Corporate Control and Employee Satisfaction*

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ABSTRACT

We analyze one million employee reviews in the US, and find that employees are more satisfied in privately held companies than in publicly held companies, and that changes in corporate ownership have minor effects on employee satisfaction except for two cases. Employee satisfaction plummets after a Private Equity firm takes control for the first time (Primary Buy-Out), as documented in the literature, but the largest effect is the decrease in satisfaction after a Venture Capitalist (VC) exits. These effects are not driven by firm age, size, or industry. We estimate a Structural Topic Model. Before a VC exits, employees are abnormally satisfied, and gripe about the fast changes occurring at the company. After VC exits, employees complain about senior management becoming more controlling and less supportive. Our findings bode well with the theories of Venture Capital as a company standardization device. Finally, we show how ChatGPT can generate an automated human-like summary of employee views which corroborate and substantiate these results.

Keywords: ESG, big data, crowdsourcing, venture capital, employee well-being, private equity, leveraged buy-outs, mergers & acquisitions.

JEL Codes: G30, G34, G28, G50, I31, J21, J24, J31, J32.

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Why are employees upset when a VC is leaving?

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ABSTRACT

Employee satisfaction plummets when Venture Capitalists (VCs) exit. Other corporate ownership changes have no to relatively minor effects on employee satisfaction. The effect is not driven by firm age, size, or industry. We estimate a Structural Topic Model using 500,000 employee reviews. We find that before VC exits, employees are abnormally satisfied, and gripe about the fast changes occurring at the company. After VC exits, employees blast the management attitude and competence. In addition, we show how ChatGPT can generate an automated human-like summary of employee grievances which corroborate and substantiate these results. Our findings fit best the Rajan (2012) theory of Venture Capital as a company standardization device.

Keywords: ESG, big data, crowdsourcing, venture capital, employee well-being, private equity, leveraged buy-outs, mergers & acquisitions.

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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.*

Venture Capitalists (VCs) are invariably touted for the transformative changes they bring to both the companies they back and to the economy at large (e.g. Hellmann and Puri (2002), Chemmanur, Krishnan, and Nandy (2011), Lerner and Nanda (2020), Gornall and Strabulaev (2020)).[1] The accompanying literature describes VC impact on company operations, financing, and so on; but little attention has been paid to their impact on employees.

In this paper, we collect a large dataset containing employee scores (from 1 to 5) and the accompanying written reviews. Data are taken from the website Glassdoor.com. We merge this dataset with PitchBook and Capital IQ to obtain time-series of company ownership types (public, VC-backed, PE-controlled, other private ownership) and record major transactions (IPO, LBO, Corporate Acquisitions).[2] The resulting dataset includes over one million employee scores at 16,000 unique US-based companies between 2012 and 2022. There are about 3000 transactions for which we observe enough employee scores pre and post major transactions.

A first result is that employee scores are lower for public traded companies, increase with both salary and hierarchy, and are U-shaped with respect to tenure. One of the strongest and most intriguing result, however, is that scores are significantly higher for VC-backed companies; and that after VC exits, the score drops significantly and becomes nearly exactly the same as that of other companies (with the same characteristics).

[1] Gornall and Strabulaev (2020): "Venture capital-backed companies account for 41% of total US market capitalization and 62% of US public companies' R&D spending. Among public companies founded within the last fifty years, VC-backed companies account for half in number, three quarters by value, and more than 92% of R&D spending."
[2] In this paper, we use the label PE and LBO interchangeably.

In all of the other transactions, the score either does not change (e.g., SBOs) or decreases slightly (other LBOs; significant at 90% level test). This VC exit effect cannot by explained by firm age, size or industry. The effect is observed for employees of all rank and all salary range, and tenure. The effect is much stronger when the VC investment is exited via an LBO (VC to PE) than when exited via an IPO. Another striking result is that for VC to PE transactions, the decline is strongest right after the exit (1st year). In contrast, for IPO exits, the decline is gradual and, in fact, not significant during the first year after the IPO which a period during which the VC is usually still in command and hold shares (lock up period). These findings are consistent with the view that employee satisfaction is tightly related to the VC presence.

There is a recent but already extensive literature on how companies change when they go public (e.g., Babina, Ouimet, and Zarutskie (2020)). Summarizing existing evidence, Bernstein (2022) writes that the companies becoming publicly-traded i) focus more on profitability and commercialization, ii) witness a significant change in the composition of their labor force, iii) establish more internal controls and processes, iv) focus more on areas such as finance, accounting, and internal controls, and v) are less innovative.[3] These studies do not seem to distinguish between VC-backed IPOs and non VC-backed ones, and we are not aware of similar studies for companies acquired by PE firms. Nonetheless, we build on these important insights to design our hypotheses.

A first hypothesis focuses on change in employee working conditions (work life balance, perks, how innovative the company is, salaries). Many arguments can be listed here. First, VC exits often coincide with the end of stock-options. People vest their stock options at exit and may find their post exit compensation packages to be less appealing. Second, VC-backed companies are focusing on growth (top line), and may change their focus to profit (bottom line) upon exit, thereby potentially reducing salaries and benefits. Third, at VC exit, the founding management team, which is most likely from a science background, may be replaced by management from a business background. Acemoglu, Xi He, and le Maire (2023) show that management with business-school degrees tend to reduce both wage growth and the labor share of the firm, thereby making employees worse off. And so on.

[3]Public firms tend to hire employees in the areas of finance, accounting, and with prior experience in public firms (Bias et al. (2021); Borisov, Ellul, and Sevilir (2021)). Cong, Howell, and Zhang (2017) find changes around the IPO that are consistent with a broader standardization of the firm through increases in disclosure, professionalization and separation of enterprise value from specific human capital.

A second hypothesis focuses on change in management style. Kaplan, Sensoy, and Strömberg (2007) show that founding teams are particularly important early on, and as startups mature, founders experience a significant turnover, while firms' product lines remain similar. More recently, in a large survey of VCs, Gompers, Gornall, Kaplan, and Strebulaev (2020) the factor that is most important for VCs is the senior management; and in a randomized field experiment, Bernstein, Korteweg, and Laws (2017a) find that VCs react most strongly to information about the founding team. Consistent with this management centric view of VC, Rajan (2012), in his presidential address, argues that VC primary mission is to help innovative firms to standardize their operations, in order to make the company equity more liquid and its key human capital more replaceable. The end goal is for the firm to continue to grow without the founding senior management. According to this hypothesis the key difference pre and post VC exit is the senior management style and objectives.

Although these two hypotheses are not mutually exclusive and interconnected, we aim to determine the dominating one. To do so, instead of using a large set of more or less related proxy variables, we analyze the reviews written by the employees. In a sense, this is the most direct source for an explanation since employees provide the narrative for why they gave the score that we have just observed and analyzed. Moreover, and quite generally, written explanations are derived from the sophisticated process of human understanding of complex contexts (Bybee, Kelly, and Su (2023)); and we would therefore expect employees to articulate their views using a narrative that is more precise than any numerical indicator.

Yet, the potential benefits of using written reviews are accompanied by an empirical challenge. The inherent intricacies of natural language means that extracting and quantifying information encoded in a text is not trivial. Recent advances in Natural Language Processing techniques, however, enable to better distil a parsimonious set of topics from a vast amount of unstructured textual data (see, e.g., Bybee et al. (2023)). In this paper, we implement a textual dimension reduction technique introduced in Roberts, Stewart, and Airoldi (2016), called Structural Topic Modeling (STM). In a nutshell, STM automatically groups terms into interpretable narrative themes based on their co-occurrences in the set of reviews.[4]

[4]STM basically uncovers latent topics within a corpus of documents. It is a more general and advanced technique than the commonly used Latent Dirichlet Allocation (LDA).

We use all of the 500,000 written reviews to extract common topics across these reviews. According to a Bayes factor criterion, employee reviews contain 15 different topics. The STM estimates the term composition for each topic, from which we manually assign a label. Reassuringly, the topics correspond to standard employee issues. The six topics with the highest weight represent half of the total weights, and are: job difficulty (steep learning curve), challenges related to fast growth, upper management attitude, poor processes, corporate leadership and culture, compensation package. Quite reassuringly, these topics indeed span what we would expect to be key employee issues.

We find that after a VC exit, employees complain less about job difficulty, business growth, and work-life-balance, and they complain significantly more about the management (including corporate culture). Hence, whilst under VC, employees complained that their job was demanding, post exit they no longer complain about this but instead complain about upper management attitude. This finding seems most consistent with the model proposed by Rajan (2012) – our second hypothesis.

Next, we use the ChatGPT-3.5 model both as a robustness test and as a more human-like summarization tool. We ask chatGPT for the most frequent complaints in a set of reviews to see whether the outcome is similar to what we obtained with the STM analysis. In addition, we ask chatGPT to summarize in plain English employee complaints.

ChatGPT is pre-trained on a vast language corpus and then fine-tuned for specific tasks, such as summarization for which it has been shown to outperform alternative approaches (Bhaskar, Fabbri, and Durrett (2023); Goyal, Li, and Durrett (2023)). The model relies on so-called attention mechanisms to identify relationships between words, sentences, and paragraphs in a document, which is what allows the model to generate summaries.[5] chatGPT is thus a reasonnable alternative to standard NLP tools.

An important challenge when using chatGPT, however, is that we cannot submit more than 4,000 word documents. To tackle this issue. We eliminate very short reviews (less than 5 words) and ask for summaries of the large reviews (more than 40 words), and pre-define homogeneous cluster. That is, we use the results from our prior analysis to pool together homogeneous reviews.[6] We carefully setup the prompt using the nascent chatGPT literature, and find results that corroborates

[5]ChatGPT is a large-scale language model developed by OpenAI based on the GPT (Generative Pre-trained Transformer) architecture. It is one of the most advanced natural language processing models developed to date and trained on a massive corpus of text data to understand the structure and patterns of natural language. The GPT architecture is a deep learning algorithm for natural language processing tasks, developed by OpenAI.

[6]If a group has more than 4,000 words, we bootstrap: randomly draw a subset of 100 reviews and repeat the analysis.

those found with the STM analysis: evidence is on balance more in line with Rajan (2012).

Research has emphasized the limitations of qualitative and quantitative approaches to studying organizational phenomena. For example, in-depth interviews are resource-intensive, while questionnaires with closed-ended questions can only measure predefined constructs. With the recent availability of large textual data sets and increased computational power, text mining has become an attractive method that has the potential to mitigate some of these limitations. Thus, we suggest applying topic modeling, a specific text mining technique, as a new and complementary strategy of inquiry to study organizational phenomena.

This paper contributes to the literature highlighting the importance of company culture and management (e.g., Edmans (2011), Guiso, Sapienza, and Zingales (2015); Gorton and Zentefis (2023), Lins, Servaes, and Tamayo (2017a)), and more generally the importance of firm leaders (Bertrand and Schoar (2003), Welch and Yoon (2023)).

To our knowledge, our paper is the first to study how satisfied employees in VC-backed companies are both during and after a VC exit, and to collect direct evidence on how they feel. The related literature for LBO transactions is more extensive with evidence on how these transactions affect employees (e.g. Boucly, Sraer, and Thesmar (2011a), Olsson and Tag (2017), Davis, Haltiwanger, Handley, Jarmin, Lerner, and Miranda (2014), Davis, Haltiwanger, Handley, Lipsius, Lerner, and Miranda (2021), Cohn, Nestoriak, and Wardlaw (2021), Fang, Goldman, and Roulet (2021), Antoni, Maug, and Obernberger (2019)). There is also a closely related literature showing how M&A transactions affect employee health (Bach, Baghai, Bos, and Silva (2021))

There is a literature on VC exit routes. Bayar and Chemmanur (2011) argue that IPO is the exit that will deliver the highest valuation unless the firm has large potential synergies with other firms in their industry. If a firm yields greater benefits of control it is more likely to be bought by a PE firm.

In a contemporaneous and independent paper, Gornall, Gredil, Howell, Liu, and Sockin (2023) also find that employee satisfaction decreases after an LBO. They do not analyze other form of changes of ownership (e.g., exiting VC ownership, IPO). They have unique data on employee salaries and can then show that the decline in satisfaction is not due to compensation levels, and posit, instead that it is related to the higher risk faced by employees post LBO (through several channels, ranging from higher-powered incentives to higher firm leverage). They also have unique data on the return realized by the LBO fund managers and find that these returns are positively correlated with the change in employee satisfaction.

I. Data and Descriptive Statistics

A. Glassdoor Website

Glassdoor is an employer review website launched in June 2008, and which effectively started to receive reviews from 2012 onwards. The reviews in our sample are from 2012 to 2022, 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 F 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.[7] 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 many 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. More broadly, we can expect employees to provide honest evaluations due to the benefits associated with contributing to the public good (Lerner and Tirole, 2003).

Hence, a large body of evidence suggests this crowdsourced employee ratings are a source of important and relevant information, rather than mere noise or a collection of idiosyncratic opinions.

[7] In 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 and Pitchbook Datasets*

Using Capital IQ, we generate a list of US-based firms with an average annual revenue of $10 million or more over our time period (across the years when the information is available). Next, we generate a set of transactions for which the target is US-based and the transaction value is $100 million or more: IPOs, LBOs, and Trade sales (i.e. acquisition by a trade/corporate buyer).[8] Finally, Capital IQ indicates whether a firm is VC-backed or not, but is not as comprehensive as Pitchbook, which we then use as a complement.

We match this dataset to Glassdoor based on firm name. As in Gornwall et al. (2022), we exclude reviews from people who i) are no longer employed at the firm when they write the review, ii) joined the firm after the transaction, and iii) are interns. We also require at least six valid reviews for a firm to be included.[9]

An overview of the sample is provided in II – Panel A. The first set of statistics is for firms that went through a VC exit. The exit route is either IPO (145 firms; 11k reviews), LBO (71 firms; 4k reviews), or Trade sale (92 firms; 4k reviews). All of these firms are labelled VC-backed for they have experienced VC-backing at some point. The same three exit routes are recorded for companies that have been through an LBO. We observe few IPO exits (16 firms; 1k reviews), many Secondary Buy-outs (aka sponsor to sponsor, or PE to PE; 259 firms, 12k reviews), and some trade sales (92 firms; 3.5k reviews).[10] These firms are labelled PE-backed. The third set of statistics is for firms that experienced an IPO with no financial sponsor, a primary LBO (ie., no sell-side financial sponsor), or an acquisition with no financial sponsor involved. There are 96 such IPOs (10k reviews), 455 such acquisitions (39k reviews), and 333 primary LBOs (18k reviews). All of these firms are labelled "No PEVC backed". Finally, throughout our time period, many firms have been continuously publicly listed (1,622 firms; 483k reviews) and continuously privately held (4,405 firms; 345k reviews). In total, we have 7,552 firm and about one million reviews.

