

Employee Views of Leveraged Buy-Out Transactions*

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ABSTRACT

Employee satisfaction decreases following a company acquisition. This effect is, generally, higher when it is through a Leveraged Buy-Out (LBO), but with considerable heterogeneity: the decrease in employee satisfaction is concentrated in Tech LBOs and in Public-to-Private (PU2PE) transactions. After any M&A transaction, employees complain mostly about cost cutting (including lay-offs). What is unique to post-LBO employee reviews, and especially for Tech and PU2PE LBOs, is the more frequent complaints about management attitude towards employees and the acknowledgement by employees that the company operations and prospects are improved.

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“[...] what do other stakeholders – and that’s first and foremost employees of private markets-owned companies – think about it? And in fairness, there haven’t been a lot of reports or surveys measuring how good private market firms are as owners, not just on the commercial side of things, but in terms of stakeholder impact [...] A very obvious, non-financial KPI will be engagement surveys of employees. How do employees feel one, two, three, four or five years into private markets ownership?” Steffen Meister, Executive Chairman Partners Group, May 2020, Private Equity International.

Over the past two decades, the number of publicly listed companies has halved, reaching 3,100 in 2019.¹ Meanwhile, the number of companies controlled by Private Equity Leveraged Buyout funds (simply referred to as LBO funds) went from under 1,000 to over 20,000; these companies now employ nine million people.² This drastic rise in private equity ownership exacerbates long-standing concerns about employees in those companies.³

From Susan Faludi winning the Pulitzer Prize in 1991 for an article describing employees’ suicide and mental suffering following the LBO of a supermarket chain; to Senator Elizabeth Warren writing the “Stop Wall Street Looting Act” in 2019, the broad public has had a negative view on the impact of LBOs on employees.⁴ In contrast, academic studies are quite positive overall. Following an LBO, companies are found to improve profitability (Guo, Hotchkiss, and Song, 2011; Kaplan, 1989; Cohn, Nestoriak, and Wardlaw, 2021), total factor productivity (Davis, Haltiwanger, Handley, Jarmin, Lerner, and Miranda, 2014), and growth (Bernstein, Lerner, Sorensen, and Strömberg, 2017; Boucly, Sraer, and Thesmar, 2011; Cohn et al., 2021); they also have better access to external finance (Boucly et al., 2011), are more resilient to economic downturns (Bernstein, Lerner, and Mezzanotti, 2019), and register better patents (Lerner, Sorensen, and Strömberg, 2011).

Evidence is more mixed when looking at the impact on non-financial stakeholders. PE-owned companies in sectors such as education and nursing homes have been shown to increase their profit at the cost of stakeholders by breaching implicit contracts (Eaton, Howell, and Yannelis, 2019;

¹Data from Ken French website. See, e.g., Kathleen and Stulz. (2017) for a thorough discussion.

²www.investmentcouncil.org/new-ey-report-shows-private-equitys-positive-impact-on-u-s-economy/.

³We focus on Leveraged Buyouts (LBOs) because this is where the controversy lies. Companies subject to an LBO are not technically “owned” by PE firms, but we refer to this relationship as PE ownership for simplicity.

⁴www.congress.gov/bill/116th-congress/senate-bill/2155?s=1&r=1

Gupta, Howell, Yannelis, and Gupta, 2021). In terms of environmental impact, evidence so far is mixed (Shive and Forster (2020), Bellon (2020)). Consumers in PE-controlled supermarkets enjoy an increase in product variety (Fracassi, Previtro, and Sheen, 2021) and in food-safety (Bernstein and Sheen, 2016).

For employees, there is an increase in training, employability and workplace safety (Agrawal and Tambe, 2016; Cohn et al., 2021), more efficient reallocation of the workforce (Davis et al., 2014), less of a gender wage gap (Fang, Goldman, and Roulet, 2021), and improved managerial practices (Edgerton, 2012; Bloom, Sadun, and Van Reenen, 2015; Bernstein and Sheen, 2016). Overall employment slightly increases in the US (Davis, Haltiwanger, Handley, Lipsius, Lerner, and Miranda, 2021) and decreases in Germany (Antoni, Maug, and Obernberger, 2019). However, job losses are significant for employees in poorer health (Garcia-Gomez, Maug, and Obernberger, 2020) and for those performing routine or offshorable tasks (Olsson and Tåg, 2017).

Overall, the contrast between the current body of research, largely positive, and the set of anecdotal evidence on employee satisfaction and politicians rhetoric, largely negative, could hardly be any starker. This paper offers a comprehensive view of employee satisfaction: we make use of nearly one million ratings, in addition to about half a million written reviews posted by employees of all ranks, in different industries, types of companies, and in companies that underwent different types of ownership changes. The size and granularity of the data enable us to better understand the mixed picture we just reviewed.

We find that after a change of ownership, there is a decrease in employee satisfaction but the effect is extremely heterogeneous. First, as expected, employees who left after the LBO are highly dissatisfied, those who joined after the transaction are relatively satisfied, whereas those who stayed are dissatisfied.

Second, employees are dissatisfied following any Mergers and Acquisitions (M&As), not just LBOs. Whether LBOs generate a significant incremental dissatisfaction is sample dependent, but the overall evidence is that LBOs coincide with a larger drop in satisfaction than other M&As.

Third, the drop in satisfaction following an LBO is about three times as large when the target company was publicly traded before (Public-to-Private transactions; PU2PE thereafter) than when it was privately held (whether PE-sponsored or not; PRPE2PE).

Fourth, employee satisfaction depends on the industry. Dissatisfaction is concentrated in Tech LBOs, which represent as much as one third of the LBOs in the 2010s – our sample time period. There is no significant changes in satisfaction in other industries. Companies in the Services and Industrial sectors experience a negligible decrease in employee satisfaction overall, but the effect is not significant in all the specifications and in all the samples.

Fifth, for companies that were public listed, we can measure their growth pre-transaction and find that it plays a role for Tech LBOs. Specifically, we find that for the PU2PE Tech transactions, dissatisfaction is stronger for the companies that experienced a high growth in revenue pre-LBO. This growth is not necessarily organic but captures the fact that this company was expanding before the change of ownership.

Sixth, some GPs are associated with improvement in employee satisfaction across their portfolio companies whereas other GPs are associated with strong declines. Most of these effects are economically large, but not statistically significant on their own. Yet, we reject the hypothesis that all GP fixed effects are null. We also find that none of the currently available ESG indicators are related to GP fixed effects.⁵

This first set of results indicate that it is not the private equity model in itself that generates unsatisfied employees. Thus, it is unlikely that PE firms systematically push employees to their reservation wages to increase their profits, or that the increase in leverage or management incentives which come hand-in-hand with an LBO, systematically hurts employees.

In a contemporaneous and independent paper, Gornall et al. (2022) use similar data and also document the decrease in employee ratings after an LBO. Using a sample of 241 LBOs, for which they can observe leverage, they find that the decrease in ratings is related to leverage (at 5% level confidence). They conclude that the decline in satisfaction is due to a decrease in job security. Our results indicate that this may not be the main explanation. Our evidence that the effect is sample dependant, and in particular, concentrated in a single industry (and dependent on the previous form of ownership) is not consistent with increased leverage being the main cause otherwise this effect would hold in any sub-sample.

⁵The industry effect documented above cannot be explained by the behaviour of certain GPs that specialize in a given industry.

We make use of the half a million written reviews to gain insight into the motivations behind the ratings. In a sense, this is the most direct evidence one can have since employees explain in these reviews why they gave the rating they gave.

We extract topics from the reviews using a standard method of Natural Language Processing called LDA. There are 25 themes across the Cons reviews and 10 themes across the Pro reviews. Across all types of LBOs, employees are generally positive about operational issues. Post-LBOs, they complain less about themes such as fast growing and changing environment, decision processes etc. Reviews that mention the challenging aspect of the job, and company growth, receive higher scores when they are written about a company that underwent an LBO (compared to other M&As). In contrast, reviews mentioning management are associated with significantly lower scores when written about a company that underwent an LBO. Complaints about management are wide ranging: i) not caring about employees, ii) lacking ethics, iii) bad leadership skills, iv) too top-down.

Note that the main theme in the complaints are layoffs and cost-cutting but interestingly, it is equally strong after any M&A transactions as it is post LBOs. Note also that this finding is consistent with the media accounts and politician rhetoric reviewed above.

To sum up, these results show that the main source of employee dissatisfaction post LBO stems from complaints about the new management style, but again we observe this complaint to be concentrated in public-to-private transactions and for Tech LBOs.

As with most studies of private equity transactions, we lack exogenous variation in activity in order to isolate the causal effect of the transactions, implying that the results could capture selection rather than treatment effects. Although it is possible that LBO firms would target companies in which employees are about to have issues with how management treats them, a causal interpretation appears to be more natural. More generally, we find that the results differ across types of LBOs, and across industries in a way that is consistent with the body of literature and anecdotal evidence. It is difficult to find a reasonable selection based explanation for all these results. Thus, while we cannot completely rule out the possibility that selection is responsible for our results, the evidence taken together is easier to reconcile with a causal interpretation.

The remainder of the paper is structured as follows. Section 1 describes our data sources and provides descriptive statistics. Section 2 contains the regression analysis of the ratings. Section 3 is dedicated to the textual analysis. Section 4 briefly concludes.

I. Data and Descriptive Statistics

A. *Glassdoor Website*

Glassdoor is an employer review website launched in June 2008, but Glassdoor effectively started to receive reviews from 2012 onwards. The reviews in our sample are from 2012 to 2020, and the transactions we used occurred between 2013 and 2019.

Company ratings, reviews, and salary information are entered by employees and are displayed anonymously. Most reviews are written by new users who need to submit information about their current or former employer before accessing other people’s ratings, reviews and salary benchmarks (see Appendix ?? and Green, Huang, Wen, and Zhou (2019) for more details).

The website verifies that each review is genuine through checking of e-mail addresses, social networking accounts, various fraud-detection algorithms, and through screening by a content management team.⁶ Green et al. (2019) and Gornwall et al (2022), among others, provide a comprehensive description of the dataset, along with several external validity tests.

This dataset has been used in several academic studies. These studies found that Glassdoor’s ratings are useful to predict key accounting-based information such as i) growth in sales, profitability, and net income; ii) Tobin’s Q, and Return on Assets; iii) earnings announcement surprises; iv) corporate scandals; and v) access to external finance Green et al. (2019); Babenko and Sen (2014); Hales, Moon, and Swenson (2018); Huang (2018); Huang, Li, Meschke, and Guthrie (2015); Lee, Ng, Shevlin, and Venkat (2020); and Chemmanur, Rajaiya, and Sheng (2020). In addition, and similar to the finding of Edmans (2011) who used a different data source for employee satisfaction, Green et al. (2019) find that Glassdoor ratings predict subsequent stock returns. Hence, the evidence suggests that crowdsourced employee ratings are a source of important and relevant information, rather than mere noise or a collection of idiosyncratic opinions. In addition, we can expect employees to provide honest evaluations due to the benefits associated with contributing to the public good (Lerner and Tirole, 2003). Example of reviews are shown in Appendix ??.

⁶In 2013, the company stated that it rejects about 20% of entries after screening. Source: <http://www.calgaryherald.com/business/Website+lets+workers+rate+their+bosses+anonymously/8221492/story.html>

B. Capital IQ

We use Capital IQ to generate a list of private and public US-based companies, and divide them up into five groups. In the first group are companies that were privately-held throughout our sample time period, without a change of ownership. As shown in Table I - Panel A, this group contains 25,219 companies.⁷

[Insert Table I]

In the second group are companies that are publicly traded throughout our sample time period. This group contains 3,182 companies.

In the third group are companies that experienced an LBO. To form that group, we follow the methodology of Davis et al. (2014) and Davis et al. (2021) and obtain a sample of 3,706 companies.⁸ As highlighted by Davis et al. (2021), it is not trivial but important to separate as much as possible growth from LBO deals because only the latter type of deals is the subject of controversies.

