619
ROA_T	22	0.0197050	0.2064467
Sale_Growth_T	22	0.8681976	0.3868386
Cash_T	22	0.2044637	0.1893024
Book_Leverage_T	22	0.2050440	0.2428169
RDA_T	22	0.0566149	0.0718118

Panel B: Deal Characteristics

Variable	Observations	Mean	Standard Deviation
BTM	22	0.6530157	0.2621321
Book_Leverage	22	0.2434300	0.2102807
Cash	22	0.1862786	0.1562057
Relative_Size	22	0.2466270	0.3451099
Same_Industry	22	0.8181818	0.3947710
High_Tech	22	0.2727273	0.4558423
Same_State	22	0.6363636	0.4923660
All_Cash	22	0.7727273	0.4289320
Tender_Offer	22	0.4545455	0.5096472
Cosine_Sim	22	0.5039299	0.4732027

Panel C: Acquirer and Target Level and Variability Statistics

Variable	Observations	Mean	Standard Deviation
Year Before			
Mean_Acq	22	14.32920	3.365494
SD_Acq	22	6.264200	2.894548
Mean_T	22	18.04705	4.869079
SD_T	22	5.949180	2.680237
Month Before			
Mean_Acq	22	19.61254	4.374517
SD_Acq	22	7.201327	1.891548
Mean_T	22	18.03858	3.354159
SD_T	22	6.952144	2.105946
Three Months Before			
Mean_Acq	22	20.55410	4.412379
SD_Acq	22	7.014795	1.681359
Mean_T	22	19.79392	4.538415
SD_T	22	7.192279	1.971760

Panel D: Acquirer and Target Rating Categories' Characteristics

Variable	Observations	Mean	Standard Deviation
Month Before			
CO_Mean_Acq	22	3.012812	0.700751
CB_Mean_Acq	22	3.341880	0.736892
CV_Mean_Acq	22	3.359438	0.842336
WL_Mean_Acq	22	3.441453	0.841634
SL_Mean_Acq	22	2.980974	1.090463
OR_Mean_Acq	22	3.475981	0.619886
CO_SD_Acq	22	1.005639	0.509105
CB_SD_Acq	22	1.190876	0.490158
CV_SD_Acq	22	1.247288	0.479013
WL_SD_Acq	22	1.295895	0.650628
SL_SD_Acq	22	1.243645	0.290023
OR_SD_Acq	22	1.217984	0.360235
CO_Mean_T	22	3.019614	0.611258
CB_Mean_T	22	3.039683	0.552942
CV_Mean_T	22	2.982253	0.652979
WL_Mean_T	22	3.061338	0.562791
SL_Mean_T	22	2.685474	0.908422
OR_Mean_T	22	3.250216	0.523749
CO_SD_T	22	1.083614	0.341146
CB_SD_T	22	1.247580	0.448578
CV_SD_T	22	1.093152	0.644281
WL_SD_T	22	1.365057	0.428172
SL_SD_T	22	1.051571	0.251308
OR_SD_T	22	1.111169	0.391730

Table 2: Probability of a Merger

Table 2 reports the results from logit regressions of the likelihood of an observation being an actual (as opposed to hypothetical) merger on the employee morale similarity of the acquirer-target pair and other control variables. The dependent variable is a binary variable that takes the value of one if the observation is an actual merger deal, as defined in Table 1. This variable takes the value of zero if the observation is a pseudo firm-pair in the control group. I follow Bena and Li (2014) to pair each actual acquirer with a pseudo target based on the actual target's characteristics (the hypothetical match is in the same industry, is closest in market value of equity and in book-to-market to the deal's actual target firm) and to pair each actual target with a pseudo acquirer based on the actual acquirer's characteristics (the hypothetical match is in the same industry, is closest in market value of equity and in book-to-market to the deal's actual acquirer firm). The sample period is from 2008 to 2020. The acquirer and target controls are BTM, ROA, Book_Leverage, Sale_Growth, Cash, and RDA. Constant terms are reported. *T*-statistics are reported in parentheses. All results hold with and without deal fixed effects (the tables report results without deal fixed effects). In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	Industry-Size-BTM Match								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cosine_SimxPE	-0.717			-2.006	**-2.258*** **	-0.329			
	(0.554)			(1.233)	**(0.734)**	(1.048)			
Cosine_Sim	**0.882*** **			**1.924*** **	**2.348*** **	**0.488***	**0.882*** **	**2.348*** **	**0.488***
	(0.180)			**(0.360)**	**(0.328)**	**(0.261)**	**(0.180)**	**(0.328)**	**(0.261)**
Mean_AcqxPE		-0.0269		0.0356	0.0227			-0.0239	
		(0.0427)		(0.0503)	(0.0463)			(0.0507)	
Mean_Acq		**0.0452*** **		-0.0121	-0.00290			-0.00290	
		(0.0111)		(0.0147)	(0.0133)			(0.0133)	
SD_AcqxPE		0.0597		0.115	0.140			0.0731	
		(0.0943)		(0.127)	(0.0998)			(0.121)	
SD_Acq		**-0.0965*** **		**-0.167*** **	**-0.176*** **			**-0.176*** **	
		(0.0139)		**(0.0257)**	**(0.0205)**			**(0.0205)**	
Mean_TxPE			**-0.0770** **	-0.0154		-0.0734			**-0.0847** **
			(0.0363)	(0.0603)		(0.0496)			**(0.0370)**
Mean_T			**0.0812*** **	0.0249		**0.0720*** **			**0.0720*** **
			(0.0134)	(0.0187)		**(0.0139)**			**(0.0139)**
SD_TxPE			0.0517	-0.0197		0.0746			0.0595
			(0.0984)	(0.123)		(0.111)			(0.0991)
SD_T			**-0.0576***	0.0315		**-0.0868** **			**-0.0868** **
			(0.0309)	(0.0464)		**(0.0373)**			**(0.0373)**
PE_Indicator	**16.22*** **	**15.89*** **	**17.09*** **	**16.47*** **	**15.80*** **	**17.15*** **	**15.69*** **	**17.12*** **	**17.12*** **
	(0.345)	**(0.422)**	**(0.344)**	**(0.444)**	**(0.441)**	**(0.362)**	**(0.257)**	**(0.347)**	**(0.347)**
Acquirer Controls									
ROA_Acq	-0.666	-0.834	-0.624	-0.830	-0.901	-0.599	-0.666	-0.599	-0.599
	(0.909)	(0.859)	(0.926)	(0.933)	(0.947)	(0.932)	(0.909)	(0.932)	(0.932)
Sale_Growth_Acq	-0.142	-0.0333	-0.152	-0.0818	-0.0128	-0.154	-0.142	-0.154	-0.154
	(0.202)	(0.225)	(0.220)	(0.211)	(0.194)	(0.218)	(0.202)	(0.218)	(0.218)
Cash_Acq	0.0514	0.227	0.0548	0.172	0.217	0.0401	0.0513	0.0401	0.0401
	(0.563)	(0.544)	(0.549)	(0.559)	(0.593)	(0.554)	(0.563)	(0.554)	(0.554)
Book_Leverage_Acq	0.196	0.385	0.360	0.347	0.257	0.349	0.196	0.349	0.349
	(0.424)	(0.422)	(0.434)	(0.455)	(0.447)	(0.433)	(0.424)	(0.433)	(0.433)
RDA_Acq	-0.126	-0.487	0.228	-0.199	-0.968	0.157	-0.125	0.157	0.157
	(1.436)	(1.448)	(1.504)	(1.519)	(1.522)	(1.479)	(1.436)	(1.479)	(1.479)
BTM_Acq	0.182	-0.0398	0.00893	0.0214	0.0873	0.0311	0.182	0.0312	0.0312
	(0.406)	(0.398)	(0.415)	(0.417)	(0.432)	(0.419)	(0.406)	(0.419)	(0.419)
Target Controls									
ROA_T	-0.708	-0.637	-0.684	-0.566	-0.564	-0.683	-0.708	-0.683	-0.683
	(0.578)	(0.593)	(0.585)	(0.623)	(0.638)	(0.581)	(0.578)	(0.581)	(0.581)
Sale_Growth_T	-0.0395	0.0312	-0.0700	-0.0393	-0.0127	-0.0731	-0.0395	-0.0731	-0.0731
	(0.166)	(0.151)	(0.170)	(0.162)	(0.166)	(0.174)	(0.166)	(0.174)	(0.174)
Cash_T	-0.479	-0.221	-0.248	-0.386	-0.604	-0.274	-0.479	-0.274	-0.274
	(0.541)	(0.535)	(0.533)	(0.557)	(0.629)	(0.541)	(0.541)	(0.541)	(0.541)
Book_Leverage_T	-0.325	-0.169	-0.394	-0.369	-0.443	-0.421	-0.325	-0.421	-0.421
	(0.392)	(0.395)	(0.409)	(0.425)	(0.435)	(0.412)	(0.392)	(0.412)	(0.412)
RDA_T	-0.223	-0.597	-0.417	-0.355	-0.0550	-0.317	-0.223	-0.317	-0.317
	(0.958)	(0.954)	(0.946)	(0.985)	(1.036)	(0.945)	(0.958)	(0.945)	(0.945)
BTM_T	-0.623*	-0.569*	-0.655*	-0.634*	-0.695*	-0.685*	-0.624*	-0.685*	-0.685*
	(0.344)	(0.343)	(0.350)	(0.360)	(0.385)	(0.354)	(0.344)	(0.354)	(0.354)
Constant	0.276	0.0623	0.234	0.0818	0.128	0.295	0.276	0.295	0.295
	(0.400)	(0.405)	(0.419)	(0.412)	(0.419)	(0.417)	(0.400)	(0.417)	(0.417)
Observations	765	765	765	765	765	765	765	765	765