[8] To find LBOs, we follow the methodology of Davis et al. (2021). We select 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 check each transaction to ensure sample integrity. 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.

[9] For about 40% of the matched companies, we found an exact match on name. For the remaining companies, we found multiple possible matches and chose one using the location of headquarter address, state of incorporation, year of incorporation, and website address.

[10] A contributing factor is that in trade sales the buyer often does not keep the target company as a separate entity and the reviews posted after the transaction are therefore mixed with those of the acquirer.

C. Descriptive Statistics

Employees anonymously assign a one to five star score for their employer, and the last three columns of II – Panel A show average scores before transaction, after the transaction, and both before and after transaction together. For firms that stayed private or public throughout, only their average score is displayed.

The overall average score is relatively high at 3.6 (bottom right corner of the Panel), but with clear cross sectional dispersion.[11] Ratings are high before a VC exits: score is around 4 irrespective of the exit route. After a VC exit, there is a decrease in ratings but they remain above the 3.6 overall average. The decrease is similar with an IPO and a trade sale, and twice as large for LBOs.

As independently documented by Gornall et al. (2023), during post LBO, scores are lower than average. We note that this result is strong for primary LBOs. For secondary Buy-Outs (PE to PE) the score is the same as in the overall sample at 3.6. In addition, we see on these descriptive statistics that scores increase after a PE firm exits their investments, i.e. the opposite result to what is observed with VC exits.

For transactions with no sell-side financial sponsor, scores are relatively low before the transaction and increase after an IPO or a trade sale, and they decrease following an LBO. Finally, we note that the score is similar for firms that remain privately held and publicly traded.

Table II – Panel B provides descriptive statistics on firm characteristics. The median firm has 1,000 employees and we split the sample into small and large firms around this threshold.[12] In the sub-sample of firms that have been VC-backed there are twice as many small firms as large firms.

Glassdoor also provides the company foundation year. The median firm age (in terms of number of reviews) in the VC-backed sample is about ten years and we use that threshold to split between young and old firms. For the full sample, most firms are then classified as old.

Glassdoor assigns each company to one of 121 industries (including private firms). We pool these industries into seven categories and then further down into two categories: Tech (IT Services, and Software), and NonTech (consumer, corporate and public services, industrial, retail). For the VC-backed sample, there are more Tech firms than NonTech firms (185 vs 124), and more than

[11] Our average score is close but higher than that reported in other studies, because we exclude former employees and these people give lower ratings on average. Also, ratings in 2017-2020 were higher than in 2012-2015.

[12] Note that firm size is as of the end year of our sample period and is not available as a time-series.

twice as many reviews for Tech firms. In terms of average scores, a striking pattern is that scores are much higher for Tech firms than for non Tech firms, especially in the VC-backed sub-sample, where the gap is very large (4.06 vs 3.36).

Table II – Panel C provides descriptive statistics on reviewer characteristics. Reviewers need to report when they started to work for the company. We label "new hire" people who have been working for less than three years for their employer when they write the review; three years is the median in the VC-backed sample (and close to it for the full sample). New hires tend to give higher ratings.

We use textual analysis tools and the guide book "Work in America" (page 597, as detailed in Appendix E) to assign each job title to one of the following job categories: i) Management, ii) Mid-Management, iii) Other White Collar (consultants, researchers), iii) Purple Collars (technical service providers), iv) Pink Collars (support staff), and v) Blue Collars (manual labors). As with industries, we also aggregate further into two categories: White collar and Support staff. Reviews by white collars represent half of the overall sample, and 44% of the VC-backed sample. The average rating is higher for white collars than for support staff, and this difference is much larger in the sub-sample of VC-backed companies.

On a separate page of the Glassdoor website, employees can enter their salary along with a job title (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 then aggregates the salary information, and reports the average salary for a given job title. We then assign that average salary to all the people in the firm with that job title. We note that job titles are so granular that we expect the information loss is minimal. For example, the average salary of truck drivers at Kraft Heinz is \$41k; and we simply assign this average salary to all track drivers at Kraft Heinz. However, some reviewers do not enter a job title (16%), or enter a job title that we cannot automatically classify (9%). For these reviewers, we cannot infer their wage. We classify a salary as high if it is higher than the median salary in the same industry. We observe that ratings are higher for higher salaries (despite adjusting for industry differences).[13]

[13] In non tabulated results, we find that the average salary across white collars is \$85k versus \$50k for support staff (and \$70k for not classified ones). For the VC-backed sample the salaries are higher and the spread is larger: \$102k for white collars, versus \$61k for support staff.

D. Regression analysis of Employee ratings

Our econometric approach follows 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.

$$S_{r,c,q} = \alpha_{qi} + \beta_1 * Post-VCBacked_{c,q} + \beta_2 * Post-PEBacked_{c,q} + \beta_3 * Post-NOPEVCBacked_{c,q} + \rho_1 * VCBacked_{c,q} + \rho_2 * PEBacked_{c,q} + \rho_3 * NOPEVCBacked_{c,q} + \theta_1 * Public_{c,q} + \gamma * Z_r + \epsilon_{r,c,q} \quad (1)$$

The dependent variable is the score $S_{r,c,d}$ given by a reviewer r to their company c on a day d.[14] Fixed effects are either i) $Q(d)$, which is the calendar quarter that day d falls into, or ii) $Q(d) * I(c)$, where I(c) is one of the seven industries that company c belongs to.

The variable "Post X $->$ Y" takes a value of one if the review day d is posterior to when company c experienced a transaction that made it go from state X to state Y (and is zero otherwise). For simplicity, when a company went from state X to i) being a standalone public firm, we simply denote state Y "IPO", ii) being absorbed by a company which is either public or private, we simply denote state Y "Trade sale." Other states are VC-backed ("VC"), PE-backed ("PE"), and no sell-side financial sponsor ("No PEVC").

Whenever a specification contains variable "Post X $->$ Y", it also contains a variable denoted variable "X $->$ Y" which takes a value of one if company c has experienced transaction "X $->$ Y." Hence, the main coefficient of interest in this model are the "Post" variables. They capture the incremental effect on an employee score of a review posted after a transaction. In other words, the coefficient measures the change in score post- versus pre- transaction, holding constant some firm characteristics, employee characteristics, and effectively subtracting the average score given across all reviews in the quarter Q(d), or the average score given across all reviews in the industry I(c) in the quarter Q(d). Having these time fixed effects is important because employee ratings are expected to vary over business cycles.

[14] Note 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.

Table III – Panel A shows the results from the panel regression model estimation. We observe a significant decline in scores after a VC exit. The decrease is similar for IPO and trade sales at about -0.25, and it is 50% larger for LBO exits. Also, as independently documented in Gornwall et al., following primary Leveraged Buy-Outs ("NOPEVC $--> $ PE"), scores decrease by about 0.2.

Other transactions do not coincide with a significant change in score, and in particular, scores do not change around Secondary Buy-Outs (PE to PE) or when PE-backing ends. Similarly, for IPOs and trade sales with no financial sponsors, scores do not change following the transaction. These results show that the change in score is not just due to change in ownership type or structure. There is something special about entering a primary LBO and a VC exit.[15]

To facilitate the reading of the results, in Table III – Panel B, we pool all the VC exits, keep the primary LBOs, and pool the rest of the transactions under "other." This allows us to show the strong statistical significance of the VC exit, and the abnormally positive employee scores pre VC exit.[16] Before a primary LBO the scores are only slightly (abnormally) negative. The scores preceding all the other transactions are also abnormally negative, but the economic magnitude is modest.

Control variables exhibit interesting patterns. Only one control variable affects the magnitude of the coefficient of interest: New Hires. This means that employees hired right before the VC exit are particularly satisfied after the VC exits. We also observe that newly hired employees give much higher scores.[17] In addition, we see that employees in publicly traded companies are less satisfied (versus employees in privately held companies). Employees working in the Tech industry and in small companies are more satisfied. Large effects are found for white collars, and low wages. Those without wage information (omitted) have a similar coefficient as those with high wages; those with low wages are less satisfied (-0.17). Note that all these characteristics which would be commonly expected to be related to job satisfaction have lower coefficients that the post VC exit variable.

We have established that there is a sharp decrease in employee ratings after a VC exits. Table V

[15] Dahl (2011) show that there is an increase in the uptake of stress-related medication for employees that experiment any organizational changes.

[16] In non-tabulated results we find that the exit route is only weakly related to this abnormal level of satisfaction. VC-backed companies that are exited with an IPO have a 0.42 abnormal satisfaction level and VC-backed companies that are exited via a Leveraged Buy-Out had a 0.32 abnormal satisfaction level.

[17] We have simply split the tenure variable into new and old hire, but if we look at the detail, we see new hires abnormally satisfied (up to year three), but we also see that employees that have been working for more than ten years in the firm are also abnormally satisfied (but the effect is much smaller than the new hire effect).

shows how the effect may be stronger for certain types of companies and reviewers (cross-effects). The effect is stronger (more negative post VC exit) for small firms (vs large), firms that are in industrial or service industry (vs technology sector), old firms; and for employees that have been working in the company for longer, support staff, and low wages. However, the cross effect is statistically significant only for industry and employee type (support staff).

[Insert Table III]

The decrease post VC exit is stronger in the Tech sector and for white collars. Interestingly, the decrease is also stronger if there has been a change of CEO or CFO around the transaction date. The effect is large economically: the coefficient doubles (-0.23 if no change to -0.23-0.32=-0.55 if change). However, as there are not many observations, the statistical significance is weak. Note that all the control variables are included in each specification, but are not displayed to save space.

We now estimate a model that is similar to the one above but we replace the Post-VC-backed with a series of dummy variables that record when the scoring was submitted with respected to the transaction date (year 1, 2 or 3). And then do the same with the VC-backed dummy variables, i.e. measure the abnormal score one, two and three years before the VC exits.[18] Rather than showing the outcome in a Table we plot these variables of interest and do so separately for the three types of VC exits. Results are shown on Figure 2.

Before a VC exits either by IPO or trade sale, we do not observe any (pre) trend. Before a PE exit, however, there is a clear trend. The firms had a high abnormal score three years pre exit – twice as high as the firms in the other two categories. This score then trends down, nearly linearly, and then jumps down when PE takes control, and then goes up but remains abnormally low.

One interpretation is that when a VC exits via IPO, the exit is only partial and the VC remains in control. The company is now publicly listed which changes its organization but the VC is still present. In an LBO exit, the VC exits fully. The company is still in a private equity setting. Its organizational form is not dramatically different but the PE firm will be changing the company to sell it in 3-4 years time, and the VC is now out. If the VC presence is the key factor, we would

[18] That is, we have a variable that is one if the review is for a VC-backed company three years before the exit (zero otherwise); a variable that is one if the review is for a VC-backed company two years before the exit (zero otherwise); and the same post exit.

indeed expect a slow decline in satisfaction post IPO but a more abrupt one post LBO. What is more difficult to explain is why the scores go up a bit in year 2 and 3 after the company went from a VC to a PE firm.

[Insert Table V and Figure 2]

II. Textual Analysis

A. Structural Topic Modelling

In addition to the scores, employees write reviews that describe the pros and cons of working for the company. To analyze the content of these reviews we opt for an approach called probabilistic topic modeling. Probabilistic topic models represent documents by a probability distribution over a fixed set of topics (topic prevalence) and each topic, in turn, by a probability distribution over a fixed set of words (topic content).[19] That is, for each review, the output is a weight on each topic: in review 1, topic 1 has a weight of 10%, topic 2 has a weight of 5% etc. The sum of the weights is one for each review. In addition, for each topic, the algorithm generates the set of words that are in this topic with a weight for each word. For example, in topic 1, management has a weight of 20%, politics has a weight of 10% etc. The sum of the weights is one for each topic.

Formally, the procedure infers i) the mixture distributions of terms $w = 1, ..., N_w$ describing each topic $k = 1, ..., N_k$, across the set of reviews, and ii) the mixture distributions of topic $k = 1, ..., N_k$ describing each review $r = 1, ..., N_r$. Both distributions are Dirichlet, hence have [0,1] support, and

i) $\Sigma_{w=1}^{N^w} \varphi_{k,w} = 1$, where $\varphi_{k,w}$ is the weight of each term w in topic k.

ii) $\Sigma_{r=1}^{N^r} \theta_{r,k} = 1$, where $\theta_{r,k}$ is the weight of each topic k in review r.

The most common probabilistic topic model is the Latent Dirichlet Allocation (LDA) introduced by Blei, Ng, and Jordan (2003). 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).

In this paper, we implement a novel probabilistic topic model: Structural Topic Modeling (STM; see Roberts et al. (2016)). STM is an LDA, but with three assumptions that are relaxed: i) Topics within a document can dependent of one another (review 1 containing topic 1 may give information on whether review 1 contains topic 2); ii) Distribution of words within a topic is not fixed (topic 1 in review 1 may use different words to topic 1 in review 2); and iii) Topic weight may be a function of firm/employee characteristics, or on the score given, or both.

[19] It is similar to fuzzy clustering (soft clustering), in which each data point belongs to several clusters; and it is in contrast to traditional classification methods, which would assign each review to a single topic.

B. Methodology

We use the tm (text mining) and stm (structural topic models) packages available in R. Using the textProcessor function, we tokenize each review into a set of single words (uni-grams). We remove stop words (using the word list of the tm package), words with fewer than three letters, numbers, and punctuation. We stem all the words and convert all characters to lower case. Following the literature, we work with uni-grams instead of bi- or tri-grams because the topic modeling algorithm already clusters the individual elements of composite words (e.g., New York City) together in the same topic. Hence, restricting ourselves to uni-grams increase flexibility. In addition, it reduces the total number of terms to model. To this end, we also do "pruning", i.e. keep only the 1,000 most frequent unigrams for each topics. Finally, we keep only the reviews written in English and containing at least five unigrams.