In the fourth group are companies that went through an M&A and are not present in the LBO sample. This sample contains 8,705 companies.⁹

Finally, the fifth group contains companies that went from being privately held to being publicly held, i.e., companies that issued an Initial Public Offering (IPO). This group contains 1,166 companies.¹⁰

In total, we have 41,978 companies, which we then seek to match with the Glassdoor dataset.

⁷We required a minimal revenue of \$50 million. We used revenue because Enterprise Value (EV) is usually not available for private companies and a \$50 million revenue coincides, on average, with a \$100 million EV.

⁸We selected M&A transactions with a PE firm as a financial sponsor, and which have one of the following features: “going private,” “leveraged buyout,” “management buyout,” or “platform.” We manually checked each transaction to ensure sample integrity (e.g. making sure to exclude startup firms backed by venture capitalists, management buyouts that are not PE sponsored, transactions without a change in control). See Davis et al. (2021) for a thorough discussion on how to select LBOs in Capital IQ and why Capital IQ, over our time period, is best suited for such an exercise.

⁹Companies in this M&A sample have also experienced a change in ownership, but have not experienced an LBO. We required the transaction value (or deal value) of the M&A to be above \$100 million. Smaller companies are unlikely to have a page on Glassdoor. We only kept firms that went through a single M&A over our time period.

¹⁰We required the IPO to occur i) between January 2013 and December 2019, ii) on one of the three major US stock-exchanges, and iii) with a deal size of \$100 million or more. Reverse LBOs were not included. For example, Gardner Denver Holdings was publicly listed until 2013, at which time it was subject to an LBO sponsored by KKR, and partially exited via IPO in 2017. This firm is in the LBO sample from 2010 to 2016, and not in the IPO sample.

C. Working Sample

Table I - Panel A shows the statistics for our sample when we merge the Capital IQ and Glassdoor datasets. About half of the companies are matched based on their name and address.¹¹ In a similar exercise, Davis et al. (2014) matched 65 percent of LBO-targets to the Census Bureau’s Business Register, which is the same rate we have for our sub-sample of LBOs. Most of the unmatched companies are small, and therefore less likely to have a Glassdoor page. Note that some companies are subject to several LBOs and M&A transactions. We distinguish between deals (i.e., transactions) and companies. Our level of observation for LBOs, M&As and IPOs is a deal, and we thus count ratings per deal.

We exclude ratings posted by interns, and those posted more than three years pre or post transaction (in the M&A and IPO samples). We then distinguish between three type of employees. First, 48% of the ratings are from people no longer employed at the company at the time they submitted their review. For these people, we do not know when they left the company and refer to them as ‘leavers.’ Second, some people join the company after a transaction and have therefore not experienced how the company was before the transaction; we refer to them as ‘joiners.’ Third, are the people writing a review after a transaction but they were working for this company before the transaction; we refer to them as ‘stayers.’

We create three different working samples. The first and main working sample is the ‘stayer’ sample. In this sample, all the reviews post transactions are from people currently working for the company and who have experienced the company pre-transaction.

The second sample is the ‘joiner’ sample. It is the same as the stayer sample but includes the people who joined after the transaction. This sample is similar to the sample as the one used in Gornwall et al. (2022).

The third sample is the same as the second sample but includes the leavers; and that is the ‘full sample.’ Note that for the leavers, we do not know when they left the company and assume they left it the day they wrote the review (and will assess the robustness of the results to this assumption).

¹¹For about 40% of the matched companies, we found an exact match on name. For the remaining companies, we found multiple possible Glassdoor matches and chose the best one using city location of headquarters, state of incorporation, country of incorporation, year of incorporation, and website.

Table I - Panel B shows the filters used for the main working sample. Note that people submitting a rating may select the number of years they have worked at the company, from the following options: less than a year, more than a year, more than 3 years, more than 5 years, etc. We require this information in order to distinguish between people who joined the company before versus after a transaction. This filter removes about a third of the ratings.

For companies with no change in ownership, we required at least five ratings over the entire sample period. For the LBO, M&A and IPO samples, we only keep observations that fall outside of the three years around the date of the transaction; and require at least three ratings pre- and post-transaction. This requirement generates a large decrease in the number of observations because pre-transaction ratings are often missing.¹²

The main working sample resulting from these filters includes 627 LBO transactions, for which we have 31,100 ratings. In total, there are 1,464 companies that experienced a change in ownership during our time period. There are more companies that did not experience a change in ownership. 4,041 companies are privately held throughout our time period. They tend to be smaller, with 67 ratings per company on average, for a total of 270,069 ratings. 1,594 companies are publicly listed throughout our time period. On average, they have 194 ratings, i.e., we have a total of 309,831 ratings. Our overall dataset therefore consists of 672,840 employee ratings.

The literature indicates that the type of ownership the company was under before an LBO matters. Several studies indicate that Public-to-PE transactions may have the highest social cost because these transactions are more likely to i) result in job losses (Davis et al., 2021), ii) go through bankruptcy procedures (Strömberg, 2009), and iii) leave companies with a higher debt burden (Axelson, Jenkinson, Strömberg, and Weisbach, 2013). In contrast, in Private-to-PE transactions, companies benefit more from a relaxation of financial constraints and improvement of management practices (Boucly et al., 2011; Lerner et al., 2011). An exception is Cohn and Wardlaw (2016) who find that workplace injury rates fall after Public-to-PE LBOs but not after Private-to-PE LBOs.

Table I - Panel C shows the breakdown across the three types of LBOs. 15% of the LBOs are Public-to-PE, but represent 33% of the ratings (they are larger companies). When the company

¹²Note that nearly all divisional buy-outs do not have pre-LBO ratings because divisions are usually not treated as separate entities in Glassdoor. Also, company names may change pre- and post-transaction, which fails our matching process. In addition, there are fewer ratings at the beginning of the sample. Thus, LBOs in 2013-2015 are more likely to have an insufficient number of ratings pre-LBO.

targeted in an LBO is already under an LBO, the transaction is called PE-to-PE, or Secondary Buyout (Arcot, Fluck, Gaspar, and Hege, 2015; Degeorge, Martin, and Phalippou, 2016). These represent 37% of our sample of LBOs.¹³ The rest are Private-to-PE LBOs, and we note that the number of ratings is similar across all three LBO categories.

D. Glassdoor Ratings

Employees anonymously assign a one- to -five star score for i) the Company (Overall Score), ii) Work-Life Balance (WLB), iii) Culture & Values (Cult), iv) Senior Management (SM), v) Compensation & Benefits (CB), vi) Career Opportunities (CO); and assign one of three ratings for i) Recommendation of the company (Reco), ii) Business Outlook (Outl), and iii) Approval of the CEO (CEO). In addition, in an open field, reviewers enter the pros and cons of working for the company, and their recommendation to the management.

Table II shows the related descriptive statistics. Overall score is always available. The sub-scores are entered most of the time. In terms of nomenclature, we refer to 672,840 ratings, with a total of 5.6 million scores given across nine categories.

The overall score is 3.53 on average, with a wide dispersion.¹⁴ The average and standard deviation is similar across the sub-scores, although we observe a larger dispersion for the sub-scores on Recommendation, Outlook, Senior Management, and Culture. We note that, on average, employees have a positive opinion of the CEO, of the outlook, and would recommend their company.

The correlations between the different ratings are high but all are below 80%, showing that raters make a distinction between the different categories, rather than assigning the same score to each category. The score for Career Opportunities and Firm Recommendation are the most correlated with overall score. Work-Life Balance and opinion of the CEO are the least related to the overall score.

[Insert Table II]

[Insert Table III]

¹³The previous owner may be a PE firm but the development stage is Venture Capital (VC). E.g., consider the Acquia LBO, sponsored by Vista Equity Partners, in September 2019 for \$1 billion. Sellers are VC firms (Sigma Partners, North Bridge Venture Partners, Underscore Venture Capital) and the preceding transactions are standard VC funding rounds: \$55m in September 2015, \$50m in May 2014. This transaction is then classified as Private-to-PE.

¹⁴Our average score is slightly higher than that reported in other studies (Green et al., 2019), because we exclude former employees from our sample and these people often give lower ratings. Also, ratings in 2017-2019 were higher than right after the financial crisis, which is the time period covered in Green et al. (2019).

E. Job Titles & Salaries

We use textual analysis tools and the guide book “Work in America” (page 597, as detailed in Appendix ??) to assign each job title to one of the following job categories: i) Management, ii) Mid-Management, iii) White Collar (consultants, researchers), iii) Purple Collars (technical service providers), iv) Pink Collars (support staff), and v) Blue Collars (manual labors). Job positions that could not be classified are denoted “NC”.

Table III - Panel A shows the different scores per job category. Job categories that command higher salaries (and perceived as higher-up on the hierarchy) show the highest ratings, including for work-life balance. Mid-Management and White Collars give a similar rating, which is lower than that of management, whereas the Purple, Pink, and Blue Collars give a much lower rating to management. Opinion about the CEO is also related to job hierarchy: the rating of senior management decreases with the hierarchical distance to the senior management.

On a separate page of the Glassdoor website, employees can enter their salary along with a job title. They enter this salary information in order to access salary benchmarks. This reporting is separate from the rating process and Karabarbounis and Pinto (2018) show that the wages of Glassdoor reviewers are consistent with external data from the U.S. Census Bureau.

Glassdoor aggregates the salary information, and reports only the average salary for a given job title. We have 2,302,188 pairs of position-salary matches across 21,841 companies in the Glassdoor salary dataset. Table III – Panel B shows average salaries. Blue collars earn the least at \$44k. Pink collars earn slightly more at \$47k. There is a jump to \$67k for purple collars and a further increase to \$75k for white collars. For management, the difference is substantial at \$136k, which is nearly twice that of the average salary of white collars.¹⁵

We cannot directly link salaries to ratings, but we can indirectly do so by using job titles. Job titles are so granular that the information loss is minimal. For example, we know the salary of truck drivers at Kraft Heinz (\$41k) and can assign this salary to all truck drivers at that company.¹⁶

¹⁵11% of the reviewers entered a salary with a job title that we could not classify, the corresponding average salary is \$56k. One caveat is that the salaries are not time stamped. As salaries have not changed much during our time period, this should be a minor issue.

¹⁶There are 546,745 ratings (out of 672,840) for which we have the employee’s position. Of these, 305,759 ratings had a corresponding position-salary pair. For 301,314 reviews we have an exact match on the reported position. For those without an exact match we proceed as follows: (i) assign the average salary of the corresponding collar category within the firm (N=226,328), (ii) assign the average salary within the company in cases where salary information was missing for the corresponding collar category (N=1,831), or (iii) assign the average salary of

F. Other Variables in Glassdoor

A unique feature of Glassdoor is that each company is assigned to one of 121 industries, even those that are privately owned (see Appendix ?? for details). We pool these industries together into seven categories: 1. Consumer Services (Restaurants, Leisure), 2. Corporate Services (Finance, Insurance, Consulting, Marketing), 3. Public Services (Healthcare & Education), 4. IT Services, 5. Industrial (Manufacturing, Pharmaceutical), 6. Retail (Department Stores), 7. Software.

As shown in Table IV - Panel A, the numbers of ratings are well distributed across these seven industries. A partial exception is Software. Although Software is our most narrowly-defined category, it is the one with the most LBO deals (25% of the LBOs) and ratings (28% of the ratings). Software also stands out in terms of salaries; the \$96k average salary is more than twice the average in the Retail industry, at the other side of the spectrum. The average overall score is the highest in the Software industry and the lowest in the Retail industry, which makes intuitive sense (and indicates that the cross section of ratings is meaningful).