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Value-Weighted CARs in [-3, +3] Event Window

Table 3 reports Cumulative Abnormal Returns (CARs) around merger announcement for the subsample of 22 private equity deals in the sample. The dependent variable is CAR, the 7-day cumulative abnormal announcement return for a value-weighted portfolio of the acquirer and target centered on the deal announcement date. The sample period is from 2008 to 2020. The Panels estimate OLS regressions with CARs as the dependent variable with Cosine_Sim and groups sorted based on employee morale level of acquirer and target and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the (market) value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	CARs of Combined Acquirer and Target Portfolio			
	(1)	(2)	(3)	(4)
Cosine_SimxPE	0.393			
	(0.751)			
Cosine_Sim	**0.183****			
	(0.0910)			
High_Cosine_SimxPE		0.0498		-0.0284
		(0.0879)		(0.0749)
High_Cosine_Sim		0.0171		0.0208
		(0.00338)		(0.0195)
Low_Cosine_SimxPE			0.0256	0.0546
			(0.0858)	(0.0922)
Low_Cosine_Sim			**-0.0379****	-0.0115
			(0.0189)	(0.0179)
PE_Indicator	-0.351	-0.0217	-0.00646	-0.0190
	(0.701)	(0.0233)	(0.0577)	(0.0276)
Same_Industry	0.0808***	0.0817***	0.0589***	0.0604***
	(0.0250)	(0.0254)	(0.0207)	(0.0220)
Same_State	-0.0104	-0.00708	0.0144	0.0172
	(0.0184)	(0.0191)	(0.0139)	(0.0131)
High_Tech	-0.0460	-0.0533	0.0153	0.0102
	(0.0412)	(0.0391)	(0.0318)	(0.0297)
Relative_Size	-0.0252	-0.0224	0.00522	0.00745
	(0.0201)	(0.0207)	(0.0181)	(0.0175)
All_Cash	0.0249	0.0332	0.00727	0.00506
	(0.0235)	(0.0263)	(0.0151)	(0.0162)
Tender_Offer	0.00794	0.00197	0.0234	0.0228*
	(0.0186)	(0.0188)	(0.0150)	(0.0130)
BTM	0.0692**	0.0784**	0.0130	0.0103
	(0.0313)	(0.0321)	(0.0225)	(0.0250)
Book_Leverage	-0.132**	-0.128**	-0.0466	-0.0532
	(0.0632)	(0.0576)	(0.0452)	(0.0466)
Cash	-0.0737	-0.0700	-0.115***	-0.117***
	(0.0737)	(0.0661)	(0.0330)	(0.0343)
Constant	-0.225**	-0.0628	-0.0205	-0.0161
	(0.0868)	(0.0580)	(0.0416)	(0.0419)
Industry FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Observations	255	255	255	255
R-squared	0.517	0.510	0.216	0.228

Robust standard errors in parentheses

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

Table 4: Abnormal Operating Performance

Table 4 reports the results of OLS regressions explaining industry-adjusted (abnormal) post-merger operating performance. Operating performance is defined as EBITDA scaled by the market value of assets at the beginning of the year, and abnormal operating performance is calculated as the operating performance (defined above) minus the median operating performance in the corresponding acquirer's SIC industry. The sample period is from 2008 to 2020. In the various Panels in Table 4, I estimate OLS regressions with abnormal ROA as the dependent variable with employee morale similarity and groups and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the market value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	Abnormal ROA Two and Three Years Following Merger							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cosine_SimxPE	-0.781		**-1.050*** **		0.781	1.050***		
	(0.751)		**(0.358)**		(0.751)	(0.358)		
Cosine_Sim	**0.300** **		**0.109***		-0.480	**-0.940*** **	**0.305*** **	**0.116***
	(0.116)		**(0.0603)**		(0.784)	**(0.354)**	**(0.110)**	**(0.0656)**
High_Cosine_SimxPE		**-0.0701*** **		**-0.0345*** **				
		(0.0249)		**(0.0126)**				
High_Cosine_Sim		0.0527		0.0260				
		(0.0442)		(0.0308)				
Low_Cosine_SimxPE		0.0125		**-0.171*** **				
		(0.0332)		**(0.0492)**				
Low_Cosine_Sim		0.101		0.0626				
		(0.150)		(0.0686)				
PE_Indicator	0.600	-0.122	**0.890*** **	-0.00865	0.600	**-0.890*** **	**-0.0909***	-0.0386
	(0.627)	(0.115)	**(0.286)**	(0.0541)	(0.627)	**(0.286)**	**(0.0523)**	(0.0435)
Same_Industry	-0.0190	-0.00768	-0.0407***	-0.0276*	-0.0190	-0.0407***	-0.0158	-0.0363**
	(0.0260)	(0.0268)	(0.0152)	(0.0166)	(0.0260)	(0.0152)	(0.0259)	(0.0161)
Same_State	-0.000813	-0.00601	-0.0191	-0.0214	-0.000813	-0.0191	-0.00820	-0.0291*
	(0.0267)	(0.0308)	(0.0182)	(0.0188)	(0.0267)	(0.0182)	(0.0231)	(0.0170)
High_Tech	0.0673	0.0652	0.0310	0.0363	0.0673	0.0310	0.0694	0.0339
	(0.0430)	(0.0436)	(0.0326)	(0.0313)	(0.0430)	(0.0326)	(0.0423)	(0.0313)
Relative_Size	-0.0109	-0.0122	-0.00763	-0.00576	-0.0109	-0.00763	-0.0215	-0.0219
	(0.0298)	(0.0298)	(0.0160)	(0.0154)	(0.0298)	(0.0160)	(0.0244)	(0.0133)
All_Cash	0.0173	0.0259	0.00912	0.00824	0.0173	0.00912	0.00290	-0.0103
	(0.0507)	(0.0527)	(0.0365)	(0.0363)	(0.0507)	(0.0365)	(0.0440)	(0.0335)
Tender_Offer	-0.0659**	-0.0560**	-0.0817***	-0.0785***	-0.0659**	-0.0817***	-0.0578	-0.0708***
	(0.0323)	(0.0250)	(0.0248)	(0.0220)	(0.0323)	(0.0248)	(0.0364)	(0.0244)
BTM	-0.0528	-0.0644	-0.103***	-0.106***	-0.0528	-0.103***	-0.0515	-0.101***
	(0.0592)	(0.0420)	(0.0337)	(0.0304)	(0.0592)	(0.0337)	(0.0582)	(0.0355)
Book_Leverage	-0.0508	-0.0739	-0.0756	-0.0842**	-0.0508	-0.0756	-0.0578	-0.0851*
	(0.0777)	(0.0790)	(0.0461)	(0.0386)	(0.0777)	(0.0461)	(0.0753)	(0.0474)
Cash	0.181***	0.169***	0.0685	0.0710	0.181***	0.0685	0.178***	0.0649
	(0.0635)	(0.0602)	(0.0488)	(0.0437)	(0.0635)	(0.0488)	(0.0633)	(0.0513)
Constant	-0.240*	0.0417	0.0786	0.171***	0.360	0.969***	-0.241*	0.0773
	(0.131)	(0.0692)	(0.0816)	(0.0483)	(0.641)	(0.297)	(0.124)	(0.0882)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	255	255	255	255	255	255	255	255
R-squared	0.484	0.500	0.648	0.693	0.484	0.648	0.473	0.616