The starting sample is made up of 930,000 reviews ... Our working sample consists of half a million (cons) reviews of 7.5 million words and 7,557 unique words.[20] A (cons) review contains an average of 15 words.

As the primary characteristic (called metadata in this literature) associated with the employees' textual feedback is probably the score, we use it as the primary prevalence covariates in the STM.

Unlike traditional qualitative methods (e.g., surveys and questionnaires), STM does not require to rely on fixed sets of dimensions to quantify employee satisfaction. The drawback, however, as with any clustering technique, is that we need to determine the number of clusters. Such a choice requires some judgement with the help of some metrics commonly used in the literature.

Following Sainju, Hartwell, and Edwards (2021), the optimal number of topics is found using an heuristic approach called the "elbow method". The method starts by running k-means clustering on input data (e.g. for k ranging from 10 to 30), and then it computes for each k the within-cluster sum of squared errors (SSE). Figure 3 plots the SSE value for each k. The higher the number of topics the lower the SSE since more clusters decrease the distances of all data points to their respective cluster centers. Panel A shows the results for the Cons reviews and Panel B shows the results for the Pros reviews.

The final step of the method consists in identifying from the graph the number of cluster for

[20]There are as many pro reviews but they have less words: 6 million, of which 5,868 unique words.

which the within-cluster sum of squared errors (SSE) drops abruptly, which draws an elbow. We verify these optimal number of topics by computing the distances of subsequent SSE values and by selecting the max drawdown of the series.

We observe a clear drop at 15 topics for the cons reviews and at 15 topics for the pro reviews and that is the number we then retain.[21] We verify these optimal number of topics by computing the distances of subsequent SSE values and selecting the max drawdown of the series.

[21] other commonly used metrics also exhibit a jump at 15 topics: Held-Out Likelihood, Semantic coherence, and Lower bound. These results are not tabulated/plotted.

C. The Topics

Table VIII provides the list of the 15 topics that are extracted fom the Cons reviews. Topic labels are based on the words with the most weight in the topic. These words, sorted from the highest weight to the lowest, are shown below each topic label. In addition, we conduct a narrative analysis of a random sample of reviews to better label the topic.

In one third of the topics, the word "management" is part of the top ten words. We add one topic into that category, the one that is labelled "Employee and Customer care" as it is about about management care about these two stakeholders. These topics are labelled "Management Leadership," "Management Style," "Management Caring Attitude," etc.

A second set of topics is about company strategy ("Reward & Expectations," "Growth issues," and "Challenging work").

The third set of topics is about more personal issues ("Work-Life Balance", "Relative Salaries", "health insurance").

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.[22] 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 VIII]

[22]Our 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

D. Regression Analysis

In the previous section, we analyze a set of descriptive statistics, including a set of conditional correlations (panel regression analysis). A strong pattern emerges from these results: employees satisfaction scores decrease after a VC exits (gradually in case of a partial and slow exit and abruptly in case of a full exit via an LBO); and also decrease when a PE firm enters (i.e.company is subject to a primary Buy-Out).

Our main identification approach to understand the mechanism is to analyze the topics contained in employee reviews. In a sense, this approach is the most direct route since the very people that give the score we analyze above explain why they gave that score.

Dependent variable is the weight of a given topic k in review r for company c written on day d. Although our dependent variable is a proportion, we use OLS estimations for simplicity.[23] We estimate this equation separately for each of the 15 topics k. The main coefficient of interest measures whether it is more likely to read about a certain topic in a review that is written post VC exit. As in the previous section, we are measuring whether the topic is more likely to appear Post VC exit compared to pre VC exit compared to other companies in the same quarter and industry.

To preserve space and facilitate readability, we do not show all the control variables. Results are displayed in Table IX. Each panel shows the result for a set of topics. Panel A shows results with the five topics we classified under management and we observe that there is more complaints about management following a VC exiting. We also observe this pattern following a PE entering. Transactions with no VC/PE involvement do not have this pattern. Hence, management is central to the criticisms, especially the attitude of management towards lower employees that is problematic.

Panel B shows the results with company strategy topics, and the opposite pattern is found. There are less complaints about all these topics. Finally, Panel C show the more personal issues and nothing is significant there.

We add the cross-effects?

[Insert Table IX]

[23] Also, we observe that the distribution of weights is close to Normal. We nonetheless tried alternative methods and found similar results.

III. Conclusion

As this computational linguistic technique is unsupervised, it is easily replicable and does not require assumptions about topics to be found in the document.

Justify GD: it is shaped by the firsthand experience of employees who carry out the day-to-day tasks that are guided by leaders' strategic and resource allocation decisions. The above results are 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, 2017b).

Figures

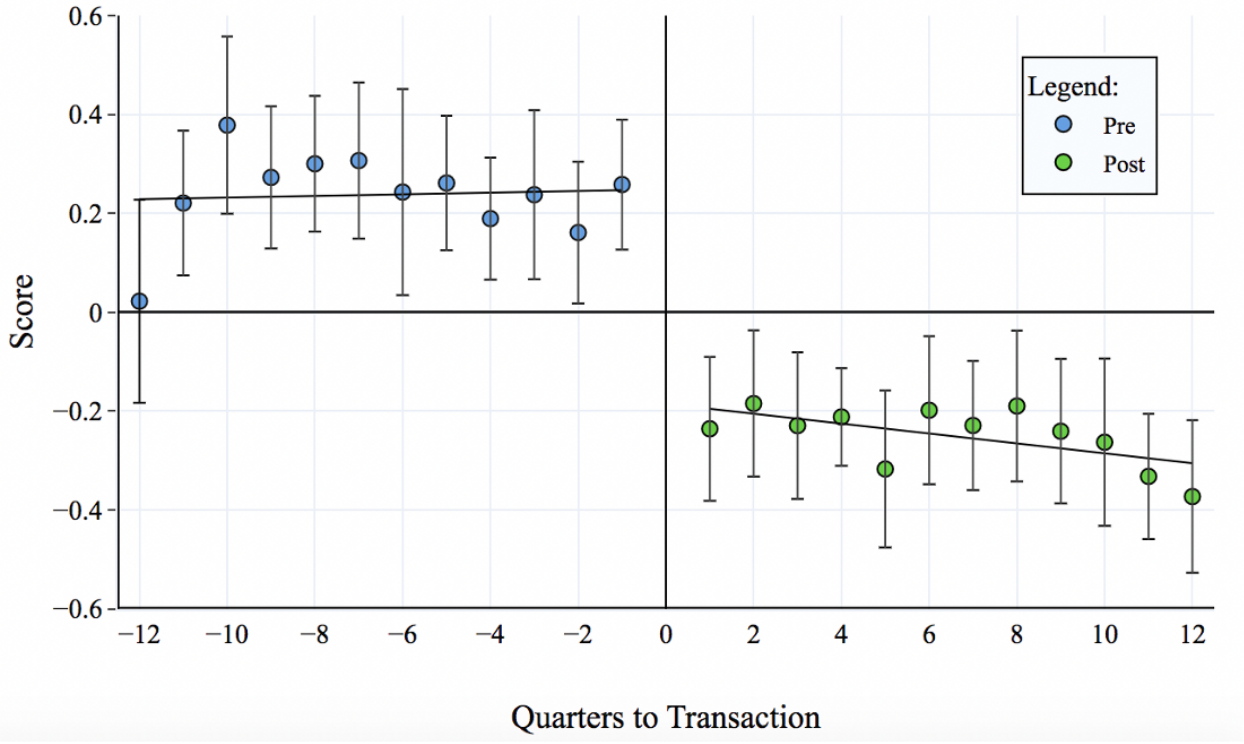

Figure 1. Trend analysis - Pre and Post VC-backed firms.

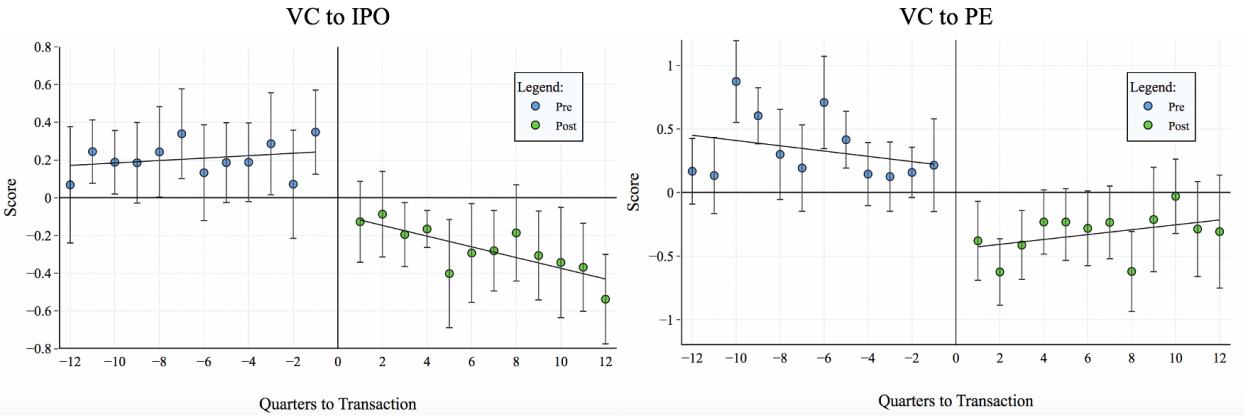

Figure 2. Trend analysis – Pre- and Post VC-backed to IPO and VC-backed to PE exits.

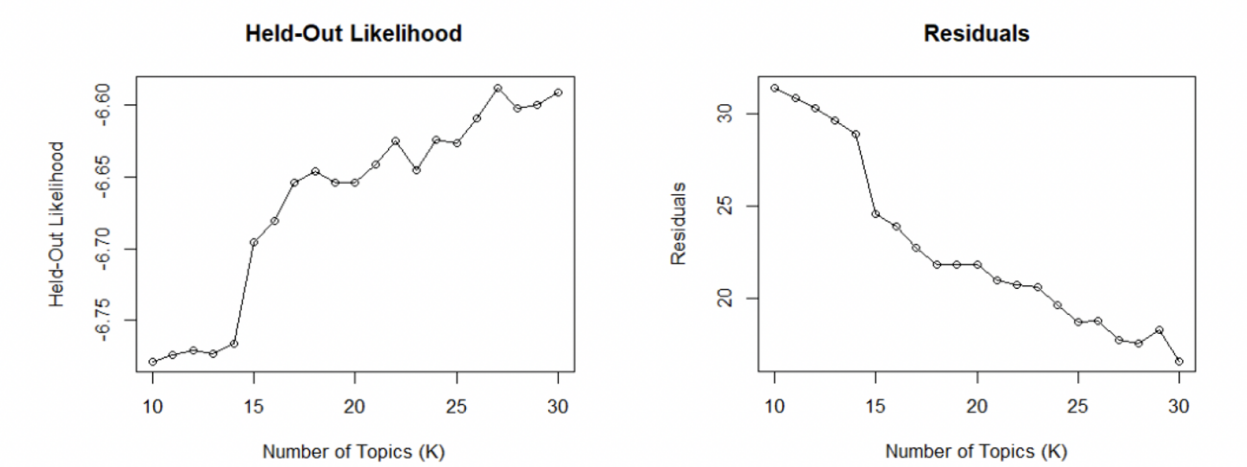

Figure 3. Diagnostic values by number of topics. Panel A works on Cons reviews, Panel B on pros. Held-Out Likelihood is xxx. Residuals are xxxx.

Table I – Sample Selection

This table shows our working sample of employee reviews for score regressions. It describes the different filters applied to the initial sample of employee reviews downloaded from Glassdoor over the period 2012 to 2022. Results are shown separately for the sub-sample of firms that stayed private or public over the whole period (2013-2019) or that underwent a change of ownership over this period.

	Score Regression - Working Sample							
Number of	Firm				Review			
	Stayed Public	Stayed Private	Transaction Firms	Total	Stayed Public	Stayed Private	Transaction Firms	Total
Initial sample	2,174	8,997	5,831	17,002	1,397,125	1,083,593	812,426	3,293,144
Sample after removing								
Former employees	2,148	8,239	5,315	15,702	784,558	575,238	461,529	1,821,325
Interns	2,096	8,228	5,357	15,681	769,368	565,351	456,321	1,791,040
Missing length of employment	2,025	7,673	4,974	14,672	484,081	352,632	296,193	1,132,906
Those who joined post transaction	2,025	7,673	4,583	14,281	484,081	352,632	164,401	1,001,114
Ratings submitted too early/late	2,025	7,673	4,334	14,032	484,081	352,632	118,207	954,920
Working Sample:								
Minimum number of ratings required	1,622	4,405	1,525	7,552	483,041	344,772	102,411	930,224

Table II – Descriptive statistics

This table provides the number of firms, number of reviews and average score of our working sample. Panel A shows the results for groups of firms according to their pre-state (VC-Backed, PE-Backed, or no PE- no VC-backed) and three exit routes (IPO, LBO and trade sale) as well as for firms that were not VC- or PE-backed and stayed public or private over the sample period. The panel displays the average score pre- and post-transactions and a t-test of the difference. *,**,*** stands for significant at 1%, 5%, 10% level. Panel B displays descriptive statistics by firm characteristics (size, age, CEO change, industry classification). Small (large) firms correspond to firms with 1,000 employee or less (more than 1,000 employee). Young firms correspond to firms of maximum 10 year-old at the time the review has been submitted. A firm has a CEO change if the announcement date falls within a 12-month-window around the transaction date. CEO change announcement dates are collected from the key developments tool from S&P CIQ. 134 Glassdoor industries were reclassified into seven categories. Panel C shows descriptive statics by employee status (tenure, job position and salary). New hire corresponds to employee who was hired maximum 3 years prior to writing the review, otherwise the reviewer is qualified of old hire. Self-declared job titles were reclassified into 6 categories: Management, Mid Management, White Collar, Purple Collar, Pink Collar, Blue Collar. Job positions were matched with the Glassdoor salary databases to attribute a salary to each review.