These statistics contrast with the traditional view that LBO targets are value companies, as opposed to growth companies. There has been a clear change over the last decade with Tech LBOs becoming more common, and industrial LBOs becoming less common. These statistics are consistent with those given by commercial data providers, who report that Tech LBOs have constituted about one third of the deals in the 2010s (this is the proportion in our sample if we combine IT services and Software). Excluding Software, the other six industries each have between 8% and 16% of the ratings, and have similar average overall scores. Salary varies across industries: salaries in IT Services average \$84k and those in Consumer Services average \$68k.

Glassdoor provides the company foundation year. The 75th percentile is 2000; companies created after 2000 are labelled “Millennials.” The 25th percentile is 1945; companies created before 1945 are labelled “Pre-War.” Note that young companies pay higher salaries. Glassdoor also provides a range for the current number of employees, which we re-group into Small (less than 1000 employees), Medium, and Large (more than 5,000 employees). More than half of the reviews are from Large companies, even though there are about three times as many Small companies.

[Insert Table IV]

employees within the same industry and collar category if the company has no salary entry in the salary dataset (N=12,827). Anonymous ratings are assigned the company average salary (or average industry salary if missing).

II. LBO Transactions & Changes in Ratings

A. Empirical Strategy

We use two different econometric approaches to estimate the effect of LBOs on employee satisfaction. Both are consistent with the recommendations of Petersen (2009): Our panel is estimated by pooled OLS with fixed effects and statistical inference is based on standard errors that are clustered on these fixed effects.

The first method is the same as in Gornwall et al. (2022); it includes company fixed effects (in addition to industry-quarter fixed effects):

$$S_{r,c,d} = \alpha_c + \alpha_{q(d)} + \beta * Post - LBO_{c,d_c,d} + \theta_1 * Post - M\&A_{c,d_c,d} + \theta_2 * Post - IPO_{c,d_c,d} + \gamma * Z_r + \epsilon_{r,c,d} \quad (1)$$

The dependent variable is the score $S_{r,c,d}$ given by a reviewer r to their company c on a day d .¹⁷ $q(d)$ is the calendar quarter that day d falls into. $Post - LBO_{c,d_c,d}$ takes a value of one if the company c has been subject to an LBO transaction that was completed on a day $d_c < d$.

Company fixed effects (α_c) and industry-quarter fixed effects ($\alpha_{q(d)}$) absorb the multitude of company invariant factors (e.g., industry) and time invariant factors (e.g., recessions), respectively. This specification is, therefore, a within-company and within-industry-quarter estimation. The only control variables that are left are the characteristics of the reviewer: Z_r .

The coefficient of interest in this model is β , which captures the relationship between PE ownership and employee ratings. Specifically, as there is a company fixed effect, β measures the incremental score given by employees following an LBO compared to the average score given to this company at any point in time. In addition, due to the time fixed effect, the scores are corrected for the average score given in that quarter across all companies in a given industry. Having a quarter fixed effect is important because employee ratings are expected to vary significantly over business cycles.

To sum up, the coefficient of interest, β , measures the rating given Post-LBO in excess of the average score for this company at any point in time and to the average score for any company in that quarter.

¹⁷Note that each rating/review is treated as being submitted by a separate reviewer. It is possible that the same person has submitted several reviews and ratings over time, but we cannot identify individual people.

The second method does not include company fixed effects and, instead, uses as control variables a series of dummy variables: i) company was subject to an M&A [M&A target], ii) post M&A, iii) company is publicly listed [Public], iv) company was subject to an LBO [LBO target].., v) company was publicly listed and is now under LBO sponsorship [Post PU2PE] , [PU2PE target], [Public M&A target] [Post Public M&A] etc.

The benefits of this approach is that we do not require to have pre- and post- transaction reviews, and that we can directly observe whether the target companies have different satisfaction levels. The drawback is that it creates a lot of variables.

This section has not been fully written yet – apologies – also the tables made with this approach are not included here yet – sorry.

B. Main Results

Table V shows the results from the estimation of the panel regression model in Equation 1. The decrease in employee scores Post-LBO is large and significant (-0.18 in Specification 1).

Since we already have a time and company fixed effect, the only control variables we can add are the reviewers' characteristics: tenure, job position, and wage. Specification (2) shows a strong effect for the tenure variable (which measures how long the reviewer has been working for the company at the time of the scoring). The effect is U-shaped. New employees are significantly more satisfied. Those working at the company for 3 to 8 years have coefficients close to zero. Employees who have been at the company for more than ten years are more satisfied. Importantly, controlling for tenure affects all of the post-transaction coefficients by about 0.05. The negative impact of the LBO on employee satisfaction stays significant.

Specification (3) adds job positions and confirms the decrease in employee satisfaction as we go down the hierarchy of jobs – as seen in the descriptive statistics. Management is most positive, followed by Mid-Management and White Collars. Pink Collars are at the average, and Blue Collars are significantly more dissatisfied. When we add a control for wage, in Specification (4), we observe a strong effect. The higher the salary, the higher the reported satisfaction. Controlling for salary naturally affects the coefficients on job positions. Satisfaction is still decreasing monotonically with job rank though.

An interpretation of these results, which to our knowledge are novel, is that employees who are higher up the hierarchy are more satisfied than others not just because they are better paid. They enjoy their superior hierarchical position per se. Yet, Mid-Management and White Collars give similar (abnormal) scores after controlling for salaries. Similarly, Pink and Purple Collars give similar (abnormal) scores. After controlling for their wages, blue Collars are no longer significantly more dissatisfied.

[Insert Table V]

Importantly, we note that companies that are subject to other ownership changes also experience a decrease in ratings. Ratings decreased by 0.13 and 0.10 for IPOs and M&As, respectively. This decline in score around any change of ownership is consistent with Dahl (2011), who show that there is an increase in the uptake of stress-related medication for employees that experiment any organizational changes.

If we look at the incremental effect of an LBO over an M&A (not tabulated here), we find that the statistical significance is weak in some specifications. Also across the different samples described above and when using the alternative econometric approach described above, we find that the decrease in satisfaction post LBO beyond the decrease observed post (any) M&A is not robust (not tabulated).

This section has also not been fully written yet – apologies – also the tables made with this approach are not included here yet – sorry.

C. Evaluation of Pre-Trends & Endogeneity of LBO Transactions

The above setup is a difference-in-difference design, hence assume that both the companies that are subject to an LBO and that companies that are not, were on parallel trends before the LBO in order to interpret β as the causal effect of PE ownership.

We estimate a model that is similar to that shown in Equation 1. We replace the Post-LBO dummy variable with a Pre-LBO dummy variable and a set of cross-effects corresponding to each of the twelve quarters preceding the transaction; as shown in Equation 2 below:

$$S_{e,c,q} = \alpha_c + \alpha_q + \Sigma(\beta_s * LBO_Quarter_{c,s}) + \gamma * Z_e + \epsilon_{e,c,q} \quad (2)$$

$$s = [-12, -11, \dots, -1]$$

$LBO_Quarter_{c,s}$ is a dummy variable that is one if the rating for company c was submitted on a day between $d_c + 90 * s$ and $d_c + 90 * (s + 1)$, and is zero otherwise. As shown in Figure 1, the time-series of β_s does not exhibit any pre time-trend at any horizon.¹⁸ We also observe that the drop in score coincides with the timing of the LBO.¹⁹

In addition, we check whether the number of ratings increases after the LBO and do not find it to be the case (Figure ??). We evaluate the possibility that LBO firms target companies that have an abnormally high score pre-LBO. The concern is that employees in targeted firms were experiencing a quiet life (Scharfstein and Stein, 2002; Schoar, 2002; Bertrand and Sendhil, 2003). We run the same regression as in equation (1) but using as independent variables firm characteristics (age, industry, size), time fixed effects, and the average score observed pre-LBO at different horizons (one quarter, one year, two years). The dependent variable is the probability that this firm is targeted by an LBO in a given quarter. We estimate a Probit regression, and do not find any statistically significant coefficient at any horizon (also not in the Public-to-PE sub-sample; not-tabulated results). We repeat the same test using the change in scores pre-LBO and do not find any relationship there either (not-tabulated).

[Insert Figure 1]

¹⁸Appendix Figures ?? and ?? show the same analysis for M&A and IPO transactions. We observe a slight negative pre-trend for M&A, and a positive pre-trend for IPO.

¹⁹We used the cross effects for the twelve quarters following the transaction, updating Equation 2 with $s = [0,1,\dots,12]$

D. Cross-Effects: LBO Types, Company and Reviewer Characteristics

The contrast between the existing academic evidence and the case studies covered in the media indicates that not all LBO transactions may have the same effect on employee satisfaction. In addition, as highlighted in the literature, and in particular by Davis et al. (2021), the effect of LBO transactions on employees differ systematically across LBO type.

A key contribution of this paper is to test whether some types of LBOs have systematically different effects on employee satisfaction than others and whether different types of employees react differently to LBOs. To study heterogeneity, we split the Post-LBO variable in Equation (1), and look at i) different types of LBOs, ii) different types of companies, iii) different types of employees, and iv) different industries. The split is achieved using a set of dummy variables labelled $SubTypes$:

$$S_{e,c,q} = \alpha_c + \alpha_q + \Sigma(\beta_s * Post - LBO_{c,q} * SubTypes) + \gamma * Z_e + \epsilon_{e,c,q} \quad (3)$$

Where $\Sigma(SubTypes * Post - LBO_{c,q}) = Post - LBO_{c,q}$.

Table VI shows the results from the estimation of the panel regression model in Equation 3. All the control variables are included in each specification (though not displayed to save space). Specification (1) shows that the largest decline is observed for companies that were publicly listed before PE-ownership (PU2PE): -0.23. When the company was privately held, but was not under PE control (Private-to-PE), we observe a smaller decline: -0.11. When the company was privately held and under PE control (PE2PE), the decline is yet smaller, and is not significant: -0.08.

[Insert Table VI]

We then study the interaction with the characteristics of companies and reviewers. Specification (2) shows that the Post-LBO effect is larger for small companies: the decrease is half as large for medium and large companies. Specification (3) shows the results as a function of the age of the company. Mature companies experience a smaller decrease in their score around an LBO. We could have expected that a Leveraged Buy-Out in mature companies would represent the largest shock as mature companies may have employees that are more entrenched and the company may be more in need of restructuring. Young companies subject to an LBO may, in contrast, benefit from access

to outside finance which helps them grow. Results however indicate that LBOs generate the largest decrease in employee satisfaction in companies created after 2000.

We further group job positions in three categories for ease of presentation because results are similar within these three categories: Management, Mid-Management, and Non-Management; the latter includes White, Purple, Pink, and Blue Collars. Specification (4) shows that there are no significant changes in satisfaction for employees in managerial positions, and a decrease of about 0.10 for employees in mid-management positions. Employees in non managerial positions report a much larger drop in satisfaction post LBO (-0.15).

These results on job positions are consistent with those in the literature. For example, Lichtenberg and Siegel (1990) finds that the decrease in number of jobs is concentrated on Blue Collars. Antoni et al. (2019) find that Pink Collar jobs are reduced the most. Olsson and Tåg (2017) show that routine tasks tend to be automated or offshored after an LBO.

In the Appendix Tables ?? and ??, we show that results are different for M&A and IPO transactions. For M&As, all employees are slightly less satisfied post-transaction and it does not depend on their job position. For IPOs, we only observe significant negative effects in lower-ranked employees, but this effect is only present for recent IPOs.

Specification (5) shows results for different industries. Companies in the Retail and Software sectors are the only ones with a significant decrease in ratings. The three service industries (IT services, corporate services and public services) have the same coefficient and thus we pooled them together into “Other Services”. The coefficient is negative but not significant for services, similar to Industrial. In addition, Appendix Tables ?? and ?? show that no such differences based on industries are found for M&As and IPOs. That is, even in the Retail sector, there is no decrease in satisfaction after a change of Ownership other than an LBO.

These results are important because the literature frequently studies the impact of LBOs in a particular industry. As far as employee satisfaction is concerned, results are industry specific.