Robust standard errors in parentheses

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

Table 5: Industry-Adjusted Firm Size and Efficiency Measures

Table 5 reports the results of OLS regressions explaining industry-adjusted (abnormal) size and efficiency measures. Sales, EBITDA, Asset Turnover, and Sales per Employee are adjusted for industry numbers and are calculated as Sales, EBITDA, Asset Turnover, and Sales per Employee minus the median Sales, EBITDA, Asset Turnover, and Sales per Employee in the corresponding acquirer's SIC industry. The sample period is from 2008 to 2020. In the various Panels in Table 5, I estimate OLS regressions with abnormal Sales, EBITDA, Asset Turnover, and Sales per Employee as the dependent variables with employee morale similarity and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the market value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

Panel A. Industry-Adjusted Firm Size Measures

	Sales			
	Two Years After (1)	**Two Years After (2)**	**Three Years After (3)**	**Three Years After (4)**
Cosine_SimxPE	-25.41		**-41.24****	
	(21.47)		**(16.65)**	
Cosine_Sim	1.417		**-10.24*****	
	(7.935)		**(3.758)**	
High_Cosine_SimxPE		-5.476		**-5.704****
		(3.615)		**(2.353)**
High_Cosine_Sim		0.865		1.703
		(1.573)		(1.401)
Low_Cosine_SimxPE		1.663		**4.581***
		(3.261)		**(2.593)**
Low_Cosine_Sim		-0.488		-1.438
		(1.382)		(1.233)
PE_Indicator	21.92	0.117	**36.71*****	-0.548
	(17.90)	(3.013)	**(13.83)**	(1.750)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.607	0.626	0.616	0.626

Standard errors in parentheses

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

(Panel A Continued)	EBITDA			
	Two Years After (5)	**Two Years After (6)**	**Three Years After (7)**	**Three Years After (8)**
Cosine_SimxPE	-13.25		**-45.75*** **	
	(19.85)		**(12.39)**	
Cosine_Sim	3.941		**-8.827*** **	
	(5.238)		**(2.878)**	
High_Cosine_SimxPE		-3.325		**-6.174*** **
		(3.249)		**(1.942)**
High_Cosine_Sim		-0.630		1.164
		(1.304)		(1.158)
Low_Cosine_SimxPE		0.170		**4.200***
		(3.884)		**(2.361)**
Low_Cosine_Sim		-0.0897		-1.027
		(1.450)		(1.137)
PE_Indicator	11.36	0.569	**40.26*** **	-0.570
	(17.19)	(3.044)	**(10.64)**	(1.413)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.510	0.513	0.670	0.673

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B. Industry-Adjusted Efficiency Measures

	Asset Turnover			
	Two Years After (1)	**Two Years After (2)**	**Three Years After (3)**	**Three Years After (4)**
Cosine_SimxPE	-2.992		-2.111	
	(2.470)		(3.292)	
Cosine_Sim	-0.563		-0.693	
	(0.602)		(0.589)	
High_Cosine_SimxPE		-0.424		**-0.806****
		(0.417)		**(0.341)**
High_Cosine_Sim		0.170		0.142
		(0.142)		(0.147)
Low_Cosine_SimxPE		0.127		0.0126
		(0.318)		(0.418)
Low_Cosine_Sim		0.124		-0.0540
		(0.198)		(0.104)
PE_Indicator	2.636	0.0510	1.886	0.216
	(2.145)	(0.190)	(2.850)	(0.225)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.352	0.372	0.405	0.454

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

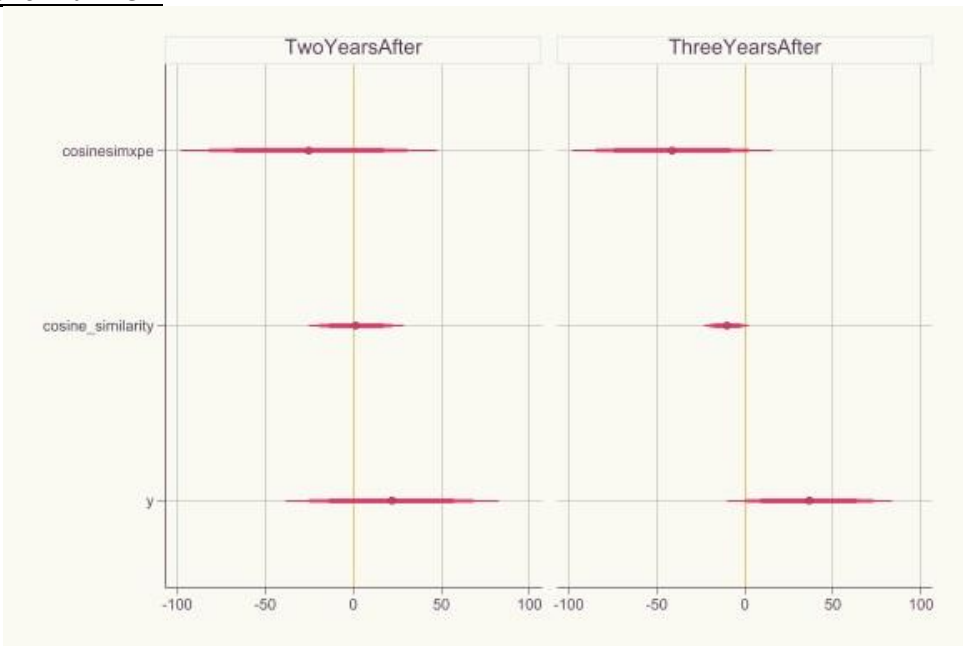
(Panel B Continued)	Sales per Employee			
	Two Years After (5)	**Two Years After (6)**	**Three Years After (7)**	**Three Years After (8)**
Cosine_SimxPE	-7.805		-16.70	
	(17.82)		(16.70)	
Cosine_Sim	2.893		-4.012	
	(5.710)		(3.749)	
High_Cosine_SimxPE		-2.731		-2.238
		(2.160)		(1.687)
High_Cosine_Sim		0.237		0.503
		(1.297)		(1.412)
Low_Cosine_SimxPE		1.523		3.164
		(2.527)		(3.087)
Low_Cosine_Sim		-1.098		-1.395
		(0.876)		(1.039)
PE_Indicator	6.772	-0.189	15.42	-0.345
	(15.53)	(1.811)	(14.69)	(1.704)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.525	0.540	0.356	0.375

