Venture Capitalists and Employee Satisfaction*

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ABSTRACT

Using one million employee reviews, we show that ownership is related to employee satisfaction, with VC-backing being the most significant effect. Employee satisfaction is abnormally high in the presence of a VC and decreases when the VC exits. Textual analysis of reviews shows that VC-backed employees enjoy the supportive culture and Human Resources policies, but complain about their compensation and the challenging work environment. When the VC exits, the topics mentioned in the reviews and the satisfaction score become similar to those of similar companies, but some of the initial differences persist. VC presence therefore has some lasting impact.

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

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Disclosure statement

Marie Lambert:

I am on the investment committee of the University of Liège. I do not expect this role to be affected by the results in this paper. I have no other potential conflicts to disclose.

Ludovic Phalippou:

The list of my external engagements is given on my website (https://pelaidbare.com/comps/). I do not expect any of the organizations for which I worked to be affected by the results in this paper. I have no other potential conflicts to disclose.

Alexandre Scivoletto:

I have nothing to disclose.

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Using one million employee reviews, we show that ownership is related to employee satisfaction, with VC-backing being the most significant effect. Employee satisfaction is abnormally high in the presence of a VC and decreases when the VC exits. Textual analysis of reviews shows that VC-backed employees enjoy the supportive culture and Human Resources policies, but complain about their compensation and the challenging work environment. When the VC exits, the topics mentioned in the reviews and the satisfaction score become similar to those of similar companies, but some of the initial differences persist. VC presence therefore has some lasting impact.

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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.*

Studies on venture capitalists (VCs) have focused mainly on their role as financial intermediaries and on their impact on the economy at large (e.g., Gompers (1995), Lerner (1995), Lerner and Nanda (2020), Gornall and Strabulaev (2020).[1] Yet, several studies highlight that VCs also influence company operations. Hellmann and Puri (2002) argue that VCs play a role at the top of the organization by replacing founders with outside CEOs, and influence the development further down the organization by (i) introducing stock option plans, (ii) hiring sales and marketing executives, and (iii) formulating human resource policies. More recently, Chemmanur, Gupta, Simonyan, and Tehranian (2021) show that VC backing is associated with a higher quality senior management team. What is yet to be known is the impact of VC presence on company employees and whether their impact is long lasting.

In this paper, we collect a large data set that contains the views of employees about their employers. Our data set includes about one million employee scores from 7,500 unique US-based companies between 2012 and 2022 in conjunction with the accompanying written reviews. 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]

We find that more satisfied employees are higher up in the hierarchy (white collars), and are those earning higher salaries. Most recently hired employees are more satisfied, as those working in the Tech industry and for smaller firms. In addition, corporate ownership is related to employee

[1] Gornall and Strabulaev (2020): "Venture capital-backed companies account for 41% of the 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 92% of R&D spending."
[2] In this paper, we use the labels PE and LBO interchangeably.

satisfaction. Employees are more satisfied in privately held companies than in public companies. Consistent with the results of Gornall, Gredil, Howell, Liu, and Sockin (2024), employee satisfaction plummets after a Primary Buy-Out (PBO).[3] We also find that employee satisfaction decreases after any M&A but the effect is not significant after controlling for employee and firm characteristics; and Secondary Buy-Outs do not lead to any significant changes in satisfaction.

Interestingly, however, the strongest effect of corporate ownership is for VC-backed companies. Employee satisfaction is significantly higher for VC-backed companies, and after a VC exits, satisfaction drops and becomes closer to that of non-VC-backed employees with similar characteristics. After a VC-backed IPO, we observe a slow and persistent decrease in score. In contrast, in non VC-backed IPOs there are no changes in scores pre and post IPO.

Obviously, employees are not randomly assigned to VC-backed companies and can leave or join any type of company anytime, making it impossible to prove any causality. Yet, we find that the results hold after controlling for a large set of employee and firm characteristics in a regression setting. In addition, we do not find any pre-trend and employee satisfaction does not increase as the company approaches the exit, which presumably means that satisfaction does not increase as a company becomes more successful. In addition, the decline in the score after exit is stronger when the VC fully exits and when there is a change in CEO at the time of exit.[4] For partial exits (VC-backed IPOs), the decline is gradual. Hence, changes in scores seem closely related to the presence of a VC (and a VC-backed CEO).[5] Taken together, these results are not consistent with hypotheses based on endogeneity.

However, our main contribution is to complement this traditional empirical analysis with a study on what employees write about their work. From their reviews, we can infer whether the source of abnormal satisfaction is growth in business, culture, or something else. This is the most direct source for an explanation because the employees provide a reason for the scores we analyze. Moreover, and quite generally, written explanations are derived from the sophisticated process of human understanding of complex contexts (Bybee, Kelly, and Su (2023)). We expect employees to articulate their views using a narrative that is more precise than any numerical indicators.