Panel A:

	Number of Firms	Number of Reviews	Average Score			
			Total Period	Pre	Post	T-Test
VC Backed						
VC to IPO	145	11,133	4.01	4.06	3.94	***
VC to PE	71	4,029	3.94	3.92	3.64	***
VC to Trade	92	3,868	3.80	4.00	3.81	***
PE Backed						
PE to IPO	16	866	3.09	3.03	3.14	
PE to PE	259	12,140	3.28	3.56	3.57	
PE to Trade	58	3,526	3.56	3.23	3.39	***
No PEVC Backed						
No PEVC to IPO	96	9,650	3.39	3.32	3.46	***
No PEVC to PE	333	17,717	3.46	3.48	3.43	**
No PEVC to Trade	455	39,482	3.45	3.43	3.50	***
No Transaction						
Stayed Public (No PEVC)	1,622	483,041	3.59	n.m.	n.m.	
Stayed Private (No PEVC)	4,405	344,772	3.64	n.m.	n.m.	
Total	7,552	930,224	3.60	n.m.	n.m.	

Panel B:

	Full Sample			VC Backed		
	Number of Firms	Number of Reviews	Average Score	Number of Firms	Number of Reviews	Average Score
Firm Size						
Small	3,666	116,532	3.74	202	7,921	4
Large	3,886	813,692	3.58	107	11,109	3.92
Firm Age						
Young	n.m.	44,317	3.59	n.m.	8,787	4.04
Old	n.m.	885,907	3.6	n.m.	10,243	3.87
CEO Change						
Yes	2,025	192,428	3.56	97	2,169	4.01
No	5,527	737,796	3.61	212	16,861	3.95
Industry						
IT Services	353	80,116	3.83	42	3,004	4.04
Software	558	103,165	3.66	143	10,568	3.95
Total – Tech	911	183,281	3.75	185	13,572	4.06
Consumer Servc.	1,242	182,336	3.56	17	444	3.75
Corporate Servic.	2,024	231,028	3.62	39	1,881	3.7
Industrial	2,417	193,270	3.59	35	1,002	3.78
Public Services	492	56,749	3.53	18	1,030	3.77
Retail	466	83,560	3.41	15	1,101	4.09
Total – No Tech	6,641	746,943	3.56	124	5,458	3.36

Panel C:				
	Full Sample		VC Backed	
	N Reviews	Average Score	N Reviews	Average Score
Tenure				
New Hire	432,170	3.65	10,184	4.05
Old Hire	498,054	3.55	8,846	3.83
Job Position				
Management	46,648	3.87	975	4.37
Mid Management	136,227	3.65	2,269	4.17
Other White Collar	243,085	3.69	5,126	4.07
Total – White Collar	425,960	3.7	8,370	4.13
Purple Collar	65,457	3.56	1,283	3.72
Pink Collar	135,747	3.52	1,831	3.76
Blue Collar	69,910	3.4	984	3.3
Total – Support Staff	271,114	3.5	4,098	3.64
Anonymous Reviewer	150,478	3.43	5,175	3.98
Not Classified	82,672	3.59	1,387	3.72
Total – Other	233,150	3.54	6,562	3.92
Salary				
Low Salary	410,087	3.51	6,519	3.77
High Salary	366,812	3.71	7,269	4.1
No Salary Information	153,325	3.6	5,242	3.98

Table III – Post-transactions effects

This table displays the results of pooled panel regressions on Glassdoor scores. In Panel A, the variables of interest correspond to 9 dummies related to each post-transaction period. In Panel B, the variables of interests are regrouped in three groups: post VC-Backed, post no PE-, no VC-Backed to PE and other transactions. Controls for the average score of firms of each transaction type are included. Other controls correspond to employee and firm characteristics. Controls for industry correspond to "Tech" and "No Tech"

	Score – Panel A			
	(1)	(2)	(3)	(4)
Post VC to IPO	-0.264***	-0.221**	-0.238***	-0.240***
	(-3.09)	(-2.60)	(-2.97)	(-2.96)
Post VC to PE	-0.410***	-0.371***	-0.369***	-0.357***
	(-3.69)	(-3.27)	(-3.24)	(-3.37)
Post VC to Trade	-0.255**	-0.221*	-0.205*	-0.212*
	(-2.11)	(-1.81)	(-1.69)	(-1.75)
Post PE to IPO	-0.0695	-0.0404	-0.0332	-0.0362
	(-0.54)	(-0.31)	(-0.25)	(-0.28)
Post PE to PE	-0.102	-0.0665	-0.0577	-0.0562
	(-1.00)	(-0.65)	(-0.55)	(-0.54)
Post PE to Trade	0.0340	0.0597	0.0790	0.0922*
	(0.61)	(1.11)	(1.48)	(1.69)
Post NOPEVC to IPO	0.0144	0.0460	0.0420	0.0372
	(0.21)	(0.67)	(0.61)	(0.55)
Post NOPEVC to PE	-0.205***	-0.172***	-0.175***	-0.175***
	(-4.11)	(-3.43)	(-3.55)	(-3.54)
Post NOPEVC to Trade	-0.0888**	-0.0601	-0.0552	-0.0566
	(-2.29)	(-1.57)	(-1.43)	(-1.46)
New Hire		0.0876***	0.118***	0.118***
		(10.73)	(14.66)	(14.48)
Quarter F-E	Yes	Yes	Yes	No
Quarter x Industry F-E	No	No	No	Yes
Controls for Transaction Type	Yes	Yes	Yes	Yes
Controls for Industry	Yes	Yes	Yes	No
Controls for Firm Characteristics	No	No	Yes	Yes
Controls for Employee Characteristics	No	No	Yes	Yes
Number of Observations	930,224	930,224	930,224	930,224
Adjusted R-squared	0.034	0.033	0.044	0.044

	Score – Panel B			
	(1)	(2)	(3)	(4)
Post VC Backed	-0.292***	-0.251***	-0.249***	-0.250***
	(-4.78)	(-4.09)	(-4.27)	(-4.25)
Post NOPEVC to PE	-0.205***	-0.172***	-0.175***	-0.175***
	(-4.11)	(-3.43)	(-3.55)	(-3.55)
Post Other Transactions	-0.0632*	-0.0330	-0.0266	-0.0275
	(-1.80)	(-0.96)	(-0.76)	(-0.79)
VC Backed	0.388***	0.367***	0.331***	0.333***
	(5.07)	(4.77)	(4.70)	(4.81)
NOPEVC to PE	-0.0783*	-0.0824*	-0.0936**	-0.0906**
	(-1.69)	(-1.78)	(-2.18)	(-2.11)
Other Transaction	-0.118***	-0.120***	-0.120***	-0.119***
	(-3.60)	(-3.67)	(-3.85)	(-3.81)
Public Firm	-0.0962***	-0.0934***	-0.0769***	-0.0752***
	(-4.38)	(-4.24)	(-3.53)	(-3.46)
Tech Firm	0.153***	0.155***	0.140***	
	(4.17)	(4.22)	(4.38)	
New Hire		0.0879***	0.118***	0.118***
		(10.77)	(14.71)	(14.53)
Small Firm			0.154***	0.154***
			(6.99)	(6.98)
Young Firm			-0.0263	-0.0255
			(-0.83)	(-0.80)
White Collars			0.145***	0.145***
			(8.89)	(8.95)
Support Staff			0.0377***	0.0377***
			(3.30)	(3.30)
High Salary			-0.00735	-0.00716
			(-0.45)	(-0.44)
Low Salary			-0.175***	-0.174***
			(-11.17)	(-11.06)
Quarter F-E	Yes	Yes	Yes	No
Quarter x Indus F-E	No	No	No	Yes
Number of Observations	930,224	930,224	930,224	930,224
Adjusted R-squared	0.033	0.035	0.043	0.044

Table IV – Staged post-transaction effects

The table replicates Table III while splitting the post dummies into 3 subperiods: from the transaction date to one year later (1Y), from 1 year to 2 year later (2Y) and from 2 year to 3 year later (3Y). Panel A shows the results for VC-backed exits, Panel B for PE-backed exits, and Panel C for no VC-, no PE-backed exits.

Score					
Panel A		Panel B		Panel C	
Post VC to IPO X 1Y	-0.153**	Post PE to IPO X 1Y	0.0447	Post NOPEVC to IPO X 1Y	0.157*
	(-2.04)		(0.20)		(1.93)
Post VC to IPO X 2Y	-0.270***	Post PE to IPO X 2Y	-0.0250	Post NOPEVC to IPO X 2Y	-0.00332
	(-2.67)		(-0.16)		(-0.04)
Post VC to IPO X 3Y	-0.351***	Post PE to IPO X 3Y	-0.141	Post NOPEVC to IPO X 3Y	-0.118
	(-3.31)		(-0.96)		(-1.54)
Post VC to PE X 1Y	-0.500***	Post PE to PE X 1Y	-0.0810	Post NOPEVC to PE X 1Y	-0.215***
	(-3.94)		(-0.92)		(-4.67)
Post VC to PE X 2Y	-0.286***	Post PE to PE X 2Y	-0.0227	Post NOPEVC to PE X 2Y	-0.0980
	(-4.33)		(-0.17)		(-1.54)
Post VC to PE X 3Y	-0.215*	Post PE to PE X 3Y	-0.0558	Post NOPEVC to PE X 3Y	-0.187**
	(-1.71)		(-0.41)		(-2.57)
Post VC to TRADE X 1Y	-0.252*	Post PE to TRADE X 1Y	0.0858	Post NOPEVC to TRADE X 1Y	-0.0784*
	(-1.72)		(1.63)		(-1.72)
Post VC to TRADE X 2Y	-0.0723	Post PE to TRADE X 2Y	0.0842	Post NOPEVC to TRADE X 2Y	-0.0235
	(-0.42)		(0.73)		(-0.39)
Post VC to TRADE X 3Y	-0.267	Post PE to TRADE X 3Y	0.127	Post NOPEVC to TRADE X 3Y	-0.0520
	(-1.44)		(1.09)		(-1.22)
Controls for Transaction Type	Yes	Controls for Transaction Type	Yes	Controls for Transaction Type	Yes
Controls for Firm Characteristics	Yes	Controls for Firm Characteristics	Yes	Controls for Firm Characteristics	Yes
Controls for Employee Characteristics	Yes	Controls for Employee Characteristics	Yes	Controls for Employee Characteristics	Yes
Quarter x Indus F-E	Yes	Quarter x Indus F-E	Yes	Quarter x Indus F-E	Yes
Number of Observations	930,224	Number of Observations	930,224	Number of Observations	930,224
Adjusted R-squared	0.044	Adjusted R-squared	0.044	Adjusted R-squared	0.044

Table V – Post-transaction cross-Effects

This table displays the post-VC-Backed effects when interacting with firm and employee characteristics. Controls are similar to Table III.

	Score						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post VC	-0.207***	-0.398***	-0.268***	-0.237***	-0.340***	-0.225***	-0.233***
	(-2.83)	(-5.05)	(-3.81)	(-3.55)	(-5.33)	(-3.16)	(-4.01)
VC Backed	0.333***	0.334***	0.334***	0.333***	0.333***	0.333***	0.337***
	(4.81)	(4.82)	(4.82)	(4.81)	(4.82)	(4.82)	(4.83)
Post VC x Small Firm	-0.113						
	(-1.24)						
Post VC x Non Tech		-0.208**					
		(-2.30)					
Post VC x Old Firm			-0.0531				
			(-0.56)				
Post VC x Old Hire				-0.0176			
				(-0.29)			
Post VC x Support Staff					-0.206***		
					(-3.35)		
Post VC x Low Wage						-0.0809	
						(-1.31)	
Post VC x CEO Change							-0.321*
							(-1.92)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for CEO Change	No	No	No	No	No	No	Yes
Number of Observations	930,224	930,224	930,224	930,224	930,224	930,224	930,224
Adjusted R-squared	0.044	0.044	0.044	0.044	0.044	0.044	0.044

Table VI – STM Reviews Cleaning
This table shows our working sample of Cons reviews (Panel A) and Pros reviews (Panel B) used for conducting a Structural Topic Modeling (STM). It describes the standard filters applied to the initial sample from Table I and displays the average number of words per review for each subsample.

	Panel A: STM Working Sample - Cons				
Number of	Reviews				
	Stayed Public	Stayed Private	Transaction Firms	Total	Average # of Words
Initial Sample	483,041	344,772	102,411	930,224	27.43
Reviews with at least 5 words	479,611	341,953	101,704	923,268	27.60
Removing number and special charact.	478,289	341,249	101,491	921,029	27.26
Removing stopwords	261,924	197,777	67,436	527,137	15.44
Working Sample:					
After pruning	250,721	190,109	65,177	506,007	14.83

	Panel B: STM Working Sample - Pros				
Number of	Reviews				
	Stayed Public	Stayed Private	Transaction Firms	Total	Average # of Words
Working Sample	483,041	344,772	102,411	930,224	20.36
Reviews with at least 5 words	478,669	341,809	101,654	922,132	20.51
Removing number and special charact.	477,090	341,063	101,473	919,626	20.39
Removing stopwords	261,477	209,821	69,887	541,185	11.97
Working Sample:					
After pruning	249,105	202,077	67,446	518,628	11.43

Table VII – STM : Cons Ngrams and FREX Score

This table provides the results from the Structural Topic Modeling which summarized the Cons textual reviews into 15 topics. It shows the top 10 words per topic and, for each word, its FREX indicator, i.e. that is a measure used to identify words that are both frequent in a given topic and exclusive to that topic compared to others.