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

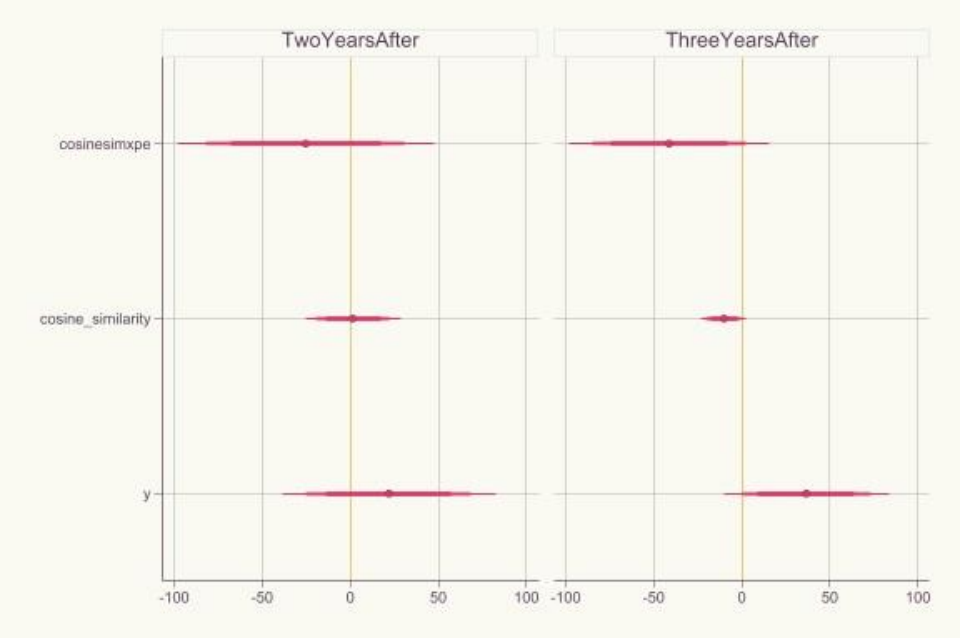
Figure 1: Plots of Coefficients for Performance, Firm Size, and Efficiency Measures

Figure 1 shows the coefficients from regressions using performance measures (Abnormal ROA: Panel A), firm size measures (Abnormal Sales: Panel B and Abnormal EBITDA: Panel C), and efficiency measures (Abnormal Asset Turnover: Panel D and Abnormal Sales per Employee: Panel E). In each plot, I report the coefficient for the interaction between cosine similarity and the PE indicator, for the coefficient for cosine similarity, and the coefficient for the PE indicator. On the left side, I report the plot for regression for two years after and on the right side, I report the plot for the regression for three years after. Just as in CAR regressions, I include merger controls and merged firm controls and industry and year fixed effects.