[Insert Table VII]

[Insert Table VIII]

E. Previous Ownership Type

As shown above, and consistent with the literature, we find that Public-to-PE LBOs have a larger impact on employee dissatisfaction. In Table VII, we run the same regression as those run in the previous table, but do so separately for the three types of LBOs: Public-to-PE (Panel A), Private-to-PE (Panel B), and PE-to-PE (Panel C).

Panel A shows that for Public-to-PE (Post-PU2PE), post-transaction dissatisfaction is stronger for medium and large companies (spec 1), in the Retail and Software industries (spec 4), and is significant across company age categories (spec 2). Results in specification 3 differ from those observed for the full sample of LBOs: in Public-to-PE transactions, all employees, independent of their position, report lower satisfaction post transaction. In fact, we observe a stronger effect for managerial positions than for non-management positions.

Results in Panels B and C show that for targets that were not publicly traded pre-LBO, dissatisfaction is only observed for employees in non-managerial positions. Management actually reports increased satisfaction, especially when the company was privately (but not PE) held.

Industry effects are also different across LBO types. In both Panels B and C, satisfaction increases for LBOs in consumer services and decreases for LBOs in the Industrial sector; though the effects are not statistically significant. Note that the negative effect for the retail sector is not significant in Panel B, but there are few LBOs in the retail sector for which the previous owner was privately held. Results in Panel C show that for PE-to-PE, there are hardly any industry effects.

Next, we run the same specifications but with the different sub-scores as dependent variables, and we focus on the cross effect with job positions. Results in Table VIII show that in Public-to-PE transactions (Post-PU2PE), management dissatisfaction is driven by the change in Culture: The coefficient on Culture is -0.31 versus -0.29 for the overall score. The other statistically negative coefficient is that on Work-Life Balance. For employees not in a managerial position, dissatisfaction is significant across all sub-scores and is strongest for Career Opportunities.

A unique characteristic of LBO transactions is that it provides management with a significant equity stake in the company, which provides management the chance to earn a life-changing payout. Meanwhile, non-management employees may benefit from being part of a financially successful company but their upside is limited and this divide between the have and have-not may frustrate

lower-ranked employees. The finding that in Private-to-PE (Post-PR2PE) transactions, management is particularly satisfied with Compensation and Benefits supports this view. In addition, given that people higher up in the hierarchy are more satisfied to begin with, these results show that the pre-existing satisfaction gap is exacerbated by Private-to-PE transactions.

In PE-to-PE transactions, management is also satisfied with Compensation and Benefits. Non-Management employees are equally dissatisfied across all sub-scores, with the change in culture being the score with the largest decrease.

The fact that the results are different in Public-to-PE transactions, is consistent with Davis et al. (2021). They show that these transactions have been associated with many layoffs and cost-cutting. In such a setting, everyone is frustrated, including management.

The above results are also consistent with a recent literature that highlights the importance of corporate culture (Gorton and Zentefis, 2020; Graham, Campbell, Popadak, and Rajgopal, 2017) and of non-pecuniary amenities (Mas and Pallais, 2017; Lins, Servaes, and Tamayo, 2017). Our contribution here is to show that change in ownership coincides with increased dissatisfaction that is related to a change in corporate culture. Hence, when there are more frequent changes in ownership, as it has been the case with the surge of private equity over the last decade, we may expect more changes in corporate culture and more frustrated employees.

When we re-run these specifications with other samples and the alternative econometric approach, we find that what is robust is the finding that the dissatisfaction is concentrated in public-to-private transactions and in the Tech industry. The dissatisfaction in Retail is not robust. Hence, it is a relatively small fraction of LBOs that are behind the overall decrease in satisfaction.

Another set of results (not tabulated) shows that, for companies that were public listed, their growth pre-transaction plays a role in the change in satisfaction and that is strongest for the Tech PU2PEs. Specifically, we find that for the PU2PE Tech transactions, which are the only ones we a robust statistical significant decrease in satisfaction, the effect is stringer for the companies that experienced a high growth in revenue pre-LBO. This growth is not necessarily organic but captures the fact that this company was expanding and when they went into PE sponsorship, the focus shifted to cost cutting and that created dissatisfaction.

This section has not been fully written yet – apologies – also the tables made with this approach are not included here yet – sorry.

F. PE sponsors & Industries

We run the same regressions as in Table V – Specification (4), but adding PE sponsors (a.k.a. GPs) as cross-effects to see whether the effect observed per industry are in fact due to practices of some particular GPs who happen to specialize in some industries.

We start with the Software industry. In our sample, eight GPs have more than 70% of their portfolio in that industry. In Table IX – Panel A, we include as explanatory variables each of these GP cross-effects, one at a time, starting with the GP with the highest fraction of LBOs in Software. The -0.18 coefficient on Software remains unaffected by the inclusion of any of the GPs except for the most active one in this sector: Vista. However, we were told that Vista changed their investment approach around 2018. In our data, this strategic change is visible. Employees are strongly dissatisfied in Vista transactions in years up to 2017.²⁰ For transactions in 2018 and later, there is no drop in satisfaction around their LBOs.

We repeat the same analysis with the GPs that have the highest exposure to Retail, although only Sycamore is really specialized in Retail. The other GPs invest cross industries. Results in Table IX– Panel B show that GP cross-effects do not affect the negative coefficient for Retail.²¹

We also conduct this analysis with all the GPs, one at a time, and looking at their impact on the post LBO effect. Results are not tabulated to preserve space. We find that sixteen GPs have a positive coefficient, meaning that employees in the companies under their control reported higher scores Post-LBO. None of these coefficients are statistically significant, but five of them are economically significant, at 0.20 or more: Clearlake, Advent, American Securities, Warburg Pincus and Becken Petty O’Keefe. At the other end of the spectrum, there are 19 GPs with a coefficient of -0.20 or lower.

An F-test for the null hypothesis that “GP fixed effects are all equal to zero” is rejected at a 1% level test; implying that employee satisfaction is related to the identity of the GP that is sponsoring a given transaction (non-tabulated). This result highlights the difficulty to generalize any result to

²⁰See (<https://www.wsj.com/articles/billionaires-secret-buyout-formula-110-instructions-and-an-intelligence-test-1531151197>) published in 2018 explains the “secret buyout formula” Vista applies to software deals: i) major cost-cutting programs are implemented; ii) renew staff to “High Performing Entry-Level”; iii) older and more experienced employees are relocated to less-expensive cities, which most refuse; iv) new senior managers are hired and implement personality tests and IQ tests, which “inspire consternation and fear among existing employees.”

²¹Note that in both Panels of Table IX, Clearlake has a positive and significant coefficient. From their website, their approach is defined as “Operational Improvement Approach based on Operations, People and Strategy.” Employees working at Clearlake’s portfolio companies are satisfied with senior management, and culture (see Table ??).

the entire private equity sector, as is often the case in policy circles.

Given the importance of GP fixed effects, we also attempt to explain differences across GPs. In particular, we use the ESG-related fields that Preqin provides for each GP. We find that none of these fields explain which GP is associated with more decrease in employee satisfaction. This non-result indicates that existing ESG reports are insufficient to capture employee satisfaction. This result is of particular interest given the growing demand for funds that self report various ESG features (Barber, Morse, and Yasuda, 2021; Geczy, Jeffers, Musto, and Tucker, 2021).

[Insert Table IX]

G. Robustness Checks

We make a series of changes. We take out the reviews posted without a job title, and add reviews posted more than three years after a transaction. We also increase the required number of reviews pre- and post-transaction to 5 and 10 (instead of 3). We verify that our results hold if we remove early transactions. We also verify the outcome if we take out recent reviews.

Glassdoor is sometimes perceived as a ranting website. We have already listed several studies that showed that employee ratings are closely related to several traditional measures of company performance. We also show results when we take out reviews that are emotional (those with exclamation marks and with upper cased words), long reviews (top quartile in number of words), and short reviews. Glassdoor uses advanced tools to detect fake reviews.

A remaining concern is that companies may game the yearly Employees' Choice Awards. This Award is based on Glassdoor reviews as of the end of October. Companies may "stuff" reviews before the deadline to earn the reward and we do observe a spike in both the number of reviews and the average score in October. We test for it by removing reviews submitted in October.²²

[Insert Table X]

²²Removing very short reviews is another test of this hypothesis. If the goal of a review is to push up the score of a company, we expect the review to contain the minimal amount of words necessary to submit a rating.

III. Textual Analysis

A. The Latent Dirichlet Allocation Approach

In addition to the scores, employees need to write a review that describes the pros and cons of working for the company.²³

To convert this large set of qualitative information into a small set of quantitative information, we use the Latent Dirichlet Allocation (LDA) introduced by Blei, Ng, and Jordan (2003). LDA was designed to address such an issue and has been used extensively in computational linguistics. An influential early use is by Griffiths and Steyvers (2004) who studied the content of 28,154 abstracts from the National Academy of Science. In Finance and Accounting, LDA has been applied to 10-K disclosures (Dyer, Lang, and Stice-Lawrence, 2017), analyst discussions (Huang, 2018), SEC comment letters (Dechow, Lawrence, and Ryans, 2015), firm disclosure in the years surrounding fraud (Hoberg and Lewis, 2017), and to classify loans (Argyle, Nadauld, and Palmer, 2020). LDA is also used commercially. Newspapers such as the New York Times use LDA to recommend articles based on the topics of previously read articles.

The LDA identifies statistical topics through groupings of terms, similar to factor analysis. A term can be a unigram (single word), bi-grams (two successive words) or tri-grams (three words). The LDA is particularly well suited to our setting because it allows for multiple topics to be present in a review and for any topic to occur in multiple reviews. In addition, as this computational linguistic technique is unsupervised, it is easily replicable and does not require assumptions about topics to be found in the document.

The LDA is a Bayesian technique; it assumes that a posterior distribution exists based on hidden variables that generate the observed corpus of terms. The procedure infers i) the mixture distributions of terms $w = 1, \dots, N_w$ describing each topic $k = 1, \dots, N_k$, across the pooled set of reviews, and ii) the mixture distributions of topic $k = 1, \dots, N_k$ describing each review $r = 1, \dots, N_r$. Both distributions are Dirichlet, hence both have $[0,1]$ support, and

- i) $\sum_{w=1}^{N_w} \varphi_{k,w} = 1$, where $\varphi_{k,w}$ is the weight of each term w in topic k .
- ii) $\sum_{r=1}^{N_r} \theta_{r,k} = 1$, where $\theta_{r,k}$ is the weight of each topic k in review r .

²³We used the same sample as in the previous section, but required at least five words in the review after removing all non-informative words (e.g., “the”, “a”), and keeping only reviews written in English. We have obtained 400,193 cons reviews with sufficient information. On average, there 32 words for the cons and 24 words for the pros.

B. *Extracted Topics*

A parameter of choice is the number of topics across all reviews (N_k).²⁴ As detailed in Appendix ??, a so-called coherence score indicates that we should work with 25 topics for the cons reviews.

Table XI provides the list of the 25 topics that are extracted. In one third of the topics, the word “management” is prominent. These topics are labelled “Management Leadership,” “Management Style,” “Management Caring Attitude,” etc. A second set of topics is about company strategy (“Business Development & IT,” “Fast Change & Growth,” and “Operations”). The third set of topics is about working conditions (“Work-Life Balance”, “Relative Salaries”, “Working Hours”). Note two topics at the bottom of Table XI: “No Complaint” and “Other Issues.”

Topic labels are based on the words (i.e., Ngrams) with the most weight in the topic. These words, sorted from the highest weight to the lowest, are shown in Column 3. In addition, we conduct a narrative analysis of a random sample of reviews to better label the topic.

We note that the topics are quite robust from one sample to the other but change at the margin. We have also conducted the analysis on the pro reviews, but have not tabulated those yet (sorry). The pro reviews are shorter on average and the optimal number of topics is ten.