Panel A - Management Topics									
Upper Leadership		Training & Supervision		Human Ressource Process		Customer Service & Employee Care		Job Performance, Layoffs & Politics	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
manag	0.14	manag	0.11	manag	0.27	employ	0.36	job	0.30
promot	0.12	train	0.10	lack	0.13	peopl	0.14	perform	0.08
peopl	0.10	store	0.09	depart	0.10	custom	0.14	polit	0.08
leadership	0.09	month	0.06	hire	0.09	care	0.10	develop	0.08
upper	0.08	shift	0.06	process	0.07	servic	0.04	manag	0.07
commun	0.07	paid	0.05	stress	0.06	terribl	0.04	level	0.07
senior	0.06	associ	0.03	organ	0.05	real	0.03	treat	0.06
increa	0.05	break	0.03	role	0.05	worker	0.03	execut	0.04
direct	0.04	supervisor	0.03	polici	0.05	overtim	0.03	layoff	0.04
level	0.04	call	0.03	poor	0.04	forc	0.03	middl	0.03

Panel B - Working Conditions Topics: Company-Wide Issues									
Growth		Hard & Challenging		Projects, Expectations & Rewards		Career Advancement		Busy Environment	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
growth	0.10	hour	0.29	expect	0.19	pai	0.30	time	0.43
product	0.09	hard	0.15	person	0.11	benefit	0.14	busi	0.17
life	0.07	balanc	0.11	project	0.10	opportun	0.13	environ	0.11
slow	0.07	week	0.10	support	0.09	salari	0.13	intern	0.06
grow	0.06	schedul	0.09	program	0.05	offic	0.11	requir	0.05
technolog	0.05	start	0.08	term	0.05	career	0.10	extrem	0.05
learn	0.05	depend	0.06	vacat	0.04	advanc	0.10	short	0.05
locat	0.05	bad	0.06	consist	0.04	poor	0.08	respon	0.04
corpor	0.04	challeng	0.06	flexibl	0.03	compen	0.07	resourc	0.04
limit	0.07	worklif	0.05	reward	0.03	limit	0.07	close	0.04

Panel C - Working Conditions Topics: Personal Issues									
Daily Personal Difficulties		Industry & Market Competition		Wage, Raise & Health Insurance		Sales Goals		Team Issuse	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
dai	0.22	cultur	0.12	rai	0.11	sale	0.16	team	0.16
constant	0.11	industri	0.07	leav	0.08	staff	0.11	chang	0.14
posit	0.10	market	0.07	plan	0.07	monei	0.08	base	0.08
difficult	0.09	competit	0.06	stai	0.06	meet	0.08	issu	0.07
feel	0.08	cost	0.05	insur	0.05	deci	0.07	lead	0.06
famili	0.05	leader	0.05	health	0.05	goal	0.07	client	0.05
review	0.04	talent	0.04	wage	0.05	fast	0.05	improv	0.05
told	0.04	live	0.04	cut	0.04	sell	0.05	account	0.04
matter	0.04	travel	0.03	minimum	0.03	bonus	0.04	qualiti	0.03
neg	0.04	option	0.03	fire	0.03	push	0.03	build	0.03

Table VIII – STM : Pros Ngrams and FREX Score

This table provides the results from the Structural Topic Modeling which summarized the Pros textual reviews into 15 topics. It shows the top 10 words per topic and, for each word, its FREX indicator, i.e. that is a measure used to identify words that are both frequent in a given topic and exclusive to that topic compared to others.

Panel A - Working Conditions Topics											
Promotions, Rewards & Bonus		Amazing People		Friendly & Flexible Environment		Pay & Hours		Easy Job		Customer Service & Facilities	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
manag	0.39	peopl	0.50	environ	0.32	pai	0.26	job	0.29	custom	0.19
time	0.27	nice	0.18	flexibl	0.29	learn	0.18	dai	0.18	excel	0.16
hard	0.11	cultur	0.12	friend	0.20	hour	0.17	easi	0.12	salari	0.14
promot	0.06	amaz	0.11	cowork	0.16	decent	0.10	person	0.09	servic	0.09
reward	0.06	care	0.07	schedul	0.16	discount	0.08	enjoi	0.06	build	0.08
perform	0.05	awesom	0.07	fast	0.07	help	0.08	happi	0.04	talent	0.07
fantast	0.04	depart	0.06	perk	0.06	start	0.07	understand	0.04	food	0.07
worker	0.04	valu	0.06	pace	0.05	atmosph	0.06	extrem	0.04	monei	0.06
bonus	0.04	diver	0.06	staff	0.04	week	0.06	supervisor	0.03	facil	0.04
activ	0.03	secur	0.03	stabl	0.03	store	0.05	laid	0.02	lead	0.03

Panel B - Strategy & Leadership Topics									
Growth		Technology, Innovation & Brand		Support & Leadership		Human Ressource Process		Training & Work Life Balance	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
grow	0.12	employ	0.41	support	0.10	hire	0.08	balanc	0.27
project	0.09	love	0.11	cultur	0.10	process	0.07	train	0.20
client	0.07	industri	0.10	career	0.08	goal	0.06	life	0.19
smart	0.06	famili	0.10	leadership	0.08	expect	0.05	posit	0.15
improv	0.06	technolog	0.09	care	0.07	month	0.05	worklif	0.13
knowledg	0.05	innov	0.05	feel	0.07	execut	0.05	offer	0.11
chang	0.04	focu	0.05	develop	0.06	medic	0.04	program	0.09
resourc	0.04	brand	0.04	commun	0.06	review	0.03	corpor	0.05
travel	0.04	financ	0.04	challeng	0.05	firm	0.03	gener	0.04
engin	0.04	stock	0.04	encourag	0.04	question	0.02	includ	0.04

Panel C - Other Topics							
Career Opportunities		Shared Vision & Profit		Product & Business Sales		Benefits	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
opportun	0.33	team	0.39	product	0.17	benefit	0.51
growth	0.14	depend	0.07	busi	0.16	advanc	0.10
lot	0.13	plenti	0.06	locat	0.09	health	0.10
fun	0.12	packag	0.06	sale	0.08	paid	0.09
experi	0.12	leav	0.06	skill	0.08	insur	0.07
offic	0.11	polici	0.06	set	0.04	vacat	0.07
competit	0.08	treat	0.06	excit	0.03	abil	0.06
profess	0.07	share	0.05	exposur	0.03	bonu	0.05
strong	0.07	pro	0.05	freedom	0.03	match	0.05
intern	0.05	vision	0.05	technic	0.03	plan	0.05

Table IX – STM : Cons Regression

This table shows, for each of the 15 topics, the results of pooled regressions on their STM prevalence. Prevalence has been multiplied by 100. Variables of interest are three dummies representing the effects of a change of ownership for VC-backed, no PE-, no VC-backed firms and other transactions. Controls for the average level related to the transactions are included. Other controls are similar to Table III. Errors are clustered by company and by quarter.

	Panel A - Management Topics				
	Upper Leadership	Training & Supervision	Humman Ressource Process	Customer Service & Employee Care	Job Performance, Layoffs & Politics
Post VC Backed	0.693***	0.448**	0.370***	0.306*	0.132*
	(5.05)	(2.35)	(3.06)	(1.79)	(1.84)
Post NOPEVC to PE	0.513***	0.145	0.173**	0.339**	0.105
	(2.97)	(0.94)	(2.08)	(2.65)	(1.27)
Post Other Transactions	-0.033	0.138*	-0.072	0.081	-0.048
	(-0.47)	(1.72)	(-1.51)	(1.25)	(-1.04)
VC Backed	-0.858***	-0.722***	-0.710***	-0.511***	-0.460***
	(-6.49)	(-3.08)	(-5.69)	(-2.73)	(-6.67)
NOPEVC to PE	-0.211	0.770**	-0.387***	0.374***	-0.184***
	(-1.48)	(2.34)	(-5.09)	(2.92)	(-2.70)
Other Transaction	0.148*	0.192	-0.012	0.226***	0.016
	(1.77)	(1.09)	(-0.19)	(2.75)	(0.37)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.014	0.013	0.032	0.038	0.090
	Panel B - Working Conditions Topics: Company-Wide Issues				
	Growth	Hard & Challenging	Projects, Expectation & Rewards	Career Advancement	Busy Environment
Post VC Backed	-0.945***	-0.274***	-0.247***	-0.218**	-0.153*
	(-3.20)	(-3.17)	(-4.02)	(-2.08)	(-1.89)
Post NOPEVC to PE	-0.548***	-0.273***	-0.170***	-0.084	-0.212***
	(-3.85)	(-2.69)	(-3.42)	(-0.95)	(-2.89)
Post Other Transactions	-0.211**	-0.034	-0.090**	0.024	-0.049
	(-2.11)	(-0.58)	(-2.42)	(0.33)	(-1.26)
VC Backed	1.959***	0.139	0.0910	-0.551***	0.243***
	(5.62)	(1.47)	(1.46)	(-6.26)	(3.62)
NOPEVC to PE	-0.180	-0.032	-0.035	-0.280***	-0.040
	(-0.96)	(-0.27)	(-0.69)	(-2.83)	(-0.68)
Other Transaction	-0.131	-0.215***	-0.001	-0.072	-0.152***
	(-1.25)	(-2.80)	(-0.03)	(-1.02)	(-4.16)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.055	0.028	0.006	0.008	0.008
	Panel C - Working Conditions Topics: Personal Issues				
	Daily Personal Difficulties	Industry & Market Competition	Wage, Raise & Health Insurance	Sales Goals	Team Issues
Post VC Backed	-0.292	-0.0797	0.174	-0.0523	0.140
	(-1.00)	(-0.71)	(1.09)	(-0.64)	(0.93)
Post NOPEVC to PE	-0.056	0.008	0.0330	0.055	-0.029
	(-0.96)	(0.12)	(0.38)	(0.68)	(-0.34)
Post Other Transactions	0.021	0.019	0.098*	0.099**	0.057
	(0.52)	(0.42)	(1.77)	(2.61)	(1.04)
VC Backed	0.395	0.204	-0.354**	0.504***	0.631***
	(1.05)	(1.62)	(-2.15)	(6.03)	(3.73)
NOPEVC to PE	0.006	-0.180*	0.234**	0.153*	-0.008
	(0.10)	(-1.72)	(2.65)	(1.80)	(-0.07)
Other Transaction	-0.069*	-0.043	0.072	-0.002	0.0428
	(-1.69)	(-0.65)	(1.13)	(-0.04)	(0.62)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.028	0.044	0.020	0.004	0.043

Table X – STM : Cons Regression VC

This table replicates Table IX when considering VC-backed types of exits.

	Panel A - Management Topics				
	Upper Leadership	Training & Supervision	Humman Ressource Process	Customer Service & Employee Care	Job Performance, Layoffs & Politics
Post VC to IPO	0.669***	0.525*	0.455**	0.177	0.188**
	(3.62)	(1.94)	(2.41)	(0.78)	(2.09)
Post VC to PE	0.783***	0.456*	0.183	0.854***	0.173
	(2.77)	(1.93)	(1.57)	(3.36)	(1.24)
Post VC to TRADE	0.750**	0.405	0.332*	0.290	-0.008
	(2.49)	(0.98)	(1.69)	(0.93)	(-0.07)
VC to IPO	-1.004***	-0.987***	-0.841***	-0.620**	-0.605***
	(-5.51)	(-3.05)	(-4.73)	(-2.50)	(-6.99)
VC to PE	-0.586***	-0.486	-0.400***	-0.662***	-0.300***
	(-3.26)	(-1.48)	(-2.70)	(-3.47)	(-2.70)
VC to TRADE	-0.797***	-0.257	-0.702***	-0.094	-0.275**
	(-3.91)	(-0.53)	(-3.72)	(-0.19)	(-2.39)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.014	0.013	0.032	0.038	0.090
	Panel B - Working Conditions Topics: Company-Wide Issues				
	Growth	Hard & Challenging	Projects, Expectation & Rewards	Career Advancement	Busy Environment
Post VC to IPO	-0.971**	-0.144	-0.269***	-0.260**	-0.049
	(-2.13)	(-1.45)	(-3.26)	(-2.20)	(-0.46)
Post VC to PE	-1.004**	-0.572***	-0.226***	-0.117	-0.306***
	(-2.58)	(-2.91)	(-2.95)	(-0.71)	(-2.72)
Post VC to TRADE	-1.133*	-0.359*	-0.116	-0.123	-0.363*
	(-1.83)	(-1.81)	(-0.84)	(-0.76)	(-1.94)
VC to IPO	2.369***	0.104	0.061	-0.720***	0.302***
	(4.10)	(0.96)	(0.69)	(-7.52)	(3.01)
VC to PE	1.463***	0.208	0.045	-0.185	0.073
	(3.53)	(1.05)	(0.51)	(-0.89)	(0.83)
VC to TRADE	1.420**	0.172	0.221*	-0.477***	0.273**
	(2.62)	(1.16)	(1.94)	(-4.73)	(2.05)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.055	0.028	0.006	0.008	0.008
	Panel C - Working Conditions Topics: Personal Issues				
	Daily Personal Difficulties	Industry & Market Competition	Wage, Raise & Health Insurance	Sales Goals	Team Issues
Post VC to IPO	-0.403	0.525*	0.114	-0.044	0.143
	(-0.82)	(1.94)	(0.46)	(-0.50)	(0.63)
Post VC to PE	-0.145	0.456*	0.203	-0.046	-0.037
	(-1.44)	(1.93)	(1.39)	(-0.35)	(-0.19)
Post VC to TRADE	-0.263	0.405	0.350	-0.145	0.219
	(-1.61)	(0.98)	(1.42)	(-0.87)	(0.90)
VC to IPO	0.677	-0.987***	-0.352	0.583***	0.761***
	(1.08)	(-3.05)	(-1.29)	(6.08)	(2.78)
VC to PE	-0.050	-0.486	-0.305**	0.363***	0.545***
	(-0.60)	(-1.48)	(-2.45)	(2.69)	(3.00)
VC to TRADE	0.132	-0.257	-0.401**	0.439**	0.396
	(0.82)	(-0.53)	(-2.06)	(2.41)	(1.64)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	506,007	506,007	506,007	506,007	506,007
Adjusted R-squared	0.028	0.044	0.020	0.004	0.043

Table XI – STM : Pros Regression

This table shows, for each of the 15 topics, the results of pooled regressions on their STM prevalence. Prevalence has been multiplied by 100. Variables of interest are three dummies representing the effects of a change of ownership for VC-backed, no PE-, no VC-backed firms and other transactions. Controls for the average level related to the transactions are included. Other controls are similar to Table III. Errors are clustered by company and by quarter.