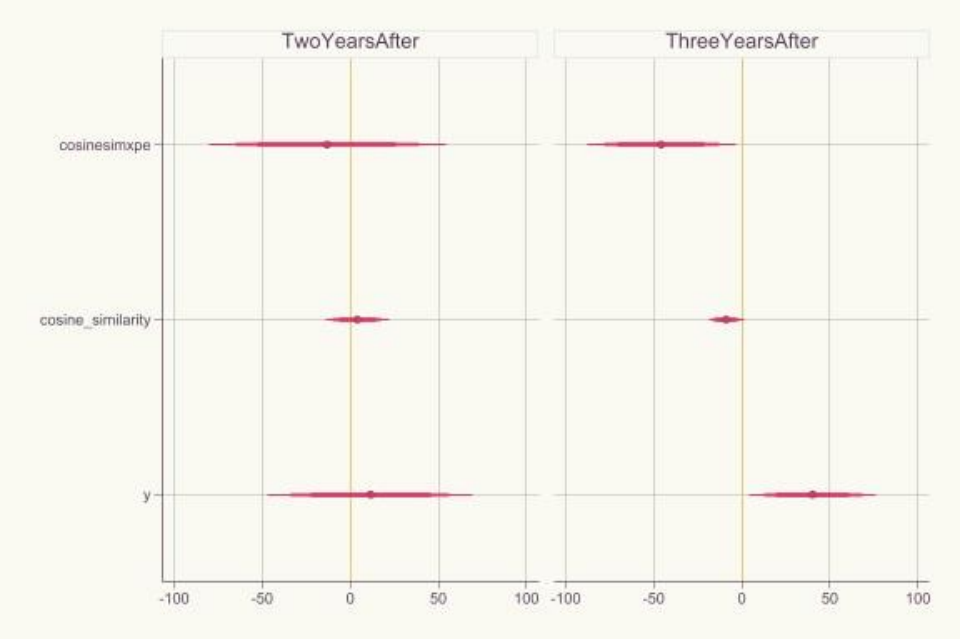
Panel A: Abnormal ROA



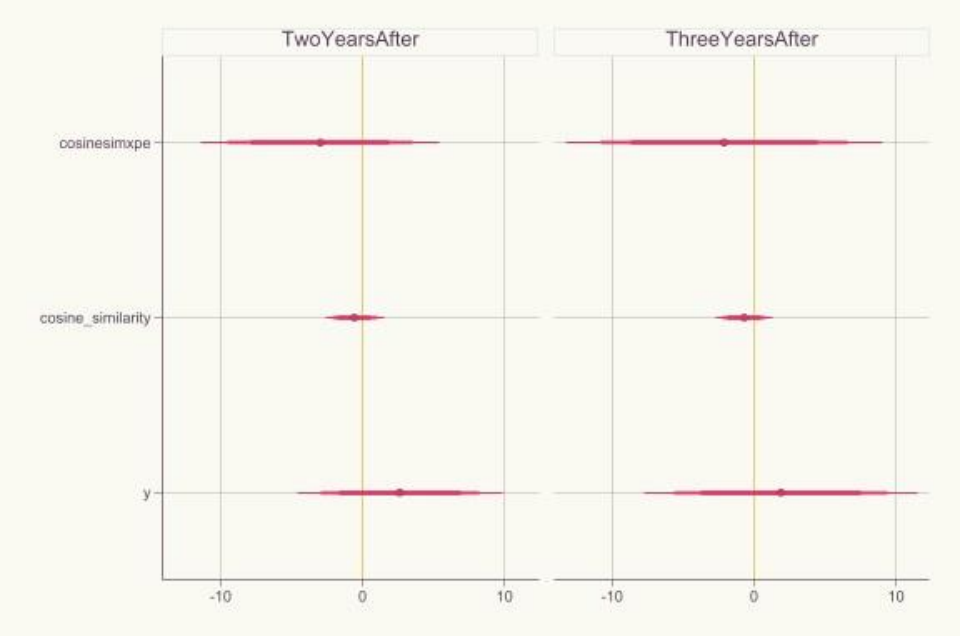
Panel B: Abnormal Sales



Panel C: Abnormal EBITDA



Panel D: Abnormal Asset Turnover



Panel E: Abnormal Sales per Employee

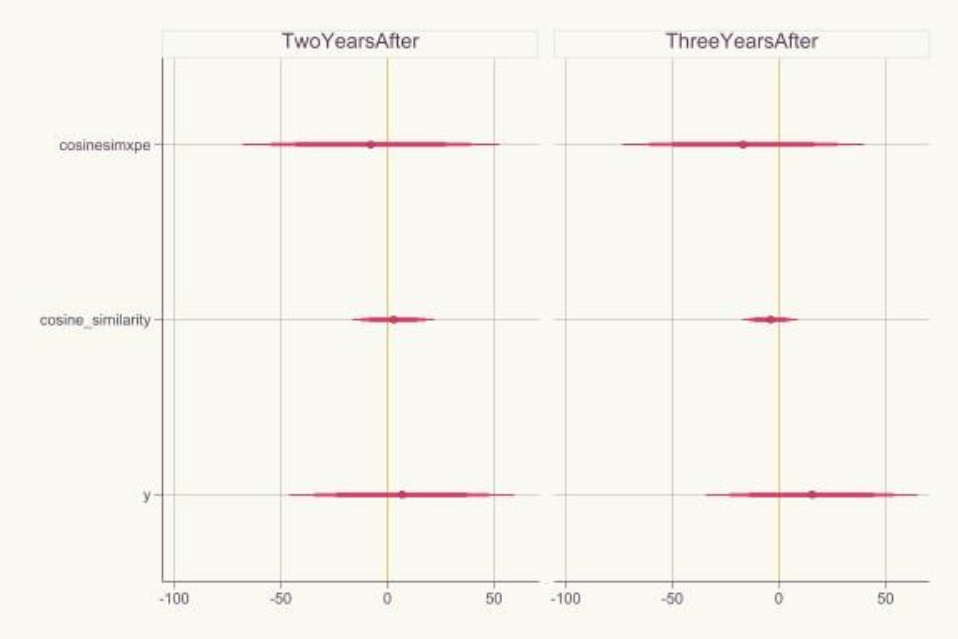


Table 6: Employment Changes Following Merger

Table 6 reports the results of OLS regressions explaining employment changes. Specifically, employment change is calculated as the percentage change of employment one and six years after the deal announcement relative to the average employment of acquirer and target at the year of the merger announcement. The sample period is from 2008 to 2020. In the various Panels in Table 6, I estimate OLS regressions with employment change one and six years after merger announcement as the dependent variable with employee morale similarity and groups and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the market value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	Employment Changes Following Merger Using Cosine Similarity			
	(1)	(2)	(3)	(4)
Cosine_SimxPE	260.2		11.05	
	(202.5)		(9.056)	
Cosine_Sim	26.58		**3.919****	
	(34.29)		**(1.941)**	
High_Cosine_SimxPE		2.031		**-1.616*****
		(4.770)		**(0.420)**
High_Cosine_Sim		13.41		-0.177
		(15.91)		(0.328)
Low_Cosine_SimxPE		**44.79***		-0.672
		(25.55)		(0.803)
Low_Cosine_Sim		-32.74		-1.981
		(37.18)		(1.294)
PE_Indicator	-224.1	9.334	-10.80	0.158
	(171.5)	(21.53)	(8.612)	(0.576)
Same_Industry	-9.144	-9.038	0.379	0.543**
	(5.867)	(7.280)	(0.264)	(0.256)
Same_State	-13.09	-14.64	0.0129	-0.0536
	(12.52)	(13.91)	(0.194)	(0.197)
High_Tech	6.656	10.20	-0.949**	-1.283***
	(10.69)	(12.27)	(0.407)	(0.450)
Relative_Size	-10.96	-12.69	-0.597**	-0.522**
	(6.881)	(7.774)	(0.281)	(0.226)
All_Cash	-9.239	-8.176	0.408	0.526**
	(9.574)	(8.775)	(0.290)	(0.265)
Tender_Offer	2.895	7.574	-0.253	-0.361
	(9.512)	(13.62)	(0.328)	(0.334)
BTM	-16.94*	-25.07	-1.838**	-1.219*
	(9.562)	(15.90)	(0.839)	(0.629)
Book_Leverage	-14.58	-18.38	-0.497	-0.533
	(14.16)	(16.75)	(0.905)	(0.805)
Cash	53.75*	52.36*	-2.970**	-3.008***
	(31.72)	(28.82)	(1.150)	(0.847)
Constant	4.514	33.54**	-1.162	2.033***
	(30.52)	(15.80)	(1.600)	(0.677)
Industry FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Observations	255	255	255	255
R-squared	0.395	0.427	0.733	0.798

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7: Acquirer and Target Price Runup Using Level and Standard Deviation

Table 7 reports Cumulative Abnormal Returns (CARs) in the one month and one year before merger announcement (to signify the price runup in acquirer and target firms) for the subsample of 22 private equity deals in the sample. The dependent variable is CAR one month and one year before merger announcement for acquirer firm (Panel A) and target firm (Panel B) using the overall mean and standard deviation of acquirer and target ratings individually as the main independent variables. The sample period is from 2008 to 2020. The Panels estimate OLS regressions with CARs as the dependent variable with mean and standard deviation of acquirer and target ratings and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the (market) value-weighted average of acquirer's and target's values. Detailed desciptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	CARs Using Event Windows ([-21, -4] and [-252, -4] Event Ranges) Before Merger			
	(1)	(2)	(3)	(4)
MeanxPE	**0.00582****	-0.00230	**0.00258***	-0.0146
	(0.00234)	(0.00600)	**(0.00151)**	(0.0115)
Mean	-0.00000696	0.00396	-0.000348	0.00274
	(0.00192)	(0.00385)	(0.00136)	(0.00338)
SDxPE	**-0.0105****	0.0138	-0.00642	0.0168
	(0.00485)	(0.00972)	(0.00462)	(0.0109)
SD	-0.00224	**-0.0164****	-0.00126	-0.0146
	(0.00396)	**(0.00825)**	(0.00461)	(0.0115)
PE_Indicator	-0.0275	0.00806	-0.0172	0.0211
	(0.0251)	(0.0659)	(0.0241)	(0.0651)
Constant	-0.0898	0.0108	-0.0899	0.00816
	(0.0583)	(0.0736)	(0.0607)	(0.0748)
Deal Controls	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Observations	255	255	255	255
R-squared	0.261	0.237	0.250	0.232

Robust standard errors in parentheses

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

Table 8: Probability of a Merger Using Rating Categories

Table 8 reports the results from logit regressions of the likelihood of an observation being an actual (as opposed to hypothetical) merger on the individual rating categories' mean and standard deviation of both acquirer and target one year before (Panel A) and one month before (Panel B) merger announcement of the acquirer-target pair and other control variables. The dependent variable is a binary variable that takes the value of one if the observation is an actual merger deal, as defined in Table 2. This variable takes the value of zero if the observation is a pseudo firm-pair in the control group. I follow Bena and Li (2014) to pair each actual acquirer with a pseudo target based on the actual target's characteristics (the hypothetical match is in the same industry, is closest in market value of equity and in book-to-market to the deal's actual target firm) and to pair each actual target with a pseudo acquirer based on the actual acquirer's characteristics (the hypothetical match is in the same industry, is closest in market value of equity and in book-to-market to the deal's actual acquirer firm). The sample period is from 2008 to 2020. The acquirer and target controls are BTM, ROA, Book_Leverage, Sale_Growth, Cash, and RDA. Constant terms are reported. *T*-statistics are reported in parentheses. All results hold with and without deal fixed effects (the tables report results without deal fixed effects). In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