Finally, in Appendix - Table ??, we provide a formal validity test of our LDA classification. Similar to Huang (2018) and Dyer et al. (2017), we use our LDA outputs (label and top words) and some extensions (synonyms and related-words) to construct a dictionary.²⁵ The dictionary is then used to re-classify our sample of reviews and provide an accuracy rate of the labelling process. We perform this analysis on a subset of our review sample as it is done in this literature. Our classification has an accuracy rate of about 65% across the 25 topics. Seven topics have an accuracy score higher than 75%.

[Insert Table XI]

²⁴There are (weak) additional assumptions in an LDA approach (see Dyer et al. (2017)).

²⁵Our dictionary consists of the label and top 15 Ngrams from which we withdraw stop words and common words (such as “company”, “employee”) as well as words that could create confusion with other topics (i.e., “value”). We add to our list the synonyms of these words provided by the website powerthesauras.org

C. Regression Analysis

In this section, we run regressions that are similar to those we run in the previous section. We use the same two types of specification (the one with company fixed effects, and the one without). In addition, we look at two different explanatory variables.

C.1. With company fixed effects

We first use ratings as the dependent variable and as explanatory variables the topics mentioned in the corresponding review, with company fixed effects:

$$S_{e,c,q} = \alpha_c + \alpha_q + \beta_s * Post - LBO_{s,c,q} + \Sigma(\theta_k * \omega_k) + \Sigma(\psi_k * Post - LBO_{s,c,q} * \omega_k) + \gamma * Z_e + \epsilon_{e,c,q} \quad (4)$$

Where the vector ω contains the weight of topic $k = 1, \dots, 25$ in a review.

As in the previous section, the dependent variable is the score given by employees, and we execute this estimation separately for the three different types of LBO transactions. Hence, the dummy variable Post-LBO in the above equation is replaced by the following dummy variables:

- Post-PU2PE in specification 1, leading to the estimation of the vector $\psi^{Post-PU2PE}$,
- Post-PR2PE in specification 2, leading to the estimation of the vector $\psi^{Post-PR2PE}$,
- Post-PE2PE in specification 3, leading to the estimation of the vector $\psi^{Post-PE2PE}$.

Results are displayed in Table XII. To preserve space and facilitate readability, we only show the estimate of the elements of the vector ψ (with the corresponding t-statistic underneath each point estimate) in each of three specifications. In addition, we display the topics in descending order of their $\psi_k^{Post-PU2PE}$. Panel A contains the top half of the topics ($\psi_k^{Post-PU2PE} \geq -0.15$), and Panel B contains the other half of the topics ($\psi_k^{Post-PU2PE} < -0.15$).

The coefficients ψ_k measure the increase in the score that employees give as a function of the presence of this topic k in their reviews. For example, when a review mentions the fast change and growth that the company experiences, the score that is given is 0.11 higher if the employee works for a company that has experienced a Public-to-PE transaction than for other companies.

For Public-to-PE, some topics have a positive coefficient, but none of them are statistically significant. For Private-to-PE LBOs and PE-to-PE, there are more topics with positive coefficients.

Reviews that talk about about the fast change, growth and challenging environment coincide with higher scores. In addition, employees are generally positive on their work-life balance and working schedule, and complain less about operations. Thus, the lower decline in satisfaction that we observed for *non* Public-to-PE, stems from employees being relatively satisfied about the changes to the company operations that was brought in by the LBO.

Panel B shows the topics associated with the largest decrease in scores post LBO. The themes, here, are clearly different than in Panel A. Nearly each of these topics mentions management. Thus, what is unique about post LBO complaints are the complaints about management. Again, complaints about management are present in reviews of any employee but these results show that they are associated to more dissatisfaction when the review is written by an employee that has experienced an LBO.

Specifically, there are complaints about mentoring, training, the top-down management style, the sales objectives, and the promotion and hiring policy. The coefficients for these topics are negative and economically significant but not always statistically significant.

“HR Management”, “Layoffs, Cost-Cutting, and Uncertainty” are all significantly negatively associated with employee scores in each type of LBOs. Employees post LBO, therefore, seem particularly anxious with their employment situation or that of their colleagues irrespective of the type of LBOs.

Next to the coefficients, we also report the average weight of each topic in the three different sub-samples: Public-to-PE, Private-to-PE and PE-to-PE. It is apparent that the “Layoffs, Cost-Cutting, and Uncertainty” topic is the most commonly mentioned one after a Public-to-PE LBO. In Private transactions (both Private-to-PE and PE-to-PE), the “challenging environment” and “Fast Change and Growth” are the most cited topics.

[Insert Table XII]

C.2. Without company fixed effects

The benefit of the approach above is that it mirrors what the main econometrics setup we used to explain the ratings and that setup is the same as that of Gornwall et al. (2022), which facilitates comparisons.

One concern, however, is that a company fixed effect setup is quite restrictive. We effectively measure whether a topic is more likely to appear for the same company post LBO compared to pre LBO. For most companies, there are few reviews pre and post, it may therefore be difficult to see much with such a specification.

We then use the other econometric specification, which simply introduce dummy variables for pre and post transactions, like we did above with the regressions to explain the scores. At present we carried this analysis only with the frequency of a topic in a review as a dependent variable. Results are untabulated.

Results are similar than those in the previous sub-section, but seem a bit clearer with this specification (maybe due to improved statistical power). Compared to PU2M&A (and controlling for everything else), reviews post PU2PE complain more about management issues (people management, senior management, culture and leadership) and complain less about operational issues (growing and challenging environment, decision processes, career opportunities, promotions).

If we look at Tech LBOs, results are similar. Complaints focus on issues with management and not about the processes.

We also analyze the pro reviews. We find ten topics, which are labelled as follows: Career opportunities, Employee benefits, Employee care, Flexible environment, Helpful colleagues, Opportune environment, Perks amenities, Product Technology, Salary, Work Life balance

These topics are easy to label, i.e. the most common words clearly and unambiguously determine a theme.

IV. Conclusion

“Private equity and hedge funds now wield enormous influence over the American economy, often with terrible consequences for workers and communities,” said Lisa Donner, executive director of Americans for Financial Reform. This paper offers evidence beyond the set of anecdotal evidence on employee satisfaction. We present a comprehensive analysis of the impact of Private Equity ownership on employees’ perceptions regarding their job.

Our key result is that LBOs are not uniform in their social impact. The main source of heterogeneity is the previous ownership type. Companies that were publicly traded before going under PE control fare differently when it comes to employee satisfaction. In addition, the impact of LBO transactions differs by job title, the industry, and the sponsor. It is therefore difficult to generalize any result obtained from an industry or a GP to the whole of the PE industry. This finding should inform the debate on PE regulation.

Our analysis supports the view that management plays a critical role in private equity, probably more so than in public equity. Employees suffer particularly from the actions of the management team, i.e. the human resource management, its top-down approach, its caring attitude or ethical behaviour. In Public-to-PE transactions, problems are more multi-faceted. For all LBOs, uncertainty, layoffs and cost-cutting raises concerns for employees.

These results tie in well with the literature and bring additional nuances which may help to bridge the gap between the results documented in academia and press reports, but also those within academia where results vary from one industry to another.

Figures

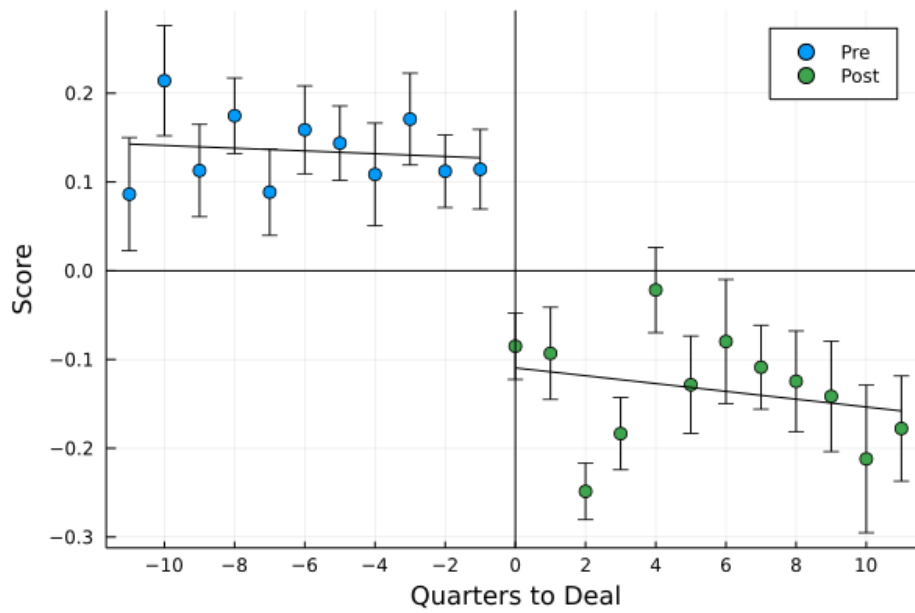


Figure 1. Pre- and Post-LBO deal Trends

Table I – Sample Selection

Panel A shows the number of companies selected in Capital IQ split across five categories: companies that experienced either an LBO, an M&A (other than LBO), or an IPO between 2013 and 2019, and companies that stayed private or public from 2011 to 2020. Panel A, Column 2 shows how many of these companies could be found on Glassdoor.com. Panel B shows the different filters we applied to the sample described in Panel A, to end up with our working sample. Panel C shows the number of LBOs as a function of the type of ownership before the transaction: company was publicly listed (PU2PE), was privately held but not controlled by a PE firm (PR2PE), or was already under PE ownership (PE2PE).

Panel A: Initial Sample				
	Number of companies in Capital IQ	Number of those companies matched to Glassdoor	Number of Deals	Number of Ratings
<i>Without ownership change between 2013 and 2019</i>				
Stayed Private	25,219	8,997	8,997	869,999
Stayed Public	3,182	2,174	2,174	985,515
<i>With ownership change between 2013 and 2019</i>				
Leveraged Buy-Outs (LBO)	3,706	2,143	2,302	205,603
Mergers & Acquisitions (M&A, not LBO)	8,705	2,887	2,934	280,948
Initial Private Offering (IPO)	1,166	595	595	125,889
	13,577	5,685	5,831	647,440
Total	41,978	16,796	17,002	2,467,954

Panel B: Data Filters										
Number of	Deals			Companies		Ratings				
	LBO	M&A	IPO	Private	Public	LBO	M&A	IPO	Private	Public
Initial sample	2,302	2,934	595	8,997	2,174	205,603	280,948	125,889	869,999	985,515
<i>Sample after removing</i>										
Former employees	2,120	2,642	556	8,151	2,095	113,392	147,117	71,946	448,228	497,228
Interns	2,117	2,638	554	8,139	2,093	112,243	144,879	70,781	439,379	483,434
Missing length of employment	2,001	2,373	532	7,555	2,018	74,649	90,545	48,466	278,330	310,916
Those who joined post transaction	1,827	2,236	455	7,555	2,018	47,776	70,679	26,019	278,330	310,916
Ratings submitted too early/late	1,718	2,146	433	7,555	2,018	36,594	52,269	19,714	278,330	310,916
<i>Working Sample:</i>										
Minimum number of ratings required	627	594	243	4,041	1,594	31,100	42,970	18,870	270,069	309,831

Panel C: Type of LBO		
	Number of LBOs	Number of Ratings
Was publicly listed prior to LBO (PU2PE)	94	10,207
Was privately held (non-LBO) prior to LBO (PR2PE)	279	9,357
Was under LBO prior to this LBO (PE2PE)	254	11,536
Total	627	31,100

Table II – Quantitative Scores Given by Employees

There are nine different quantitative scores that employees gave their company. The first six quantitative scores are scored 1, 2, 3, 4 or 5 and are called Overall Score (Score), Work-Life Balance (WLB), Culture (Cult), Senior Management (SM), Compensation & Benefits (CB) and Career Opportunities (CO). The next three quantitative scores are scored 1, 3, or 5 and are called Recommended (Reco), Outlook (Outl) and CEO. Panel A shows descriptive statistics across our working sample. Panel B shows the pairwise coefficient of correlation between the score across our working sample.