[3]The term PBO is not often used but it is important in our context to distinguish between the first time a company is subject to a leveraged buy-out, versus when the company is already under PE control and simply changing sponsors.
[4]We also find it is stronger for low-ranked staff and weaker in the Tech sector.
[5]When the exit is an IPO, VCs remain present for several quarters after the IPO date.

The potential benefits of using written reviews are accompanied by empirical challenges. The complexities inherent in natural language make it difficult to extract and quantify the information embedded within a text. However, recent advances in natural language processing techniques facilitate the extraction of a parsimonious set of topics from large and unstructured textual data (e.g. Bybee et al. (2023)). In this study, we employ a textual dimension reduction technique introduced by Roberts, Stewart, and Airoldi (2016), termed Structural Topic Modeling (STM). STM organizes terms into interpretable narrative themes based on their co-occurrences within the corpus of reviews. It is a more general and advanced technique than the commonly used Latent Dirichlet Allocation (LDA).

Our sample contains half a million reviews, equally split between those in the field "Cons of working for this company" and those in the field "Pros of working for this company." We extract common topics separately for the two fields. The STM estimates the set of words that makes up each topic, from which we assign a label. The extracted topics correspond to standard employee issues. Pro topics include salary, benefits, career opportunities, and positive work culture. Con topics include several topics directly related to senior management (training, promotions, hiring process, and politics), and topics related to work-life balance and salaries.

In a multiple regression setting, we observe which topics are significantly associated with VC-backed companies while controlling for a rich set of employee and company characteristics as well as business cycles. First, we consider two categories: Pros that are mentioned more often and Cons that are mentioned less often. Then, we focus on the two opposite categories: Pros that are mentioned less often and Cons that are mentioned more often.

Three topics stand out as advantages of working for a VC-backed company: "supportive culture," "growth environment," and "hiring process." Even though the topics for the Cons are determined independently, the three Cons that are least mentioned under VC-backing are similar to the three most mentioned Pros: "promotion policies," "training," and "hiring process." These results align well with those of Hellmann and Puri (2002). They show that one of the unique and key changes brought about by VCs is new human resources (HR) processes. Strikingly, four of the six most significantly different Pros mentioned by VC-backed employees are about HR processes.

When the VC exits, all six coefficients reverse toward zero but only partially. The greatest decline is observed for "growth environment." Growth as a positive feature is less prominent once the VC has exited (the coefficient is halved). However, the coefficients of supportive culture and hiring processes decrease only slightly after exit. Similar results are observed for the Cons. The coefficient on promotion policy is mostly reversed, but the other two coefficients (training, and hiring process) remain abnormally less mentioned as Cons. These findings indicate that satisfaction with the growth environment coincides with the presence of VCs. However, the benefits that VCs bring with respect to work culture and HR processes are long-lasting.

That said, we observe a large difference between white collars and others. White collars also mention as positive the supportive culture and hiring processes. For other employees, the coefficient is halved post VC exit.

In terms of complaints, we find that employees in VC-backed companies complain about work challenges stemming from a fast-growing and changing environment (ambitious sales goals, issues related to technology, and production growth). Similarly, in terms of Pros, they mention pay and benefits (including health benefits), and work-life balance less often.

An analogous analysis for Primary Buy-Outs (PBOs) reveals that remuneration and work schedules are frequently cited as advantages of private equity backing. Notably, in terms of disadvantages, topics associated with management such as promotions, employee care, hiring processes, and training prominently surface. These observations stand in stark contrast to those pertaining to VC-backed enterprises. In examining the effect of financial sponsors on companies and their stakeholders, it is crucial to differentiate between Venture Capital, Primary Buy-Out, and Secondary Buy-Outs, as each type of private equity transaction yields distinct outcomes. Our findings align with the notion that VCs predominantly professionalize human resource processes (Hellmann and Puri (2002)), PBOs primarily alter the financial incentives for senior management - which provoke discontent among employees — and Secondary Buy-Outs tend to change sponsors while maintaining the incentive structure for senior management, thus preserving existing levels of employee satisfaction.

This article contributes to the literature that highlights the importance of company culture (e.g. Edmans (2011), Guiso, Sapienza, and Zingales (2015); Gorton and Zentefis (2023), Lins, Servaes, and Tamayo (2017)), and senior management 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 of their views.

There is an existing literature on how Leveraged Buy-Outs affect employees, with a general focus on layoffs (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 study showing how M&A transactions affect employee health (Bach, Baghai, Bos, and Silva (2021)).