	Panel A - Working Conditions Topics					
	Promotion, Rewards & Bonus	Amazing People	Friendly & Flexible Environment	Pay & Hours	Easy Job	Customer Service & Facilities
Post VC Backed	0.181**	0.228***	0.284**	0.631***	0.195**	0.214***
	(2.05)	(3.41)	(2.25)	(2.86)	(2.10)	(2.81)
Post NOPEVC to PE	0.0247	0.0198	-0.0105	0.535***	0.0130	0.278*
	(0.38)	(0.46)	(-0.11)	(3.04)	(0.15)	(1.70)
Post Other Transactions	0.103*	-0.0462	0.00591	0.151	0.0401	0.121
	(1.96)	(-0.94)	(0.07)	(1.22)	(0.72)	(0.61)
VC Backed	-0.495***	0.0600	-0.716***	-1.332***	-0.235**	-0.697***
	(-6.19)	(0.80)	(-5.18)	(-5.07)	(-2.05)	(-7.96)
NOPEVC to PE	0.0988	0.0191	0.130	0.170	0.224**	-0.197
	(1.26)	(0.28)	(0.96)	(0.73)	(2.42)	(-1.59)
Other Transaction	0.00438	0.0508	0.171	0.126	0.154**	-0.295
	(0.10)	(1.09)	(1.61)	(0.78)	(2.22)	(-1.62)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628	518,628	518,628
Adjusted R-squared	0.020	0.003	0.028	0.080	0.044	0.020

	Panel B - Strategy & Leadership Topics				
	Growth	Technology, Innovation & Brand	Support & Leadership	Human Ressource Process	Training & Work Life Balance
Post VC Backed	-0.319***	-0.181**	-0.708**	-0.194*	-0.202**
	(-2.95)	(-2.43)	(-2.22)	(-1.98)	(-2.23)
Post NOPEVC to PE	-0.124	-0.109	-0.405	0.0108	-0.139
	(-1.45)	(-1.55)	(-1.36)	(0.18)	(-1.54)
Post Other Transactions	-0.161***	0.0195	-0.141	0.0247	-0.00528
	(-2.70)	(0.33)	(-0.76)	(0.54)	(-0.09)
VC Backed	0.738***	0.255**	2.361***	0.652***	-0.707***
	(5.90)	(2.50)	(7.01)	(6.64)	(-7.66)
NOPEVC to PE	-0.0420	0.0871	-0.00241	0.159**	-0.350***
	(-0.34)	(0.65)	(-0.01)	(2.27)	(-5.40)
Other Transaction	-0.0116	-0.0783	-0.181	0.0397	-0.201***
	(-0.15)	(-1.55)	(-0.92)	(0.90)	(-3.63)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628	518,628
Adjusted R-squared	0.048	0.022	0.070	0.013	0.015

	Panel C - Others Topics			
	Career Opportunities	Shared Vision & Profit	Product & Business Sales	Benefit
Post VC Backed	-0.292	-0.0797	0.174	-0.0523
	(-1.00)	(-0.71)	(1.09)	(-0.64)
Post NOPEVC to PE	-0.056	0.008	0.0330	0.055
	(-0.96)	(0.12)	(0.38)	(0.68)
Post Other Transactions	0.021	0.019	0.098*	0.099**
	(0.52)	(0.42)	(1.77)	(2.61)
VC Backed	0.395	0.204	-0.354**	0.504***
	(1.05)	(1.62)	(-2.15)	(6.03)
NOPEVC to PE	0.006	-0.180*	0.234**	0.153*
	(0.10)	(-1.72)	(2.65)	(1.80)
Other Transaction	-0.069*	-0.043	0.072	-0.002
	(-1.69)	(-0.65)	(1.13)	(-0.04)
Controls for Firm Characteristics	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628
Adjusted R-squared	0.022	0.005	0.021	0.027

Table XII – STM : Cons Regression VC

This table replicates Table XI when considering VC-backed types of exits.

	Panel A - Working Conditions Topics					
	Promotion, Rewards & Bonus	Amazing People	Friendly & Flexible Environment	Pay & Hours	Easy Job	Customer Service & Facilities
Post VC to IPO	0.214***	0.185**	0.329*	0.708**	0.182	0.105*
	(2.81)	(2.06)	(1.92)	(2.22)	(1.26)	(1.80)
Post VC to PE	0.278*	0.227	0.425**	0.857***	0.314***	0.0358
	(1.70)	(1.58)	(2.51)	(3.15)	(3.23)	(0.51)
Post VC to TRADE	0.121	0.377*	0.428	0.644	0.217	0.0333
	(0.61)	(1.88)	(1.33)	(1.29)	(1.02)	(0.88)
VC to IPO	-0.697***	0.120	-1.100***	-1.811***	-0.302*	-0.135**
	(-7.96)	(1.19)	(-5.49)	(-4.66)	(-1.80)	(-2.10)
VC to PE	-0.197	-0.0794	-0.397**	-0.913***	-0.282***	0.0791
	(-1.59)	(-0.61)	(-2.02)	(-2.79)	(-2.95)	(1.21)
VC to TRADE	-0.295	0.0332	-0.146	-0.639	-0.0334	0.0749*
	(-1.62)	(0.21)	(-0.73)	(-1.66)	(-0.16)	(1.73)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628	518,628	518,628
Adjusted R-squared	0.020	0.003	0.028	0.080	0.044	0.020

	Panel B - Strategy & Leadership Topics				
	Growth	Technology, Innovation & Brand	Support & Leadership	Human Ressource Process	Training & Work Life Balance
Post VC to IPO	-0.379**	-0.244**	-0.567	-0.260**	-0.168
	(-2.46)	(-2.19)	(-1.59)	(-2.06)	(-1.65)
Post VC to PE	-0.484***	-0.216	-1.286***	0.0265	-0.230
	(-4.56)	(-1.45)	(-3.04)	(0.13)	(-1.09)
Post VC to TRADE	-0.165	-0.168	-1.323	-0.328*	-0.137
	(-0.58)	(-1.28)	(-1.46)	(-1.76)	(-0.90)
VC to IPO	1.002***	0.452***	3.162***	0.799***	-0.924***
	(5.54)	(3.04)	(6.40)	(5.92)	(-9.95)
VC to PE	0.423***	0.145	1.165**	0.326**	-0.258
	(3.54)	(0.86)	(2.56)	(2.34)	(-1.09)
VC to TRADE	0.429**	-0.0877	1.678***	0.625***	-0.624***
	(2.25)	(-0.80)	(2.92)	(3.15)	(-4.78)
Controls for Transaction Type	Yes	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628	518,628
Adjusted R-squared	0.048	0.022	0.070	0.013	0.015

	Panel C - Others Topics			
	Career Opportunities	Shared Vision & Profit	Product & Business Sales	Benefit
Post VC to IPO	-0.157	-0.0463	-0.00800	0.149
	(-1.18)	(-0.80)	(-0.06)	(1.13)
Post VC to PE	0.0843	0.0502	-0.0465	-0.0654
	(0.44)	(0.71)	(-0.29)	(-0.49)
Post VC to TRADE	0.0724	-0.207	0.121	0.0504
	(0.41)	(-1.67)	(0.86)	(0.20)
VC to IPO	0.0781	0.156***	0.387***	-1.153***
	(0.50)	(3.93)	(2.99)	(-6.98)
VC to PE	0.237	0.0501	0.518***	-0.797***
	(1.51)	(1.02)	(3.24)	(-5.63)
VC to TRADE	0.107	0.0853	0.151	-1.035***
	(0.70)	(1.19)	(1.30)	(-6.09)
Control for Transaction Type	Yes	Yes	Yes	Yes
Controls for Firm Characteristics	Yes	Yes	Yes	Yes
Controls for Employee Characteristics	Yes	Yes	Yes	Yes
Quarter x Indus F-E	Yes	Yes	Yes	Yes
Number of Observations	518,628	518,628	518,628	518,628
Adjusted R-squared	0.022	0.005	0.021	0.027

Appendix A. Glassdoor anecdotal evidence

Table A1 This Table presents example of reviews (related to our VC Backed sample). In panel A ,showing pros reviews written before the VC exit, we search terms as "venture capital" and "VC". In panel B, showing cons reviews written after the VC exit, we search as "change" and "transaction".

Panel A - Pros Reviews (Before VC Exit)
With 18 years mature history behind it and backed by solid venture capital, the company, product and customer base continues to witness sizable growth! The best part about working at Intacct is it's product culture and exposure to cloud technologies and financials domain. With our quarterly release cycle and Innovate with Confidence culture, we love shipping the code fast! The company management remains humble and believes in industry leading customer satisfaction practices.
Capable and accomplished senior management team. Venture capital backing gives the company needed resources to achieve aggressive long term goals.
Jumio has a fun culture that drives to succeed for its customers. The culture is also very collegial and everyone is very willing to go out of their way to help each other out... Having Andreessen Horowitz, CitiVentures, and Eduardo Saverin (Facebook Cofounder) as lead VC backers has been a great resource to drive sales and Biz Dev engagements. Beyond the money, they help bring credibility and a great network.
Company provides resources to assist you in succeeding Good leadership team Strong financial backing from VC to provide monetary resources and grow technology and services Focus on technology and market research.
Established Brand. Long Term Management. referenceable accounts in every major industry. Excellent Sales with field pros in every major region and state in the U.S. and Internationally. recent infusion of cash from VC takeover adding confidence in the future of the People/Organization/Brand. Leading the Scalable and Cloud based Agile/Open Source ALM Platform. Small enough to react to clients needs. large enough to satisfy Enterprise product integration and support. generous commission plans for sales. A top notch independent recruiter to work with whom has 15 years in Enterprise ALM career consulting experience.
(...)The company really put in the effort in a humble, low-key, respectful and compassionate way to support his family as well as memorialize him. A very sad incident yet provides an authentic insight into the company culture. Ann Winblad's VC firm was in the company's seed round (as well as subsequent rounds) and Ms. Winblad has been on the board ever since. Ms. Winblad is a true pioneer and trail blazer in the VC and tech industry, and she is and has always been a great positive influence on the company.

Panel B - Cons Reviews (After VC Exit)
Looking back, going IPO and changing some of the top management at that time was a big mistake. From an engineering company focused on a core product A10 morphed into a bean-counter managed mad rush to release as many products and features as possible. Nothing is fully baked. The company has lost its commitment to quality. Everything is rushed out the door, tomorrow be damned. You can smell the fear of the stock exchange punishing the company for not making the numbers. The new management brought sales-centric orientation and the associated cliquishness and favoritism not seen before. Other groups exist to serve Sales and should not rise above their station.
Everything changed post acquisition - used to love Medallia but they stopped being transparent, did a massive layoff and lack communication.
Disorganized, fast-pace, and changes due to acquisition. Management lacks experience and titles are given out. They invests more money in paying new employees that have not done anything for the company as opposed to spending money retaining employees. Therefore, employee turnover is high.
1. Every company has pros, cons and with the acquisition, management changes, it takes time to absorb changes and reflect the same on the ground. 2. There are internal issues within local leadership which need to be resolved for better efficiency and culture improvement. 3. Favoritism needs to be avoided and all employees need to be treated equally. 4. Engineering managers and leaders need to be guided and trained including people operations. They need to spend more time in office and should be employee friendly, improve cross-team functioning and involvement rather than being self-centric. They should be empowered and resolve things at their level rather than they keep cribbing about things.
Recent acquisition is already causing a bit of a brain drain... Not many folks seem to have a positive opinion of the senior management team. Company seemed to have a problem turning success into real profits.
- Executives are not aligned at all. - No company vision since being acquired. - Private Equity advisors are running the show. - Comp plans not communicated until well into the 1st quarter of the year (still waiting) - Zero marketing support for sales people. - Commission plans change constantly. No plan for AE's to actually achieve quotas. - Incoherent product marketing. - Your manager (sales) is definitely interviewing elsewhere. - Accounts on your list get moved all the time due to turnover.

Appendix B. Additional Literature Review

A longstanding literature studies the impact of Leveraged Buy-Out (LBO) on human resources. Shleifer and Summers (1988) and Fox and Marcus (1992) discuss potential wealth transfers from current employees to new owners as LBOs are used as an opportunity to renegotiate employment contracts. Lichtenberg and Siegel (1990) find a decrease in non-production jobs. However, Davis et al. (2014) have shown that LBOs result in modest net job losses but large increase in gross job creation due to the exit of less productive establishment and greater entry of highly productive ones. This evidence finds explanations into the rationalization of jobs with for instance replacement of routine tasks by machines, offshoring and disappearance of middle wage workers (Olsson and Tåg (2017)) as well as the disposal of non-core parts of the business (Davis et al. (2014); Davis, Faberman, and Haltiwanger (2012), Amess and Wright (2012)). Antoni et al. (2019) have shown that the decline employment is mainly found in the administrative staff. Wright, Thompson, and Robbie (1992) find an increase in employment and Davis et al. (2012) find an increase in greenfield jobs post MBIs. Antoni et al. (2019) show that the hiring of new people usually takes place in the first years after buyout, while cuts in jobs might occur later to improve the profitability of the deal.

Several studies highlight the heterogeneity of results across skilled and non-skilled workforce, countries, types of LBOs (corporate orphans, management buy-outs etc.), and in the presence or not of union. Employment effects have been shown to be more adverse in MBIs and LBOs due to an external management team and due to the fact that target companies are more likely to underperform (Amess and Wright (2007)). With regard to MBOs, IBOs usually prioritize fund returns and financial engineering over human resource policies which might hurt the well being of employees themselves (see Ludkin, interview 2008 in Goergen, O'Sullivan, and Wood (2014)). Local investors usually have a greater commitment than foreign investors to their social community. This usually leads to a more modest reduction in employment (Guery, Stevenot, Wood, and Brewster (2017)). PE effects found in divisional buyouts differ also from full LBOs with a likely increase in employment in divisional LBOs (Lichtenberg and Siegel (1990), Muscarella and Vetsuypens (1990)). Finally, we usually observe different impact on jobs from internal versus external management buyouts. On the one hand, it might be more difficult for external management team to value the current human workforce. On the other hand, it might be easier for them to break current working

contracts (Goergen et al. (2014)). It has also been shown that a lower reduction in employment is expected if employment rights are stronger as protected by unions or worker collectives) (Goergen et al. (2014)). Public-firm buyouts are more likely to be accompanied by employment reductions (Davis et al. (2014)). Closely related to the LBO market, Cohn, Nestoriak, and Wardlaw (2016) show that higher leverage and more financial pressure lead to an increase in injury rates and decrease investments in worker safety.

Other aspects should also be taken into consideration when analyzing the impact buyout has on employees. First, economic conditions are likely to affect private equity activity, investment policies and operating performance (Kaplan and Strömberg (2009)). On the other hand, PE activity might induces some economic effects on industries. Bernstein, Lerner, Sorensen, and Strömberg (2017b) show that private equity activity leads to higher industry growth (for PE-backed or non PE-backed firms) without introducing more sales cyclicality and business risk. Boucly, Sraer, and Thesmar (2011b) show that LBOs lead to important operating improvements and strong growth for targeted firms. Second, Agrawal and Tambe (2016) give evidence of a positive knowledge transfer induced by private equity ownership to existing employees. Bloom, Sadun, and Van Reenen (2015) examine management practices of PE-backed versus non-PE backed firms. Management quality in PE-backed firms is shown to be superior overall and especially with regard to setting objectives and monitoring. No significant differences are however found in incentives such as compensation and benefits given to employees. Yet, a recent study by Appelbaum (2019) retrieves testimonials on private equity buyout showing evidence on how buyout hurt companies' financial and ultimately employee welfare. Third, Lerner, Sorensen, and Strömberg (2011) investigates whether private equity ownership relieves the management from being short term focus. They show that patent quality and activity improve for firms under PE ownership.