Panel A: Descriptives									
	mean	std	Number of Scores						
Overall Score (Overall)	3.53	1.28	672,840						
Work-Life Balance (WLB)	3.43	1.34	639,498						
Culture (Cult)	3.41	1.26	638,677						
Senior Management (SM)	3.33	1.35	637,867						
Compensation & Benefits (CB)	3.14	1.43	630,541						
Career Opportunities (CO)	3.53	1.41	625,746						
Recommended (Reco)	3.68	1.88	599,543						
Outlook (Outl)	3.71	1.57	577,897						
CEO	3.80	1.48	533,825						
Total			5,556,434						

Panel B: Correlations									
	Overall	WLB	Cult	SM	CB	CO	Reco	Outl	CEO
Overall Score (Overall)	1.00								
Work-Life Balance (WLB)	0.64	1.00							
Culture (Cult)	0.65	0.48	1.00						
Senior Management (SM)	0.76	0.52	0.61	1.00					
Compensation & Benefits (CB)	0.79	0.61	0.57	0.71	1.00				
Career Opportunities (CO)	0.79	0.61	0.56	0.68	0.77	1.00			
Recommended (Reco)	0.76	0.54	0.53	0.64	0.68	0.69	1.00		
Outlook (Outl)	0.68	0.48	0.49	0.61	0.64	0.62	0.65	1.00	
CEO	0.63	0.45	0.47	0.55	0.62	0.51	0.58	0.59	1.00

Table III – Job Categories

Employees may enter a job title on Glassdoor, which we then classified into Management, Middle Management, White Collar, Purple Collar, Pink Collar, or Blue Collar. Panel A shows the average sub-scores given by employees in a given job category. NC/Anonymous stand for “not classified” or anonymous ratings and are shown in the right-hand column. Panel B shows the average and inter-quartile range across the companies within each of the six job categories. For each company, Glassdoor has a page where it gives the average salary for different job positions.

Panel A: Scores							
	Mngt	MidMngt	WhiteC	PurpleC	PinkC	BlueC	NC/Anon
Overall Score	3.82	3.60	3.61	3.47	3.45	3.35	3.49
Work-Life Balance	3.58	3.35	3.58	3.40	3.38	3.21	3.40
Career opportunities	3.82	3.61	3.63	3.43	3.48	3.29	3.46
Compensation & Benefits	3.46	3.23	3.22	3.04	3.09	2.92	3.09
Senior Management	3.66	3.48	3.42	3.23	3.19	3.10	3.26
Culture	3.71	3.50	3.50	3.36	3.25	3.22	3.39
CEO	4.10	3.89	3.92	3.67	3.67	3.49	3.78
Outlook	4.00	3.79	3.81	3.62	3.59	3.49	3.68
Recommended	4.01	3.75	3.80	3.63	3.58	3.46	3.60

Panel B: Salary							
	Mngt	MidMngt	WhiteC	PurpleC	PinkC	BlueC	NC
Avg. Salary	\$136,941	\$84,631	\$75,893	\$67,333	\$47,309	\$44,701	\$56,611
25 th percentile	\$103,627	\$54,328	\$50,688	\$42,240	\$27,456	\$25,344	\$29,568
75 th percentile	\$164,928	\$109,011	\$95,753	\$86,933	\$58,070	\$54,386	\$70,272
Number of Observations	185,893	413,578	736,117	209,389	332,023	179,505	245,683

Table IV – Company Characteristics

This table gives the company characteristics: the industry in which the company operates (Panel A), foundation year (Panel B) and number of employees (Panel C). Data on foundation year and size are from Glassdoor. Size is the number of employees reported on the website when we scraped the data. Post-war companies are those with a foundation year between 1945 and 1999. Millennials are companies founded in 2000 or later. Industry categories are created from the 134 different industry classifications used by Glassdoor. We report the number of companies and scores observed in each category across the overall sample of companies and across the sub-set of companies subject to an LBO. When a company is subject to two LBOs in our dataset, it is treated as two separate companies.

Panel A: Industry						
	Number of Companies	Number of Ratings	Avg. Overall Score	Avg. Salary	Number of LBOs	Number of LBO Ratings
Consumer Services	1,153	131,608	3.48	\$51,692	56	3,082
Corporate Service	1,900	177,583	3.57	\$71,612	136	5,091
Public Services	462	38,638	3.50	\$63,533	76	3,309
IT Services	343	38,589	3.58	\$87,096	53	3,527
Industrial	2,214	139,568	3.49	\$77,233	108	2,519
Retail	451	86,949	3.35	\$43,058	38	4,715
Software	528	68,823	3.75	\$97,840	160	8,857
Overall	7,051	672,840	3.53	\$69,478	627	31,100

Panel B: Foundation year						
	Number of Companies	Number of Ratings	Avg. Overall Score	Avg. Salary	Number of LBOs	Number of LBO Ratings
Millennials	644	46,625	3.74	\$83,944	171	6,706
Post-War	1,685	238,635	3.49	\$70,253	412	22,333
Pre-War	681	150,649	3.42	\$71,237	44	2,061
Unknown Foundation Year	4,041	270,069	3.59	\$65,598	-	-
Overall	7,051	672,840	3.53	\$69,478	627	31,100

Panel C: Size						
	Number of Companies	Number of Ratings	Avg. Overall Score	Avg. Salary	Number of LBOs	Number of LBO Ratings
Small (1-500)	1,987	68,033	3.75	\$65,460	272	6,890
Small (501-1000)	1,266	40,087	3.66	\$71,603	118	4,511
Medium (1001-5000)	2,350	148,357	3.57	\$71,413	180	10,798
Medium (5001-10000)	558	72,628	3.49	\$71,415	27	2,681
Big (10000+)	890	355,376	3.48	\$68,005	30	6,220
Overall	7,051	672,840	3.53	\$69,478	627	31,100

Table V – Determinants of Employee Scores

This table shows the results from estimating pooled panel regressions with the overall score given by an employee for her/his employer as the dependent variable. The variable $8 < \text{Tenure} < 10$ is omitted due to multi-collinearity. There are no controls for private and public companies because these are absorbed into the company fixed-effects. Standard errors are clustered at the company and quarter level. When a company is subject to two LBOs in our dataset, it is treated as two separate companies.

	Dependent variable: Overall Score			
	(1)	(2)	(3)	(4)
Post-LBO	-0.18*** (-6.94)	-0.14*** (-5.34)	-0.14*** (-5.35)	-0.14*** (-5.32)
Post-M&A	-0.10*** (-3.36)	-0.06** (-2.12)	-0.06** (-2.06)	-0.06* (-2.00)
Post-IPO	-0.13*** (-3.47)	-0.08** (-2.02)	-0.08** (-2.08)	-0.07** (-2.04)
0 < Tenure < 1		0.18*** (11.15)	0.21*** (12.23)	0.22*** (12.64)
1 < Tenure < 3		0.03*** (3.51)	0.06*** (5.62)	0.07*** (6.53)
3 < Tenure < 5		-0.02** (-2.25)	-0.01 (-0.91)	-0.01 (-0.33)
5 < Tenure < 8		-0.01 (-0.44)	0.01 (0.15)	0.01 (0.44)
Tenure > 10		0.11*** (12.54)	0.11*** (12.35)	0.11*** (12.24)
Management			0.29*** (18.72)	0.21*** (12.92)
Mid-Management			0.15*** (15.20)	0.13*** (12.85)
White Collar			0.08*** (11.55)	0.08*** (11.57)
Purple Collar			0.01 (1.21)	0.02** (2.16)
Pink Collar			-0.01 (-0.80)	0.03*** (4.00)
Blue Collar			-0.06*** (-5.39)	-0.01 (-1.09)
log(Wage)				0.13*** (10.86)
Quarter Fixed-Effects	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840
Adjusted R ²	0.11	0.11	0.12	0.12

Table VI – LBO Cross-Effects

This table shows a regression output generated as in Table V – Specification (4) to which we added cross-effects with the dummy variable “Post-LBO” as explanatory variables. This table shows the results with LBO sub-types (Column 1): Public-to-PE (Post-PU2PE), Private-to-PE (Post-PR2PE), and PE-to-PE; company characteristics (Columns 2, 3 and 5): size, foundation year, and industry (Other Services industry is composed of Corporate, IT, and Public Services); and reviewer characteristics (Column 4): job category. Column (6) presents a horse race between the different cross-effects. Tables ?? and ?? in Appendix are the same but with Post-M&A or Post-IPO instead of Post-LBO in the cross-effects. Control variables are not displayed in the table. These control variables include Post-M&A, Post IPO, Tenure, Collar and log(Wage).

	Dependent variable: Overall Score					
	(1)	(2)	(3)	(4)	(5)	(6)
Post-LBO						0.09 (1.53)
Post-LBO x PU2PE	-0.23*** (-5.15)					-0.13** (-2.37)
Post-LBO x PR2PE	-0.11** (-2.44)					
Post-LBO x PE2PE	-0.08 (-1.61)					
Post-LBO x Small		-0.21*** (-4.32)				-0.10 (-1.42)
Post-LBO x Medium		-0.11** (-2.38)				
Post-LBO x Big		-0.13** (-2.60)				
Post-LBO x Pre-War			-0.13 (-1.40)			
Post-LBO x Post-War			-0.10*** (-2.86)			
Post-LBO x Millennials			-0.28*** (-5.01)			-0.19*** (-2.85)
Post-LBO x Management				-0.02 (-0.33)		
Post-LBO x Mid-Management				-0.10* (-2.01)		
Post-LBO x Non-Management				-0.15*** (-6.16)		-0.07* (-1.66)
Post-LBO x Consumer Services					0.12 (0.97)	
Post-LBO x Industrial					-0.12 (-1.40)	
Post-LBO x Other Services					-0.06 (-0.97)	
Post-LBO x Retail					-0.24*** (-4.39)	-0.19** (-2.70)
Post-LBO x Software					-0.25*** (-4.60)	-0.15** (-2.38)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12	0.12

Table VII – Subtype LBO Cross-Effects

This table shows a regression output generated as in Table V – Specification (4) to which we added cross-effects with the dummy variable “Post-PU2PE” (Panel A), “Post-PR2PE” (Panel B) and “Post-PE2PE” (Panel C) as explanatory variables. Column (5) presents a horse race between the different cross-effects. Control variables are not displayed in the table. These control variables include Post-M&A, Post IPO, Tenure, Collar and log(Wage).