Panel A: Probability One Month Before Merger Using Acquirer Rating Categories

	Industry-Size-BTM Match					
	(1)	(2)	(3)	(4)	(5)	(6)
CO_Mean_AcqxPE	0.0930					
	(0.217)					
CO_Mean_Acq	-0.0787					
	(0.0831)					
CO_SD_AcqxPE	-0.774					
	(0.559)					
CO_SD_Acq	**0.831*** **					
	(0.241)					
CB_Mean_AcqxPE		-0.0665				
		(0.268)				
CB_Mean_Acq		0.0927				
		(0.0769)				
CB_SD_AcqxPE		-0.319				
		(0.664)				
CB_SD_Acq		0.339				
		(0.254)				
CV_Mean_AcqxPE			-0.224			
			(0.308)			
CV_Mean_Acq			0.0865			
			(0.0834)			
CV_SD_AcqxPE			-0.00479			
			(0.867)			
CV_SD_Acq			**0.415***			
			(0.226)			
SL_Mean_AcqxPE				-0.140		
				(0.208)		
SL_Mean_Acq				**0.143***		
				(0.0760)		
SL_SD_AcqxPE				-0.136		
				(0.574)		
SL_SD_Acq				0.188		
				(0.208)		
WL_Mean_AcqxPE					0.288	
					(0.308)	
WL_Mean_Acq					**-0.323*** **	
					(0.0926)	
WL_SD_AcqxPE					**-1.244***	
					(0.737)	
WL_SD_Acq					**1.419*** **	
					(0.251)	
OR_Mean_AcqxPE						0.0177
						(0.196)
OR_Mean_Acq						0.00142
						(0.0745)
OR_SD_AcqxPE						-0.552
						(0.487)
OR_SD_Acq						**0.575** **
						(0.229)
PE_Indicator	**16.74*** **	**15.54*** **	**16.84*** **	**15.57*** **	**17.08*** **	**17.13*** **
	(0.303)	**(0.301)**	**(0.299)**	**(0.298)**	**(0.299)**	**(0.301)**
Constant	0.0157	0.156	0.934	0.165	-0.0394	0.0794
	(0.401)	(0.398)	(0.578)	(0.401)	(0.400)	(0.396)
Acquirer Controls	Yes	Yes	Yes	Yes	Yes	Yes
Target Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	765	765	765	765	765	765

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: Probability One Month Before Merger Using Target Rating Categories

	Industry-Size-BTM Match					
	(1)	(2)	(3)	(4)	(5)	(6)
CO_Mean_TxPE	-0.0440					
	(0.391)					
CO_Mean_T	**0.151***					
	(0.0850)					
CO_SD_TxPE	-0.575					
	(0.848)					
CO_SD_T	**0.455***					
	(0.243)					
CB_Mean_TxPE		-0.107				
		(0.239)				
CB_Mean_T		**0.207****				
		(0.0871)				
CB_SD_TxPE		-0.387				
		(0.583)				
CB_SD_T		0.236				
		(0.297)				
CV_Mean_TxPE			-0.0899			
			(0.311)			
CV_Mean_T			**0.180****			
			(0.0811)			
CV_SD_TxPE			-0.556			
			(0.790)			
CV_SD_T			**0.373***			
			(0.223)			
SL_Mean_TxPE				-0.193		
				(0.281)		
SL_Mean_T				**0.226*****		
				(0.0835)		
SL_SD_TxPE				-0.301		
				(0.902)		
SL_SD_T				0.218		
				(0.227)		
WL_Mean_TxPE					0.122	
					(0.274)	
WL_Mean_T					-0.111	
					(0.0860)	
WL_SD_TxPE					-1.059	
					(0.781)	
WL_SD_T					**1.150*****	
					(0.245)	
OR_Mean_TxPE						-0.00453
						(0.186)
OR_Mean_T						0.0673
						(0.0763)
OR_SD_TxPE						**-0.756***
						(0.393)
OR_SD_T						**0.685*****
						(0.245)
PE_Indicator	**16.82*****	**16.95*****	**16.87*****	**16.89*****	**16.78*****	**16.94*****
	(0.298)	**(0.300)**	**(0.301)**	**(0.305)**	**(0.298)**	**(0.299)**
Constant	0.129	0.125	0.113	0.147	0.0871	0.0793
	(0.400)	(0.399)	(0.399)	(0.402)	(0.403)	(0.397)
Acquirer Controls	Yes	Yes	Yes	Yes	Yes	Yes
Target Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	765	765	765	765	765	765

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9: Acquirer and Target Price Runup Using Rating Categories

Table 9 reports Cumulative Abnormal Returns (CARs) in the one month and one year before merger announcement (to signify the price runup in acquirer and target firms) for the subsample of 22 private equity deals in the sample. The dependent variable is CAR one month and one year before merger announcement for acquirer firm (Panel A) and target firm (Panel B) using the overall mean and standard deviation of acquirer and target ratings individually as the main independent variables. The sample period is from 2008 to 2020. The Panels estimate OLS regressions with CARs as the dependent variable with mean and standard deviation of acquirer and target ratings and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the (market) value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

Panel A: Acquirer CARs

	Acquirer CARs Using Event Windows ([-21, -4] Event Range) Before Merger					
	(1)	(2)	(3)	(4)	(5)	(6)
CO_Mean_AcqxPE	**0.0372*** **					
	(0.0117)					
CO_Mean_Acq	-0.00553					
	(0.00705)					
CO_SD_AcqxPE	**-0.0692*** **					
	(0.0232)					
CO_SD_Acq	-0.00142					
	(0.0162)					
CB_Mean_AcqxPE		0.0133				
		(0.0145)				
CB_Mean_Acq		0.00113				
		(0.00764)				
CB_SD_AcqxPE		-0.0290				
		(0.0384)				
CB_SD_Acq		-0.0212				
		(0.0261)				
CV_Mean_AcqxPE			**0.0198*** **			
			(0.00705)			
CV_Mean_Acq			-0.00000667			
			(0.00606)			
CV_SD_AcqxPE			-0.0472			
			(0.0301)			
CV_SD_Acq			-0.0133			
			(0.0137)			
SL_Mean_AcqxPE				**-0.212***		
				(0.114)		
SL_Mean_Acq				**-0.0158***		
				(0.00886)		
SL_SD_AcqxPE				**0.214***		
				(0.120)		
SL_SD_Acq				0.00422		
				(0.00858)		
WL_Mean_AcqxPE					0.00812	
					(0.00748)	
WL_Mean_Acq					0.000788	
					(0.00641)	
WL_SD_AcqxPE					-0.0106	
					(0.0285)	
WL_SD_Acq					-0.00703	
					(0.0137)	
OR_Mean_AcqxPE						0.00439
						(0.0129)
OR_Mean_Acq						-0.00202
						(0.00667)
OR_SD_AcqxPE						-0.00778
						(0.0261)
OR_SD_Acq						-0.0177
						(0.0117)
PE_Indicator	-0.0358	-0.0187	-0.0135	-0.00688	-0.0233	-0.00520
	(0.0263)	(0.0243)	(0.0184)	(0.0197)	(0.0254)	(0.0229)
Constant	-0.0943	-0.0862	-0.0937	-0.0838	-0.0862	-0.0914
	(0.0589)	(0.0572)	(0.0611)	(0.0644)	(0.0587)	(0.0628)
Acquirer Controls	Yes	Yes	Yes	Yes	Yes	Yes
Target Controls	No	No	No	No	No	No
Industry and Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	255	255	255	255	255	255
R-Squared	0.266	0.263	0.271	0.274	0.245	0.260