Appendix C. Case Study: Vista

Vista[24] buys only software. It can be software in a variety of sectors but the product is a software. Examples from Vista's portfolio: Accelya provides software for transportation management, Kazoo is a HR software. Vista Equity Partners: 2016 buyout of Marketo, a cloud-based innovator

[24]https://www.wsj.com/articles/billionaires-secret-buyout-formula-110-instructions-and-an-intelligence-test-1531151197

in marketing automation software. Marketo was losing money. Took it private for $1.78 billion, 64% premium, 8x revenue, a huge Valuation. Vista installed an experienced CEO, who focused the company's sales effort on large deals in the enterprise space. Rapid growth eventually produced positive EBITDA, and just two years later, Vista sold the company to Adobe for $5 billion.

Employees of acquired companies and candidates for hiring must submit to tests. A personality test aims to determine which of them are suited to which jobs. Salespeople are better off being extroverted, and software developers more introverted. A proprietary cognitive assessment, similar to an IQ test, includes questions on logic, pattern recognition, vocabulary, sentence completion and math. The test inspires consternation and fear among existing employees, according to former employees. The goal of the Austin, Texas-based firm, which is 18 years old, is to transform business-software companies into profit machines. Behind its approach is Mr. Smith's belief that certain aspects of the companies Vista buys are interchangeable. "Software companies taste like chicken," he said at a conference in New York a few years ago. "They're selling different products, but 80% of what they do is pretty much the same."

Former employees say cost cutting is critical to Vista's model. Some of the companies Vista takes over are located in markets with a high cost of living, such as Southern California or New York City. To tamp down wages and other costs, Vista will relocate part or all of the company to a less-expensive city such as Dallas. Many employees won't make the move, allowing Vista to hire cheaper replacements. Vista often keeps a company's headquarters in place and encourages it to expand in lower-cost markets.

Appendix D. Industries

Table A2 – Industry classification
134 industries were retrieved from Glassdoor which we allocated to 7 industries: Consumer Services, Corporate Services, Industrial, IT Services, Public Services, Retail, and Software. Industries are missing for certain companies (about 108 companies). We used the industry classification from Capital IQ to classify these.

Industry category	Glassdoor industry
Consumer Services	Casual Restaurants, Health Beauty & Fitness, Sports & Recreation, Hotels Motels & Resorts, Fast-Food & Quick-Service Restaurants, Photography, News Outlet, Upscale Restaurants, TV Broadcast & Cable Networks, Video Games, Music Production & Distribution, Banks & Credit Unions, Gambling, Express Delivery Services, Audiovisual, Auctions & Galleries, Bus Transportation Services, Car Rental, Catering & Food Service Contractors, Charter Air Travel, Floral Nurseries, Funeral Services, Gas Stations, Radio, Food & Beverage Stores, Home Centers & Hardware Stores, Laundry & Dry Cleaning, Motion Picture Production & Distribution, Movie Theaters, Parking Lots & Garages, Passenger Rail, Performing Arts, Ticket Sales, Toy & Hobby Stores, Veterinary Services
Corporate Services	Accounting, Advertising & Marketing, Airlines, Architectural & Engineering Services, Brokerage Services, Building & Personnel Services Centers & Copy Shops Commercial Equipment Rental, Consulting, Convenience Stores & Truck Stops, Farm Support Services, Financial Analytics & Research, Financial Transaction Processing, Insurance Agencies & Brokerage, Insurance Carriers, Investment Banking, & Asset Management, Legal, Lending, Metals Brokers, Moving Services, Oil & Gas Services, Publishing, Real Estate, Research & Development, Security Services, Self-Storage Services, Shipping, Staffing & Outsourcing, Stock Exchanges Stock Exchanges, Travel Agencies, Truck Rental & Leasing, Venture Capital & Private Equity, Wholesale
Industrial	Biotech & Pharmaceuticals, Consumer Products Manufacturing, Food & Beverage Manufacturing, Logistics & Supply Chain, Health Care Products Manufacturing, Electrical & Electronic Manufacturing, Construction, Transportation Management, Industrial Manufacturing, Aerospace & Defense, Trucking, Energy, General Repair & Maintenance, Utilities, Commercial Printing, Miscellaneous Manufacturing, Chemical Manufacturing, Transportation Equipment Manufacturing, Auto Repair & Maintenance, Food Production, Telecommunications Manufacturing, Animal Production, Asphalt Products Manufacturing, Commercial Equipment Repair & Maintenance, Commercial Fishing, Metal & Mineral Manufacturing, Mining, Oil & Gas Exploration & Production, Timber Operations, Wood Product Manufacturing
IT Services	IT Services, Internet, Telecommunications Services, Cable Internet & Telephone Providers
Public Services	Health Care Services & Hospitals, Colleges & Universities, Preschool & Child Care, K-12 Education, Social Assistance, Education Training Services, Federal Agencies, Grantmaking Foundations, Health Fundraising Organizations, Membership Organizations, State & Regional Agencies, Rail
Retail	Office Supply Stores, Pet & Pet Supplies Stores, Department Clothing & Shoe Stores, Other Retail Stores, Media & Entertainment Retail Stores, Grocery Stores & Supermarkets, Consumer Electronics & Appliances Stores, Sporting Goods Stores, Vehicle Dealers, Home Furniture & Housewares Stores, Drug & Health Stores, Gift Novelty & Souvenir Stores, Automotive Parts & Accessories Stores, Consumer Product Rental, Beauty & Personal Accessories Stores, General Merchandise & Superstores,
Software	Computer Hardware & Software, Enterprise Software & Network Solutions

Appendix E. Details on position classification

Employees report their position in the company in an open field, which provides guided suggestions as you type, which helps for uniformization and to avoid typos. We go through the 500 most frequent unique entries and classify them manually using a specialized guidebook[25]. Based on this, we use the following rules to categorize all employees as follows:

- Manager (Mngt) : Each job title containing the words "director" or "vice president" are in this category (e.g. senior director, associate director, vice president, senior vice president) unless the words assistant or sales are also present.
- Middle Management (MidMngt) : Each job title containing the words manager or leader are in this category (account manager, project manager, store manager, team leader, store leader).
- White Collars (WhiteC) : Each job title containing the words consultant, executive, assistant-manager, analyst, specialist are in this category.
- Purple Collar (PurpleC) : Each job title containing the words engineer or software are in this category.
- Pink Collar (PinkC) : Each job title containing the words sales or administrative or assistant are in this category. Teachers and marketing are also included here.
- Blue Collar (BlueC) : Each job title containing the words technician or driver are in this category. Cashier and servers are also included here.

[25]'Work in America', page 597, ISBN.9781576076767.

Appendix F. Scraping Glassdoor

To match our list of US-based companies from CapitalIQ with employee reviews from www.glassdoor.com, we set up a web scraping algorithm. The web crawler we use is based on "BeautifulSoup", an open-source python library. We proceed as follows: (i) the web-scraper starts by sending a request to the Glassdoor servers with the name of the target company. If Glassdoor returns multiple results for a given name we go for the preferred result with matching geographic location. (See Figure A1). (ii) Then, for the selected company, the web-scraper gathers all the firm-related data in the overview panel. (see Figure A2). To ensure accuracy of the matching we force to have at least one of these additional features matched with CapitalIQ data: "City Headquarter", "Foundation" (with a margin of -1,+1 year.) or "Size/Number of employees" (grouped in bins of size 1 to 7.); (iii) As a final step, we download all the reviews for valid matches only.

Figure A3 depicts a typical review. The web crawler gathers the data from the title tag and saves what the reviewer left as a comment in the Pros, Cons (which are mandatory) and Advice to Management sections. At this step it also collects the overall Score (number of stars) and "recommended", "outlook" and "CEO" opinions. Importantly it also registers the date at which the review was posted and parses out i) the employment status (current or former employee) ii) the location and iii) for how long the reviewer worked (or had been been working) at the company. Finally, the crawler registers the scores related to Work/Life Balance, Culture, Career Opportunities, Compensations and Benefits and Senior Management (see Figure A4).

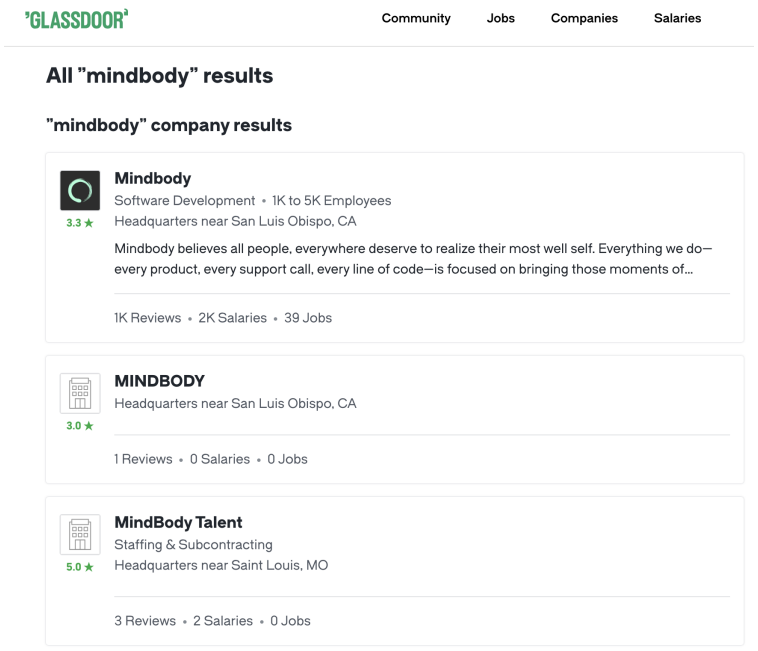

Figure A1. Searching a company on Glassdoor based on its name.

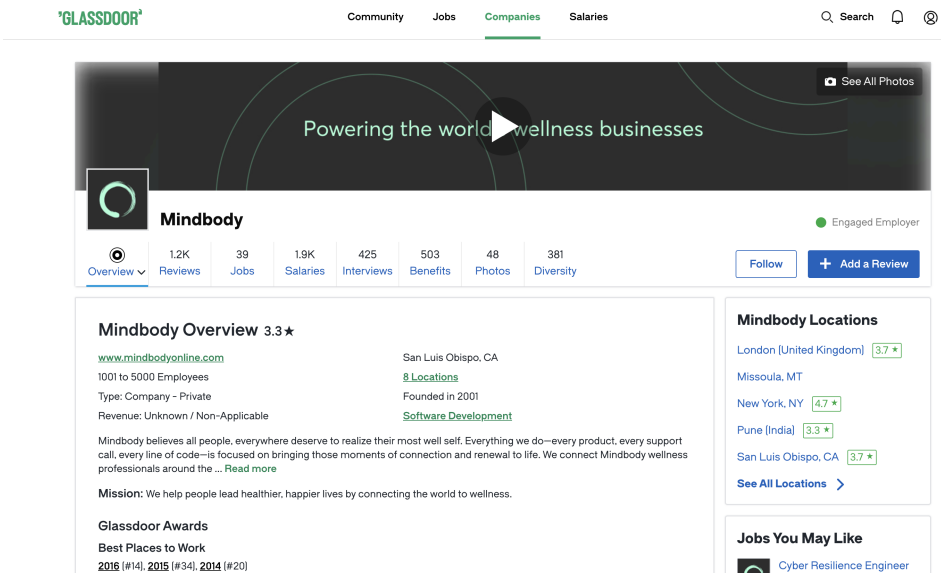

Figure A2. Overview of a company given by Glassdoor.

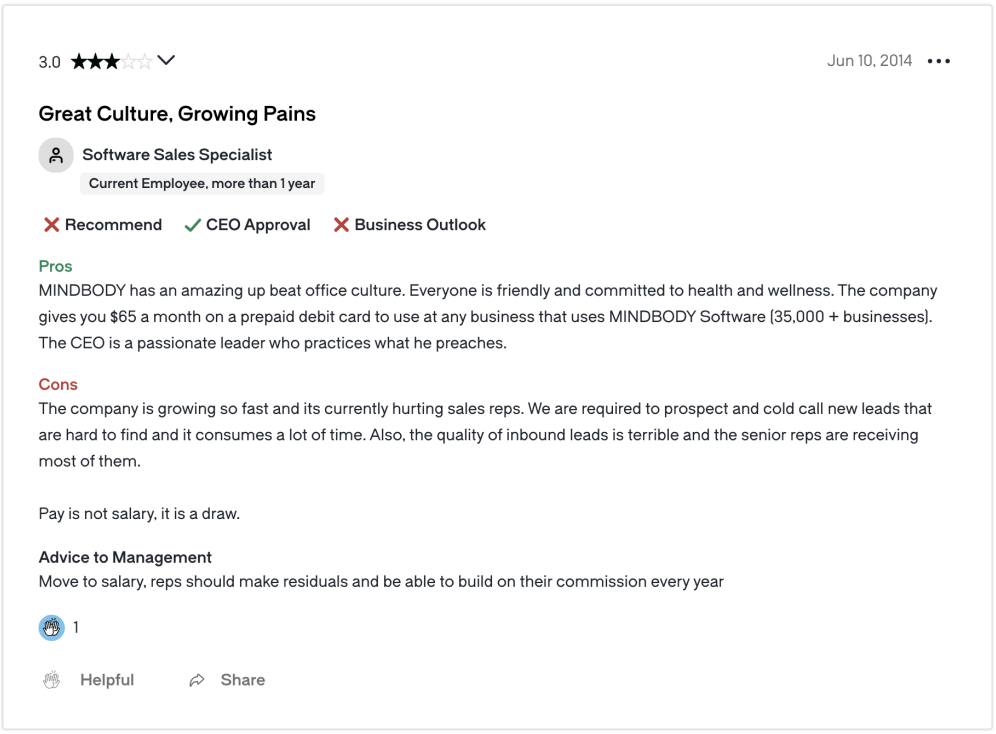

Figure A3. Example of a review.