Panel A: Post-PU2PE					
	Dependent variable: Overall Score				
	(1)	(2)	(3)	(4)	(5)
Post-PU2PE					-0.15** (-2.14)
Post-PU2PE x Small	-0.05 (-0.23)				0.24 (1.10)
Post-PU2PE x Medium	-0.28*** (-3.85)				
Post-PU2PE x Big	-0.22*** (-7.75)				
Post-PU2PE x Pre-War		-0.27** (-2.41)			
Post-PU2PE x Post-War		-0.20*** (-3.79)			
Post-PU2PE x Millennials		-0.41** (-3.23)			-0.19 (-1.30)
Post-PU2PE x Management			-0.29** (-2.03)		
Post-PU2PE x Mid-Management			-0.32*** (-4.88)		
Post-PU2PE x Non-Management			-0.21*** (-4.21)		0.10 (1.55)
Post-PU2PE x Consumer Services				-0.02 (-0.15)	
Post-PU2PE x Industrial				0.03 (0.18)	
Post-PU2PE x Other Services				-0.09 (-1.10)	
Post-PU2PE x Retail				-0.30*** (-6.65)	-0.22*** (-3.65)
Post-PU2PE x Software				-0.33*** (-3.17)	-0.26** (-2.24)
Control Variables	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12

Panel B: Post-PR2PE					
	Dependent variable: Overall Score				
	(1)	(2)	(3)	(4)	(5)
Post-PR2PE					0.23** (2.52)
Post-PR2PE x Small	-0.24*** (-4.29)				-0.16* (-1.92)
Post-PR2PE x Medium	-0.01 (-0.16)				
Post-PR2PE x Big	0.11 (1.02)				
Post-PR2PE x Pre-War		0.37 (1.15)			
Post-PR2PE x Post-War		-0.06 (-0.97)			
Post-PR2PE x Millennials		-0.26*** (-4.48)			-0.15* (-1.94)
Post-PR2PE x Management			0.21 (1.74)		
Post-PR2PE x Mid-Management			0.01 (0.14)		
Post-PR2PE x Non-Management			-0.15** (-3.14)		-0.17** (-2.22)
Post-PR2PE x Consumer Services				0.18 (1.04)	
Post-PR2PE x Industrial				-0.17 (-1.21)	
Post-PR2PE x Other Services				-0.02 (-0.25)	
Post-PR2PE x Retail				-0.21 (-0.84)	-0.25 (-0.95)
Post-PR2PE x Software				-0.33*** (-3.83)	-0.21* (-1.93)
Control Variables	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12

Panel C: Post-PE2PE					
	Dependent variable: Overall Score				
	(1)	(2)	(3)	(4)	(5)
Post-PE2PE					0.10 (1.12)
Post-PE2PE x Small	-0.24*** (-3.06)				-0.18* (-1.87)
Post-PE2PE x Medium	-0.02 (-0.32)				
Post-PE2PE x Big	-0.06 (-0.61)				
Post-PE2PE x Pre-War		-0.15 (-1.11)			
Post-PE2PE x Post-War		-0.03 (-0.61)			
Post-PE2PE x Millennials		-0.24* (-1.98)			-0.17 (-1.36)
Post-PE2PE x Management			0.07 (0.78)		
Post-PE2PE x Mid-Managment			0.01 (0.12)		
Post-PE2PE x Non-Management			-0.11** (-2.41)		-0.13** (-2.51)
Post-PE2PE x Consumer Services				0.21 (0.92)	
Post-PE2PE x Industrial				-0.15 (-1.16)	
Post-PE2PE x Other Services				-0.09 (-0.59)	
Post-PE2PE x Retail				-0.10 (-0.91)	-0.09 (-0.58)
Post-PE2PE x Software				-0.07 (-1.07)	0.01 (0.10)
Control Variables	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12

Table VIII – Sub-Scores, LBO Sub-Types, and Job Positions

This table shows the same specification as Table VI - Specification (4) for the different sub-scores and for the different LBO sub-types. In Panel A, Overall (Specification 1) is “Overall score,” WLB (Specification 2) is “Work-Life Balance,” Cult (Specification 3) is “Culture,” SM (Specification 4) is “Senior Management,” CB (Specification 5) is “Compensation & Benefits,” CO (Specification 6) is “Career opportunities”. In Panel B, Reco (Specification 1) is “Recommended”, Outl (Specification 2) is “Outlook,” and CEO (Specification 3) is “CEO”. Control variables (Post-M&A, Post IPO, Tenure, Collar and log(Wage)) are not displayed in the table.

Panel A: Main Sub-Scores						
	Overall	WLB	Cult	SM	CB	CO
	(1)	(2)	(3)	(4)	(5)	(6)
Post-PU2PE x Management	-0.29* (-2.01)	-0.22** (-2.27)	-0.31** (-2.64)	-0.25 (-1.49)	-0.19 (-1.20)	-0.19 (-1.42)
Post-PU2PE x Mid-Management	-0.31*** (-4.85)	-0.21*** (-3.06)	-0.17*** (-3.09)	-0.22*** (-3.54)	-0.25*** (-3.33)	-0.31*** (-4.30)
Post-PU2PE x Non-Management	-0.21*** (-4.22)	-0.12*** (-2.83)	-0.15*** (-3.33)	-0.18*** (-3.31)	-0.19*** (-3.10)	-0.21*** (-3.76)
Post-PR2PE x Management	0.21* (1.75)	0.04 (0.31)	-0.01 (-0.10)	0.25** (2.35)	0.33** (2.46)	0.12 (0.80)
Post-PR2PE x Mid-Management	0.01 (0.14)	0.01 (0.11)	-0.01 (-0.13)	0.06 (0.78)	0.04 (0.38)	0.03 (0.30)
Post-PR2PE x Non-Management	-0.15*** (-3.14)	-0.12*** (-3.64)	-0.18*** (-3.99)	-0.15*** (-3.63)	-0.16*** (-3.76)	-0.16*** (-3.73)
Post-PE2PE x Management	0.07 (0.79)	0.03 (0.36)	0.07 (0.76)	0.14* (1.72)	0.15 (1.62)	0.14 (1.56)
Post-PE2PE x Mid-Management	0.01 (0.13)	0.05 (0.65)	-0.04 (-0.63)	0.08 (1.23)	0.03 (0.42)	0.04 (0.57)
Post-PE2PE x Non-Management	-0.11** (-2.41)	-0.04 (-1.05)	-0.12*** (-3.05)	-0.06 (-1.10)	-0.10* (-1.88)	-0.06 (-1.14)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	639,498	638,677	637,867	630,541	625,746
Adjusted R ²	0.12	0.10	0.15	0.12	0.13	0.13

Panel B: Other Sub-Scores			
	Recom.	Outlook	CEO
	(1)	(2)	(3)
Post-PU2PE x Management	-0.19 (-1.03)	-0.24 (-1.42)	-0.11 (-0.61)
Post-PU2PE x Mid-Management	-0.45*** (-4.67)	-0.29*** (-2.71)	-0.25 (-1.55)
Post-PU2PE x Non-Management	-0.30*** (-4.06)	-0.29*** (-3.56)	-0.21** (-2.21)
Post-PR2PE x Management	0.21 (1.62)	0.13 (1.01)	0.32*** (2.97)
Post-PR2PE x Mid-Management	-0.02 (-0.14)	-0.04 (-0.31)	0.03 (0.25)
Post-PR2PE x Non-Management	-0.15** (-2.31)	-0.13** (-2.49)	-0.15** (-2.70)
Post-PE2PE x Management	-0.03 (-0.32)	0.03 (0.34)	0.07 (0.68)
Post-PE2PE x Mid-Management	0.08 (0.88)	0.05 (0.58)	0.06 (0.74)
Post-PE2PE x Non-Management	-0.09 (-1.39)	-0.06 (-0.93)	-0.07 (-1.51)
Control Variables	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes
Number of Observations	599,543	577,897	533,741
Adjusted R ²	0.08	0.10	0.12

Table IX – Industry vs. GP Cross-Effects

This table shows the same specification as Table VI - Specification (1) to which we added the GP cross-effects, one at a time, starting with the GP with the highest fraction in Software (Panel A) or starting with the GP with the highest fraction in Retail (Panel B). Control variables are not displayed in the table. These control variables include Post-M&A, Post IPO, Industries, Tenure, Collar and log(Wage). Vista Pre-2018 stands for LBOs sponsored by Vista prior 2018. Vista Post-2018 stands for acquisitions made in or after 2018.

Panel A: Software vs. GP Fixed-Effects									
	Dependent variable: Overall Score								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post-PU2PE	-0.12** (-2.68)	-0.12*** (-2.78)	-0.11*** (-2.74)	-0.11** (-2.67)	-0.09** (-2.34)	-0.09** (-2.27)	-0.09** (-2.31)	-0.09** (-2.31)	-0.09** (-2.26)
Post-PR2PE	-0.05 (-1.21)	-0.05 (-1.18)	-0.05 (-1.08)	-0.05 (-1.06)	-0.05 (-1.04)	-0.04 (-0.97)	-0.04 (-1.00)	-0.04 (-0.97)	-0.04 (-0.98)
Post-PE2PE	-0.02 (-0.36)	-0.02 (-0.37)	-0.02 (-0.42)	-0.02 (-0.42)	-0.03 (-0.54)	-0.03 (-0.56)	-0.02 (-0.50)	-0.02 (-0.47)	-0.03 (-0.50)
Post-LBO x Retail	-0.15** (-2.20)	-0.15** (-2.18)	-0.16** (-2.25)	-0.16** (-2.24)	-0.17** (-2.39)	-0.17** (-2.45)	-0.17** (-2.45)	-0.17** (-2.45)	-0.17* (-2.47)
Post-LBO x Software	-0.18*** (-2.78)	-0.19*** (-2.82)	-0.16** (-2.57)	-0.16** (-2.54)	-0.09* (-1.91)	-0.08 (-1.52)	-0.07 (-1.40)	-0.06 (-1.34)	-0.08 (-1.53)
Post-LBO x Marlin Equity Partners	-0.173 (-0.96)	-0.18 (-0.96)	-0.20 (-1.10)	-0.21 (-1.12)	-0.28 (-1.57)	-0.29 (-1.61)	-0.30 (-1.67)	-0.31 (-1.70)	-0.30 (-1.63)
Post-LBO x Insight Partners		0.13 (0.54)	0.10 (0.44)	0.10 (0.43)	0.03 (0.12)	0.011 (0.05)	0.01 (0.01)	-0.01 (-0.01)	0.01 (0.03)
Post-LBO x Thoma Bravo			-0.13 (-0.72)	-0.13 (-0.72)	-0.20 (-1.16)	-0.21 (-1.25)	-0.22 (-1.30)	-0.23 (-1.32)	-0.22 (-1.27)
Post-LBO x Vector Capital				-0.07 (-0.61)	-0.13 (-1.13)	-0.15 (-1.16)	-0.15 (-1.20)	-0.16 (-1.16)	-0.15 (-1.12)
Post-LBO x Vista Pre-2018					-0.42*** (-4.43)	-0.44*** (-4.43)	-0.45*** (-4.67)	-0.46*** (-4.68)	-0.45*** (-4.52)
Post-LBO x Vista Post-2018						-0.10 (-1.10)	-0.10 (-1.19)	-0.11 (-1.23)	-0.10 (-1.12)
Post-LBO x TA Associates							-0.42 (-1.15)	-0.42 (-1.16)	-0.46 (-1.32)
Post-LBO x Francisco Partners								-0.17 (-0.70)	-0.17 (-0.66)
Post-LBO x Clearlake Capital Group									0.27** (2.51)
Control Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	672,840	672,840	672,840	672,840	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Panel B: Retail vs. GP Fixed-Effects

	Dependent variable: Overall Score							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post-PU2PE	-0.12**	-0.12***	-0.12***	-0.12***	-0.13***	-0.13***	-0.13***	-0.12***
	(-2.67)	(-2.76)	(-2.75)	(-2.74)	(-2.79)	(-2.84)	(-2.84)	(-2.76)
Post-PR2PE	-0.05	-0.06	-0.06	-0.07	-0.08	-0.08	-0.08	-0.08*
	(-1.21)	(-1.42)	(-1.42)	(-1.60)	(-1.70)	(-1.72)	(-1.71)	(-1.71)
Post-PE2PE	-0.02	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04
	(-0.35)	(-0.39)	(-0.42)	(-0.42)	(-0.53)	(-0.57)	(-0.57)	(-0.62)
Post-LBO x Retail	-0.15*	-0.16*	-0.16*	-0.16*	-0.16*	-0.16*	-0.16*	-0.16*
	(-1.77)	(-1.81)	(-1.81)	(-1.96)	(-1.93)	(-1.93)	(-1.93)	(-1.95)
Post-LBO x Software	-0.18***	-0.18***	-0.18***	-0.18***	-0.17***	-0.18***	-0.18***	-0.19***
	(-2.95)	(-2.87)	(-2.89)	(-2.87)	(-2.79)	(-2.89)	(-2.88)	(-2.99)
Post-LBO x Sycamore Partners	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	(0.02)	(0.09)	(0.08)	(0.15)	(0.15)	(0.16)	(0.16)	(0.14)
Post-LBO x Apax Partners		0.15	0.15	0.15	0.16	0.16	0.16	0.16
		(1.49)	(1.50)	(1.57)	(1.60)	(1.62)	(1.62)	(1.63)
Post-LBO x Hellman & Friedman			0.13	0.13	0.13	0.14	0.14	0.14
			(0.36)	(0.36)	(0.37)	(0.39)	(0.39)	(0.40)
Post-LBO x Warburg Pincus				0.58	0.59	0.59	0.59	0.59
				(1.22)	(1.23)	(1.23)	(1.23)	(1.24)
Post-LBO x Investcorp					0.15	0.15	0.15	0.15
					(0.99)	(1.00)	(1.00)	(1.01)
Post-LBO x Bain Capital Ventures						0.12	0.12	0.13
						(0.57)	(0.58)	(0.61)
Post-LBO x Sentinel Capital Partners							-0.01	-0.01
							(-0.07)	(-0.05)
Post-LBO x Clearlake Capital Group								0.34***
								(3.84)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Company Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	672,840	672,840	672,840	672,840	672,840	672,840	672,840	672,840
Adjusted R ²	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Table X – Robustness Test

This table shows several robustness tests. Each line presents the key coefficients from the same regression as in Specification 1 in Table VIII.