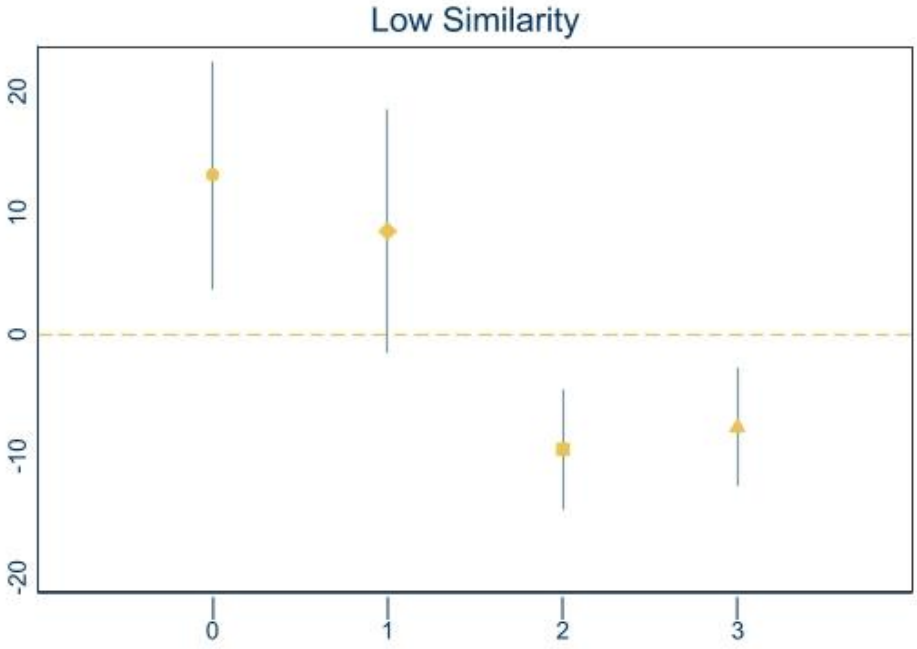
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: Target CARs

	Target CARs Using Event Windows ([-21, -4] Event Range) Before Merger					
	(1)	(2)	(3)	(4)	(5)	(6)
CO_Mean_TxPE	0.00879					
	(0.0105)					
CO_Mean_T	0.00263					
	(0.00577)					
CO_SD_TxPE	**-0.0294***					
	(0.0162)					
CO_SD_T	-0.0111					
	(0.0159)					
CB_Mean_TxPE		-0.00934				
		(0.0166)				
CB_Mean_T		-0.00197				
		(0.00616)				
CB_SD_TxPE		0.0466				
		(0.0533)				
CB_SD_T		-0.000666				
		(0.0263)				
CV_Mean_TxPE			0.0101			
			(0.00764)			
CV_Mean_T			0.00147			
			(0.00550)			
CV_SD_TxPE			-0.0255			
			(0.0223)			
CV_SD_T			-0.0191			
			(0.0204)			
SL_Mean_TxPE				0.00748		
				(0.0117)		
SL_Mean_T				-0.00552		
				(0.00507)		
SL_SD_TxPE				-0.0157		
				(0.0349)		
SL_SD_T				0.000226		
				(0.0142)		
WL_Mean_TxPE					0.0136	
					(0.00890)	
WL_Mean_T					-0.00210	
					(0.00541)	
WL_SD_TxPE					-0.0262	
					(0.0320)	
WL_SD_T					-0.00322	
					(0.0191)	
OR_Mean_TxPE						**0.0238***
						(0.0133)
OR_Mean_T						-0.00305
						(0.00749)
OR_SD_TxPE						-0.0430
						(0.0328)
OR_SD_T						-0.00622
						(0.0175)
PE_Indicator	-0.00586	-0.00694	-0.0109	-0.0130	-0.0233	-0.0301
	(0.0258)	(0.0246)	(0.0227)	(0.0256)	(0.0248)	(0.0264)
Constant	-0.0952	-0.0904	-0.0917	-0.0885	-0.0913	-0.0876
	(0.0650)	(0.0595)	(0.0634)	(0.0621)	(0.0584)	(0.0610)
Acquirer Controls	No	No	No	No	No	No
Target Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	255	255	255	255	255	255
R-Squared	0.249	0.247	0.262	0.250	0.247	0.257

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.

Figure 2: Impact of Pre-Merger Employee Morale on Post-Merger Employee Morale Level
Figure 2 presents coefficient plots from regressions of various groupings (high and low similarity between acquirer and target employee morale), signifying the difference between acquirer and target employee morale one year before the merger announcement, on post-merger level of acquirer morale at the year of the merger (year 0), one year after the merger (year 1), two years after the merger (year 2), and three years after the merger (year 3).



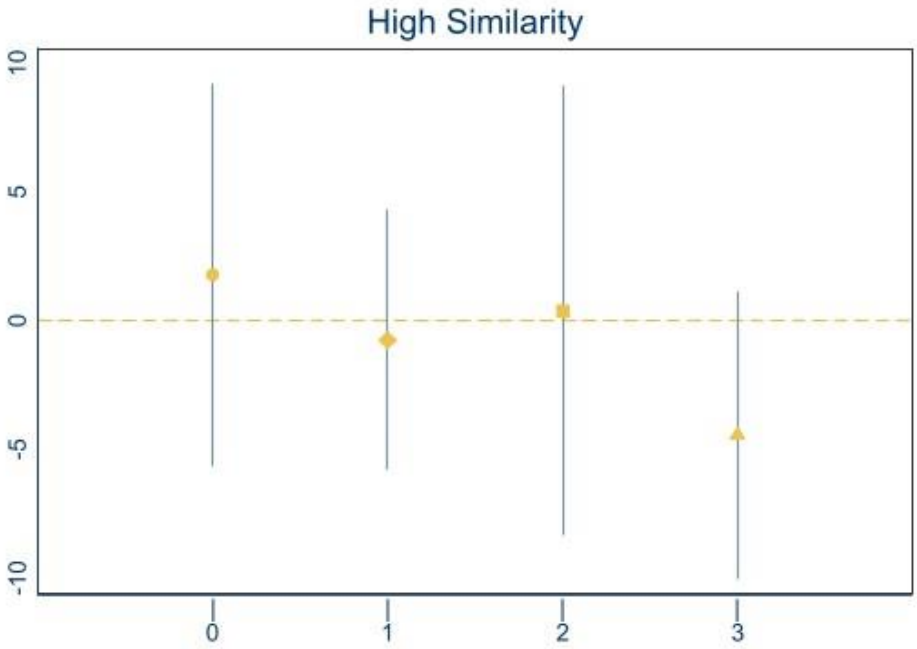


Table 10: Alternative Event Windows

Table 10 reports Cumulative Abnormal Returns (CARs) around merger announcement for the subsample of private equity deals in the sample. The dependent variable is CAR in the [-1, +1] (columns one through three) and [-5, +5] (columns four through six) event windows (or, the 3-day and 11-day windows, respectively) for an equal-weighted portfolio of the acquirer and target centered on the deal announcement date. The sample period is from 2008 to 2020. The Panels estimate OLS regressions with CARs as the dependent variable with Cosine_Sim and groups sorted based on employee morale level of acquirer and target and other control variables as independent variables. BTM, Book_Leverage, and Cash are calculated as the (market) value-weighted average of acquirer's and target's values. Detailed descriptions of those variables are in Appendix 1. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