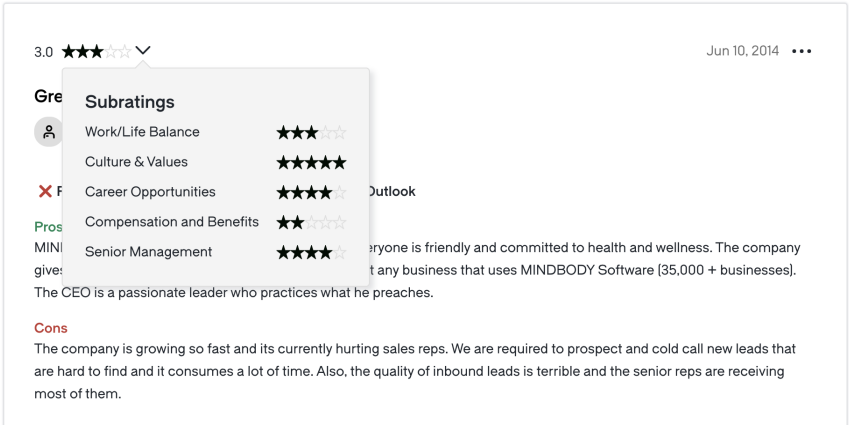

Figure A4. Detailed scores along different welfare dimensions.

Appendix G. Fitting LDA models: Topic Coherence

As discussed, the LDA model uses a Bayesian approach that relies on three parameters that determine the shape of distribution of topics: a hyper-parameter α, a hyper-parameter β and the ex-ante choice on number of topics desired. The α parameter controls the shape of the Dirichlet distribution of documents on topics. Lower (higher) values of α will cause each document to be composed of fewer (more) different dominant topics. The β parameter controls the shape of the Dirichlet distribution of words on topics. Lower (higher) values of β will cause each topic to be composed of a smaller (bigger) set of dominant words.

We follow the work of Röder, Both, and Hinneburg (2015) to identify the optimal parameters. The issue in choosing appropriate parameters is in evaluating ex-post what is an appropriately fitted model. The suggestion is to compute a coherence measure of the topics generated by the model, which are based on probabilities that words inside a same topic effectively co-occur inside a document. We use the "gensim" package in python to effectively compute the coherence score for different values of α, β and topic number.

We report the results for the 'Cons' sample in table A3. To maximize topic coherence we seek the highest possible score. Since those computations are time-consuming we can not performing an exhaustive search of the entire space of parameters. Nonetheless, our results help us provide an objective measure on why the topics are of greater quality when going down to 25 topics. We can also observe that coherence is relatively robust to the choice of α and β. To ease our high-level understanding of topics it is desirable to go for lower values of both α and β. This helps us label topics when there are fewer words that capture the idea of the topic. We therefore end up at settling for 25 topics, $\alpha = 0.1$ and $\beta = 0.05$.

Table A3
Coherence Score.
This table reports coherence scores (based on an implementation of (Rehurek et al., 2011)) computed for different values of α (rows) and β (colums) hyperparameters and for different number of topics.

Panel A: 150 topics							
α/β	0.00005	0.0001	0.001	0.005	0.02	0.05	0.1
0.0005	-5.02	-5.14	-4.97	-5.03	-5.21	-5.03	-5.01
0.001	-5.19	-5.08	-5.10	-5.12	-5.13	-5.14	-4.98
0.025	-5.26	-5.43	-5.30	-5.19	-5.43	-5.49	-5.25
0.005	-5.05	-5.02	-5.07	-5.10	-5.07	-5.09	-5.00
0.01	-5.16	-5.13	-5.02	-5.23	-5.20	-5.07	-5.14
0.05	-5.73	-5.68	-5.59	-5.8	-5.71	-5.73	-5.63

Panel B: 100 topics							
α/β	0.00005	0.0001	0.001	0.005	0.02	0.05	0.1
0.0005	-4.44	-4.42	-4.44	-4.64	-4.47	-4.37	-4.49
0.001	-4.48	-4.42	-4.45	-4.48	-4.39	-4.43	-4.42
0.025	-4.50	-4.53	-4.57	-4.49	-4.60	-4.63	-4.70
0.005	-4.43	-4.46	-4.42	-4.48	-4.54	-4.37	-4.44
0.01	-4.42	-4.42	-4.49	-4.54	-4.49	-4.40	-4.46
0.05	-4.80	-4.73	-4.71	-4.65	-4.68	-4.77	-4.65

Panel C: 50 topics							
α/β	0.00005	0.0001	0.001	0.005	0.02	0.05	0.1
0.0005	-3.93	-3.86	-3.85	-3.95	-3.91	-3.86	-3.85
0.001	-3.85	-3.86	-3.87	-3.81	-3.88	-3.85	-3.83
0.025	-3.91	-3.9	-3.83	-3.88	-3.81	-3.89	-4.00
0.005	-3.83	-3.84	-3.89	-3.94	-3.87	-3.85	-3.90
0.01	-3.93	-3.86	-3.97	-3.83	-3.84	-3.91	-3.80
0.05	-3.83	-3.94	-3.97	-3.86	-3.86	-4.06	-4.03

Panel D: 25 topics							
α/β	0.00005	0.0001	0.001	0.005	0.02	0.05	0.1
0.0005	-3.80	-3.68	-3.71	-3.83	-3.7	-3.74	-3.69
0.001	-3.76	-3.67	-3.77	-3.67	-3.69	-3.7	-3.63
0.025	-3.81	-3.73	-3.68	-3.69	-3.60	-3.69	-3.89
0.005	-3.63	-3.66	-3.73	-3.81	-3.66	-3.73	-3.79
0.01	-3.78	-3.73	-3.77	-3.71	-3.66	-3.71	-3.66
0.05	-3.74	-3.79	-3.8	-3.73	-3.70	-3.94	-3.84

Table A4
Detailed LDA Topics: Cons Reviews

Cons Topics	Top Ngrams	LBO example	Other example
Poor Upper Management – Lack of communication	manag; poor; lack; communic; upper; train; upper manag; poor manag; support; micro; micro manag; staff; life; bad; balanc; level; lack communic; poor communic; turnov; littl	Disconnect between upper management and other staff members, high turnover rates	benefits, poor management, really bad upper management
Changing management	manag; chang; leadership; constant; compani; cultur; senior; upper; upper manag; direct; execut; decis; senior manag; constant chang; environ; middl; corpor; frequent; ceo; busi	Change in the management focus and objective due to change in the senior management. Flow of information from the top management can be better	Management direction changes constantly and frequently, leading to constant churn
Lay-offs	compani; cut; employe; layoff; peopl; job; cost; busi; leav; term; profit; recent; moral; futur; due; ceo; lay; stock; focus; secur	Over the last couple of years Company seems to have last it's way. A lot of mismanagement by the executives put the company in a place where they had to sell out to venture capital firm Vista. The layoffs and cost cutting have begun morale is bad and getting worse. I not sure what the future holds for us	Company feels like it is circling the drain. No stability or job security. Lots of wasted talent in the company– morale is ruined by corporate financial scandals, a botched merger, and constant reductions in force. 10% layoffs in the last month resulted in almost 200 people gone. With a cloudy business outlook and no buyout in sight, there is a sinking ship feeling in the ranks.
Management not caring about employees	care; employe; compani; manag; don; doesn; peopl; money; job; care employe; don care; patient; line; custom; manag care; staff; bottom; corpor; doesn care; manag doesn	The company has really taken a turn for the worse since the new CEO, Eric Jungbluth came into the company. He cares nothing for the employees (has even been heard saying that he does not value them and they can be replaced easily).	Walmart don't care about family or you just make money no matter is you are w them for 1 or 20 yrs they don't show any respect.
Management lead of team	team; manag; peopl; project; depend; compani; experi; manag team; lead; lot; cultur; don; skill; offic; leader; person; technic; depart; feel	This company has a collaborative mindset. It's team-based. Lone wolves who set out to impose a conventional template from past experience and who are not open to learning and growing might struggle.	I feel that my Management team has started leading the company in a less than ideal direction for many people.
Slow and poor internal processes	process; lack; communic; slow; technolog; decis; depart; sometim; compani; lot; improv; organ; time; system; busi; intern; chang; structur; direct; littl	Internal processes are often lacking, so you need good problem solving skills to get things done. Communication at an executive level needs work. Too many priorities create unnecessary risk.	Being a multinational company, the structure is a bit complex sometimes slowing some processes.
Time pressure	time; job; sometim; stress; train; difficult; lot; custom; client; busi; learn; servic; task; hard; littl; environ; help; feel; make; challeng	Not enough payroll to custom service and complete tasks all at the same time. A lot of tasks give at once.	Sometimes the customers can give you a hard time, but if you handle the situation properly everything will be fine.
Benefits (healthcare)	benefit; offic; insur; health; locat; expens; compani; employe; park; health insur; home; plan; offer; pay; cost; option; live; medic; commut; match	Healthcare benefits are expensive and not great. No education allowance, but they do provide some in house training options. Office space could use some updates.	The health insurance benefits are less than impressive. I would hope that as we become a larger company our health insurance coverage would improve as well.
Lack of opportunity / Career growth	opportun; career; growth; advanc; limit; move; compani; develop; path; littl; slow; career growth; opportun advanc; growth opportun; difficult; hard; career path; progress; grow; advanc opportun	The lack of opportunities to develop or progress are limited and often not available once you reach a certain level.	Little opportunity for advancement unless you move departments

Table A5
Detailed LDA Topics: Pros Reviews

Pros Topics	Top Ngrams	LBO Example	Other Example
Good pay / Benefits	pay; benefit; decent; pay benefit; decent pay; health; competit; decent benefit; ok; competit pay; benefit pay; peopl; bonus; insur; pay decent; pretti; fair; share; profit; health benefit	Not bad pay, decent health benefits, immediate peers are friendly	-Good Pay -Incentive Plans -Good Health Benefits -401k matching up to 6%
Team support / Training	team; project; support; technolog; develop; client; train; manag; engin; provid; product; process; resourc; skill; knowledg; technic; tool; excel; busi; staff	Excellent team and great group of individuals good local management good training available	Develops great relationships with client. Always makes the client first and works to develop relationships with entire project team such as architects, building engineers, and consultants.
Growth opportunities	opportun; compani; growth; career; potenti; global; busi; world; intern; grow; travel; lot; develop; path; person; locat; industri; profession; divers; project	The people in this company are great to work for. And the growth opportunities are endless especially if you are able to relocate.	Good growth opportunities, challenging global projects, great diverse workforce
Time & Misc	job; time; don; compani; re; ve; pros; day; peopl; hire; start; posit; month; manag; call; pay; look; leav; review; hard	This review is directed to you, the job seeker researching Alcami as a potential employer. My goal is to provide some additional insight, or at least a perspective I believe to be different, which along with the other reviews will help you make the most informed decision possible. Ultimately, this is so you don't make the same mistake I did. And if you decide to join Alcami, my goal is to help explain to you what you can expect in the year and a half or so that you'll be with us. At the time of t his review, Alcami held an uncorrected rating of 2.0 stars here on Glassdoor. [...]	Not all that different from other airlines I've worked at (Virgin and Emirates), but if you keep your head down and bide your time, don't take it home with you, enjoy the job itself, it's a good place to be.
Company growth	compani; grow; move; opportun; chang; lot; posit; ve; grow compani; peopl; look; opportun move; move compani; depart; promot; compani grow; career; hard; fast; time	Company is growing quickly, which is giving lots of employees meaningful opportunities to grow into bigger roles. The perks are as good as anywhere and management is open and approachable.	There are a lot of opportunities to move up in the company for those that are hard working and capable.
Good community & employee treatment	employe; compani; valu; communiti; improv; focus; treat; provid; cultur; respect; appreci; custom; tri; feel; involv; benefit; engag; e ncourag; care; environ	Growing company, treat employees well, management takes an interest in employees and value feedback, pay	They really care about their employees and are always looking to improve their work environment. They value their employees opinions.
Great culture/people	peopl; cultur; environ; fun; smart; lot; amaz; benefit; awesom; smart peopl; team; challeng; friend; compani; talent; colleagu; collabor; offic; perk; atmospher	- Great culture - Great and smart people - A lot of autonomy	Great people, fun environment. Lots of good perks.
Fast & meaningful environment	peopl; help; love; fast; pace; day; fast pace; environ; enjoy; job; will; team; fun; challeng; hard; pace environ; make; fast pace environ; will help; feel	Learn so much as it is a fast paced environment. Work with the best people who help grow you and are motivated to help save lives with what Alcami does.	Great team of people to work within a positive, hardworking yet fun environment. Everyone seems genuinely engaged, excited about what we are doing, and willing / wanting to help everyone succeed and thrive.

Table A6
Detailed LDA Topics: Management Advice Reviews

MngtAdv Topics	Top Ngrams	LBO Example	Other Example
Pay employees what they deserve	peopl; pay; money; employe; rais; compani; don; leav; job; stop; re; deserv; hard; time; turnov; stay; worth; bonus; live; worker	Don't be cheap with your employees. People work really hard and take pride in their work, and they should be paid accordingly. Also, when something changes or goes wrong, COMMUNICATE about it instead of stonewalling.	Think about the employees instead of your pockets. A lot of good people have come and gone from this company and that could have been avoided if they got a little more incentive to stay.
Listen and care about your employees	peopl; care; hire; employe; actual; listen; hire peopl; don; care employe; stop; job; instead; listen peopl; listen employe; tri; care peopl; talk; start; take; one	Pay your people a real wage and stop with the MMR. When issues are brought to you please actually listen instead of pretending to care.	Hire more people in the office as needed instead of loading down current employees with more work.
Pay attention to your employees	pay; employe; attent; increas; pay attent; wage; benefit; rais; level; hour; offer; time; staff; lower; pay employe; bonus; health; insur; rate; paid	Pay attention to the lower level employees with great potential.	Pay raises should be based on performance. How much the employee has to offer
Be accountable	peopl; account; promot; valu; hold; perform; base; leader; lead; leadership; cultur; practic; manag; posit; compani; exampl; divers; team; core; don	-Learn how to be managers and hold your people accountable -Talk to each other	Keep consistent when holding people accountable. Trust me it shows and people take notice when you don't.

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