	Post-PU2PE x Mngt	Post-PU2PE x Non-Mngt	Post-PR2PE x Mngt	Post-PR2PE x Non-Mngt	Post-PE2PE x Mngt	Post-PE2PE x Non-Mngt	Number Obs.
Default equation	-0.29* (-2.01)	-0.21*** (-4.22)	0.21* (1.75)	-0.15*** (-3.14)	0.07 (0.79)	-0.11** (-2.41)	672,840
Adding employees who joined post deal	-0.23** (-2.04)	-0.13*** (-4.59)	0.18** (2.28)	-0.14*** (-5.25)	0.12** (2.111)	-0.08*** (-3.51)	703,714
Taking out reviews with no Job Title	-0.28** (-2.40)	-0.21*** (-6.54)	0.21* (1.85)	-0.15*** (-3.95)	0.07 (1.00)	-0.10*** (-3.29)	662,545
Adding reviews posted 3 years or more after LBO	-0.22** (-2.19)	-0.20*** (-6.64)	0.23** (2.13)	-0.15*** (-4.26)	0.12* (1.76)	-0.08** (-2.47)	704,081
Taking out firms with less 5 reviews pre & post	-0.26** (-2.20)	-0.21*** (-6.39)	0.21 (1.66)	-0.14*** (-3.18)	0.06 (0.76)	-0.12*** (-3.93)	658,982
Taking out firms with less 10 reviews pre & post	-0.22** (-2.05)	-0.20*** (-5.76)	0.24* (1.72)	-0.10** (-2.04)	0.04 (0.41)	-0.10*** (-3.34)	629,744
Taking out years 2013-2015	-0.11 (-1.10)	-0.19*** (-6.70)	0.23* (1.75)	-0.12** (-2.54)	0.03 (0.49)	-0.16*** (-3.94)	487,878
Taking out years 2017-2019	-0.45** (-2.55)	-0.20*** (-4.07)	-0.03 (-0.14)	-0.14** (-2.43)	0.01 (0.12)	-0.07* (-1.80)	341,523
Taking out emotional reviews	-0.30** (-2.47)	-0.20*** (-6.20)	0.19 (1.62)	-0.13*** (-3.58)	0.08 (1.29)	-0.10*** (-3.38)	645,797
Taking out long reviews	-0.27** (2.52)	-0.17*** (-5.76)	0.20* (1.78)	-0.11** (-2.58)	0.03 (0.62)	-0.06* (-1.72)	507,201
Taking out short reviews	-0.29* (-1.99)	-0.24*** (-6.70)	0.27** (2.45)	-0.15*** (-4.07)	0.06 (0.76)	-0.13*** (-3.62)	507,201
Taking out October reviews	-0.31** (-2.46)	-0.21*** (-5.96)	0.22* (1.94)	-0.15*** (-4.09)	0.06 (0.87)	-0.11*** (-3.37)	611,567

Table XI – Topic Description

The table provides the list of topics identified by the LDA with parameters. Each topic is described by its label (Column 1), its 15 top Ngrams (Column 2) and their explanatory power for qualifying the labelled topics (Column 3).

Panel A		
Label	Top 15 Ngrams	Total Weight (%) of Top 15 Ngrams
Business Development & IT System	product, compani, busi, develop, engin, softwar, support, market, system, resourc, technolog, issu, time, focus, process	15%
Career Opportunities	opportun, career, growth, advanc, limit, move, compani, develop, path, littl, slow, career growth, opportun advanc, growth opportun, difficult	39%
Challenging Job	time, job, sometim, stress, train, difficult, lot, custom, client, busi, learn, servic, task, hard, littl	25%
Employee Benefits	benefit, offic, insur, health, locat, expens, compani, employe, park, health insur, home, plan, offer, pay, cost	27%
Fast Change & Growth	chang, compani, grow, fast, lot, pace, challeng, growth, environ, sometim, time, pain, fast pace, move, quick	26%
HR Management	employe, manag, level, compani, hr, depart, lack, valu, leadership, senior, level manag, cultur, issu, feel, respect	28%
Incentive Policy	expect, employe, bonus, perform, rate, pay, turnov, manag, increas, compens, job, train, staff, base, incent	23%
Internal Politics	polit, promot, manag, peopl, cultur, lot, senior, top, compani, level, leadership, base, offic, divers, boy	23%
Layoffs, Cost-Cutting & Uncertainty	compani, cut, employe, layoff, peopl, job, cost, busi, leav, term, profit, recent, moral, futur, due	18%
Pay Raise	pay, low, rais, hour, low pay, wage, minimum, increas, littl, benefit, start, pay low, salari, minimum wage, rate	38%
Management Caring Attitude	care, employe, compani, manag, don, doesn, peopl, money, job, care employe, don care, patient, line, custom, manag care	30%
Management Ethics	manag, employe, peopl, favorit, don, bad, worker, treat, store, horribl, terribl, supervisor, upper, upper manag, co	27%
Management Leadership	manag, chang, leadership, constant, compani, cultur, senior, upper manag, direct, execut, decis, senior manag, constant chang, environ	23%
Management Style	team, manag, peopl, project, depend, compani, experi, manag team, lead, lot, cultur, don, skill, offic, leader	24%
Mentoring & Training	peopl, don, job, time, day, train, month, look, start, hire, expect, tri, told, call	21%
Operations	process, lack, communic, slow, technolog, decis, depart, sometim, compani, lot, improv, organ, time, system, busi	24%

Panel B		
Label	Top 15 Ngrams	Total Weight (%) of Top 15 Ngrams
Promotion & Hiring Policy	promot, posit, hire, peopl, job, manag, move, compani, hard, rais, experi, advanc, pay, outsid, level	26%
Relative Salaries	salari, compani, pay, industri, competit, compens, low, compar, market, averag, lower, benefit, standard, red, tape	36%
Sales Objectives	sale, custom, goal, sell, commiss, manag, servic, meet, product, call, pressur, expect, month, base, rep	26%
Top-Down Management	manag, poor, lack, communic, upper, train, upper manag, poor manag, support, micro, micro manag, staff, life, bad, balanc	41%
Work-Life Balance	life, balanc, life balanc, hour, time, lot, travel, hard, none, expect, sometim, stress, famili, workload, depend	45%
Working Hours	day, hour, time, week, schedul, holiday, shift, weekend, vacat, night, overtim, sick, flexibl, hour week, late	33%
Working Schedule	hour, store, custom, time, shift, break, schedul, manag, week, sometim, lot, day, associ, rude, cut	27%
No Complaint	con, compani, none, hard, don, time, job, negat, love, bad, peopl, experi, downsid, honest, isn	35%
Other Issues	call, compani, pay, month, center, time, money, phone, day, review, hr, call center, system, driver, employe	9%

Table XII – Employee Scores & Topics Mentioned

The following pooled panel regression is estimated:

$$S_{e,c,q} = \alpha_c + \alpha_q + \beta_s * Post - LBO_{s,c,q} + \Sigma(\theta_k * \omega_k) + \Sigma(\psi_k * Post - LBO_{s,c,q} * \omega_k) + \gamma * Z_e + \epsilon_{e,c,q} \quad (6)$$

The control variables and estimation method are the same as in Table V. The number of observations is lower (N = 400,193) because we require sufficient information (min. number of words) about the review. The estimation is conducted separately for the three different types of LBO transactions. Hence, the dummy variable Post-LBO in the above equation is replaced by the following dummy variables: Post-PU2PE in specification 1, Post-PR2PE in specification 2, and Post-PE2PE in specification 3. All 23 coefficients ψ_k are estimated jointly but we display them across two panels for ease of presentation.

Panel A						
	Post-PU2PE		Post-PR2PE		Post-PE2PE	
	ψ_k (t-stat)	ω_k	ψ_k (t-stat)	ω_k	ψ_k (t-stat)	ω_k
Fast Change & Growth	0.11 (1.00)	7%	0.19** (2.13)	9%	0.28*** (3.04)	8%
Challenging Job	0.10 (0.70)	3%	0.25** (2.37)	6%	0.26*** (2.88)	6%
Career Opportunities	0.08 (0.75)	4%	-0.24** (-2.12)	3%	0.10 (0.66)	4%
Working Hours	0.06 (0.36)	3%	-0.23 (-1.41)	5%	0.01 (0.04)	3%
Work-Life Balance	0.02 (0.16)	3%	0.17 (1.60)	3%	0.42*** (5.05)	4%
Employee Benefits	0.01 (0.04)	3%	0.12 (0.93)	6%	-0.03 (-0.23)	7%
Internal Politics	-0.01 (-0.03)	3%	-0.06 (-0.32)	3%	-0.06 (-0.32)	3%
Relative Salaries	-0.05 (-0.35)	3%	-0.17 (-1.41)	5%	0.09 (0.82)	6%
Pay Raise	-0.08 (-0.37)	3%	-0.37* (-1.75)	3%	-0.22* (-1.77)	3%
Incentive Policy	-0.09 (-0.48)	3%	-0.06 (-0.32)	3%	-0.03 (-0.18)	3%
Working Schedule	-0.15 (-0.76)	4%	0.13 (0.72)	2%	0.10 (0.59)	4%
Operations	-0.15 (-1.36)	5%	0.03 (0.23)	5%	0.14 (1.36)	4%

Panel B						
	Post-PU2PE		Post-PR2PE		Post-PE2PE	
	ψ_k (t-stat)	ω_k	ψ_k (t-stat)	ω_k	ψ_k (t-stat)	ω_k
Mentoring & Training	-0.18 (-1.21)	4%	-0.44** (-2.15)	5%	-0.21 (-1.36)	4%
Top-Down Management	-0.22 (-1.39)	3%	-0.34 (-1.59)	5%	-0.34** (-2.47)	3%
Sales Objectives	-0.23 (-1.61)	4%	-0.17 (-0.77)	3%	0.13 (0.77)	3%
Promotion & Hiring Policy	-0.26 (-1.34)	3%	-0.11 (-0.51)	2%	-0.35** (-2.64)	3%
Management Ethics	-0.27 (-1.64)	4%	-0.57** (-2.57)	3%	-0.75*** (-3.85)	3%
Management Leadership	-0.29** (-2.02)	7%	-0.64*** (-4.01)	5%	-0.35* (-1.97)	3%
Management Caring Attitude	-0.30 (-1.43)	4%	-0.51* (-1.95)	3%	-0.48*** (-2.77)	4%
Management Style	-0.35* (-1.86)	4%	-0.30** (-2.15)	5%	-0.29 (-1.36)	4%
HR Management	-0.47** (-2.44)	4%	-0.60*** (-3.35)	5%	-0.27* (-1.70)	4%
Business Development & IT System	-0.52** (-2.6)	4%	-0.06 (-0.30)	6%	0.23* (1.84)	4%
Layoffs, Cost-Cutting & Uncertainty	-0.64*** (-4.90)	10%	-0.81*** (-3.41)	5%	-0.59*** (-3.41)	4%

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