	CARs of Combined Acquirer and Target Portfolio					
	(1)	(2)	(3)	(4)	(5)	(6)
Cosine_SimxPE	0.189			0.334		
	(0.737)			(0.745)		
Cosine_Sim	**0.214****			**0.228****		
	(0.0831)			**(0.101)**		
High_Cosine_SimxPE		0.0133			0.0445	
		(0.130)			(0.0817)	
High_Cosine_Sim		0.00707			0.0347	
		(0.0319)			(0.0364)	
Low_Cosine_SimxPE			-0.00683			-0.0285
			(0.0235)			(0.0895)
Low_Cosine_Sim			-0.00649			**-0.0531****
			(0.0155)			**(0.0220)**
PE_Indicator	-0.186	-0.0218	-0.0180	-0.307	-0.0274	0.00186
	(0.672)	(0.0603)	(0.0255)	(0.691)	(0.0262)	(0.0559)
Same_Industry	0.0439***	0.0329*	0.0431**	0.0868***	0.0908***	0.0656***
	(0.0159)	(0.0179)	(0.0215)	(0.0252)	(0.0263)	(0.0240)
Same_State	-0.0322	-0.00301	-0.0243	-0.00866	-0.00426	0.00949
	(0.0253)	(0.0127)	(0.0245)	(0.0218)	(0.0216)	(0.0164)
High_Tech	-0.0692*	-0.00158	-0.0624	-0.0520	-0.0616	0.00841
	(0.0404)	(0.0345)	(0.0453)	(0.0509)	(0.0473)	(0.0355)
Relative_Size	-0.0324	-0.00428	-0.0343*	-0.0210	-0.0152	0.00632
	(0.0207)	(0.0145)	(0.0182)	(0.0237)	(0.0237)	(0.0178)
All_Cash	0.0160	0.0120	0.0188	0.0281	0.0386	0.00742
	(0.0265)	(0.0138)	(0.0268)	(0.0278)	(0.0318)	(0.0169)
Tender_Offer	0.0294	0.0308***	0.0247	0.00247	-0.00574	0.0300*
	(0.0206)	(0.0113)	(0.0239)	(0.0231)	(0.0223)	(0.0168)
BTM	0.0654**	0.0308	0.0574**	0.123***	0.137***	0.0114
	(0.0287)	(0.0233)	(0.0284)	(0.0424)	(0.0439)	(0.0220)
Book_Leverage	-0.190**	-0.0482	-0.178**	-0.109	-0.107	-0.0637
	(0.0862)	(0.0532)	(0.0842)	(0.0798)	(0.0728)	(0.0574)
Cash	0.0200	-0.0192	0.0373	-0.0467	-0.0451	-0.112**
	(0.0905)	(0.0405)	(0.0694)	(0.0960)	(0.0849)	(0.0438)
Constant	-0.177	-0.000753	0.0205	-0.282**	-0.0834	0.0128
	(0.115)	(0.0574)	(0.0868)	(0.111)	(0.0688)	(0.0550)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	255	255	255	255	255	255
R-squared	0.534	0.184	0.511	0.552	0.550	0.204

Robust standard errors in parentheses

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

Table 11: Cross-Sectional Variation in Integration Needs

Table 11 examines the cross-sectional variations in the effects of employee morale similarity on merger outcomes. Panel A examines the effect of employee morale similarity on combined announcement returns (short-term synergies), analogous to the tests in Table 3. In columns (1), (2), (5), (6), (9), and (10), I run separate specifications on mergers occurring in labor-intensive industries and those occurring in capital-intensive industries. Labor-intensive industries are those with SIC code greater than or equal to 5000, while capital-intensive industries are defined as those with SIC code less than 5000. In columns (3), (4), (7), (8), (11), and (12), I run separate specifications for deals involving within-industry mergers and cross-industry mergers based on their SIC code classification. Panel B examines the effect of employee morale similarity on abnormal operating performance (long-term synergies), analogous to the tests in Table 4 for both capital-intensive and labor-intensive industries and for within-industry and cross-industry mergers. *T*-statistics are reported in parentheses. In all Panels *, **, and *** refer to significance at the 10%, 5%, and 1% level, respectively.

Panel A: CARs

	CARs in the [-1, +1] Event Window			
	Capital-Intensive (1)	**Labor-Intensive (2)**	**Within-Industry (3)**	**Cross-Industry (4)**
Cosine_SimxPE	**9.974*** **	0.140	**0.546***	**0.111*** **
	(1.052)	(0.293)	**(0.321)**	**(0.0230)**
Cosine_Sim	**1.021*** **	0.000203	0.0487	-0.00308
	(0.155)	(0.0991)	(0.0952)	(0.0185)
PE_Indicator	**-9.626*** **	-0.141	**-0.559** **	**-0.0660*** **
	(1.001)	(0.252)	**(0.263)**	**(0.0140)**
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.944	0.622	0.798	0.822

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

(Panel A Continued)	CARs in the [-3, +3] Event Window			
	Capital-Intensive (5)	**Labor-Intensive (6)**	**Within-Industry (7)**	**Cross-Industry (8)**
Cosine_SimxPE	**8.949*** **	0.0109	**1.100*** **	**0.104*** **
	(1.829)	(0.265)	**(0.291)**	**(0.0312)**
Cosine_Sim	**1.106*** **	-0.0198	-0.00994	0.00222
	(0.224)	(0.0725)	(0.0802)	(0.0188)
PE_Indicator	**-8.636*** **	-0.00366	**-1.017*** **	**-0.0464*** **
	(1.744)	(0.232)	**(0.239)**	**(0.0157)**
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.881	0.562	0.812	0.767

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

(Panel A Continued)	CARs in the [-5, +5] Event Window			
	Capital-Intensive (9)	**Labor-Intensive (10)**	**Within-Industry (11)**	**Cross-Industry (12)**
Cosine_SimxPE	**9.503*** **	0.0629	**1.013*** **	**0.0885** **
	(1.471)	(0.313)	**(0.352)**	**(0.0397)**
Cosine_Sim	**0.959*** **	-0.0789	0.0134	-0.00375
	(0.221)	(0.129)	(0.0974)	(0.0255)
PE_Indicator	**-9.156*** **	-0.0386	**-0.935*** **	**-0.0417** **
	(1.404)	(0.270)	**(0.288)**	**(0.0201)**
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.920	0.525	0.738	0.790

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: Abnormal ROA

	Abnormal ROA 1 Year After			
	Capital-Intensive (1)	**Labor-Intensive (2)**	**Within-Industry (3)**	**Cross-Industry (4)**
Cosine_SimxPE	**5.611** **	0.461	-0.619	0.0686
	(2.343)	(0.798)	(0.799)	(0.0834)
Cosine_Sim	**0.631** **	-0.0478	**-0.273***	-0.0487
	(0.276)	(0.172)	**(0.161)**	(0.0551)
PE_Indicator	**-5.330** **	-0.422	0.567	-0.0842
	(2.224)	(0.730)	(0.693)	(0.0719)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.874	0.453	0.671	0.668

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

(Panel B Continued)	Abnormal ROA 2 Years After			
	Capital-Intensive (5)	**Labor-Intensive (6)**	**Within-Industry (7)**	**Cross-Industry (8)**
Cosine_SimxPE	5.722	-0.287	**-4.095*** **	**-0.234*** **
	(8.602)	(0.437)	**(1.500)**	**(0.0858)**
Cosine_Sim	0.201	-0.00643	**0.524** **	0.0181
	(1.059)	(0.126)	**(0.231)**	(0.0426)
PE_Indicator	-5.828	0.241	**3.581*** **	**-0.193*** **
	(8.146)	(0.386)	**(1.275)**	**(0.0585)**
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.711	0.788	0.561	0.837

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

(Panel B Continued)	Abnormal ROA 3 Years After			
	Capital-Intensive (9)	**Labor-Intensive (10)**	**Within-Industry (11)**	**Cross-Industry (12)**
Cosine_SimxPE	-5.152	**-1.375** **	**-2.519*** **	**-0.683*** **
	(3.416)	**(0.543)**	**(0.389)**	**(0.132)**
Cosine_Sim	-0.814	-0.134	0.162	**0.158*** **
	(0.620)	(0.129)	(0.121)	**(0.0453)**
PE_Indicator	4.825	**1.210** **	**2.253*** **	0.0957
	(3.263)	**(0.467)**	**(0.336)**	(0.0948)
Merged Firm Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
R-Squared	0.870	0.780	0.791	0.912

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1