There is recent but already extensive literature on how companies change when they go public (e.g., Babina, Ouimet, and Zarutskie (2020)).[6] Our results suggest that it may be pertinent to distinguish between VC-backed IPOs and non-VC-backed IPOs. This distinction has been made in the literature, but only with respect to governance issues (Hochberg (2012) and Baker and Gompers (2003)), and the quality of the management team (Chemmanur et al., 2021). There is also a larger and extensive literature on VC exit routes. For example, Bayar and Chemmanur (2011) argue that an IPO is the exit that delivers 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 an independent contemporaneous article, Gornall et al. (2024) also uses Glassdoor data and reports that employee satisfaction decreases after a leveraged purchase (LBO). They posit that the decline in satisfaction is due to the higher risks faced by employees post-LBO (through several channels, ranging from more high-powered management incentives to higher firm leverage). They also have unique data on the returns realized by some of the LBO funds. They find that these returns are positively correlated with changes in employee satisfaction. However, they do not study VC-backed companies.

[6]Summarizing existing evidence, Bernstein (2022) writes that 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.

I. Data and Descriptive Statistics

A. Glassdoor Website

Glassdoor is an employer review website launched in June 2008 and effectively started to receive reviews from 2012 onwards. The reviews in our sample are from 2012 to 2022. Company ratings, reviews, and salary information are entered by employees and 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 E and Green, Huang, Wen, and Zhou (2019) for more details).

The website verifies that each review is genuine through various fraud detection algorithms, screening by a content management team, checking e-mail addresses and social networking accounts.[7] Green et al. (2019) and Gornall et al. (2024), among others, provide a comprehensive description of the dataset, along with several external validity tests.

We expect employees to provide honest evaluations due to the benefits associated with contributing to the public good (Lerner and Tirole, 2003). Consistent with this argument, many studies use Glassdoor and find that employee ratings are related to a broad range of outcomes. Glassdoor's ratings help 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 use a different data source for employee satisfaction, Green et al. (2019) find that Glassdoor ratings predict subsequent stock returns. In a recent study, Gadgil and Sockin (2023) find that employee ratings also decrease after corporate scandals.

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

[Insert Table I]

[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 and a set of transactions for which the target is US-based (IPOs, LBOs, and Trade sales, i.e., acquisition by a trade buyer).[8] 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 data set with Glassdoor based on the firm name[9] As in Gornall et al. (2024), 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 require at least three reviews before and after the transaction (six reviews for firms without transactions). The window around transactions is three years. Hence, for example, a review submitted four years before an IPO is filtered out (and labeled "too early"). The statistics related to this filtering process are shown in Table I.

Table II – Panel A shows statistics on changes in ownership. 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).[10] The same three exit routes are recorded for companies that have been through an LBO.[11] 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).[12] The third set of statistics is for firms that experienced an IPO with no financial sponsor, a primary LBO (i.e., no sell-side financial sponsor), or an acquisition with no financial sponsor involved. There are 96 unsponsored IPOs (10k reviews), 455 such acquisitions (39k reviews), and 333 primary LBOs (18k reviews).[13] Finally, throughout our time period, many firms have been continuously publicly listed (1,622 firms; 483k reviews) and continuously privately

[8] To find LBOs, we follow the methodology of Davis et al. (2021). We select M&A transactions with a PE firm as financial sponsor and which have one of the following characteristics: "going private," "leveraged buyout", "management buyout", or "platform." We manually check each transaction to ensure sample integrity. See Davis et al. (2021) for a detailed discussion on how to select LBOs in Capital IQ and why Capital IQ 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 the headquarters, the state of incorporation, the year of incorporation and the website address

[10] All of these firms are labeled VC-backed because they have experienced VC backing at some point.

[11] All of these firms are labeled PE-backed.

[12] For 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.

[13] All of these firms are labeled "No PEVC backed."

held (4,405 firms; 345k reviews). In total, we have 7,552 firms and about one million reviews.

C. *Reviewer and Firm Characteristics*

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

Scores are high on average, but with a clear cross-sectional dispersion.[14] Ratings are particularly high for VC-backed firms. The score is around 4 regardless of the exit route. After exit of VC, there is a decrease in ratings, but they remain above the overall average of 3.6. The decrease is similar when there is an IPO or a trade sale, but it is twice as large when the exit is through an LBO.

As independently documented by Gornall et al. (2024), post-LBO scores are low. However, we note that this result is strong for primary LBOs, but for secondary Buy-Outs (PE to PE) the score is the same as in the overall sample at 3.6. In addition, we observe that scores increase after a PE firm exits their investments, which is 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.[15] In the sub-sample of firms that have been VC-backed there are twice as many small firms as large firms.

Glassdoor assigns each company, including private firms, to one of 121 industries. We pool these industries into seven categories and then further down into two main categories: Tech (IT Services, and Software) and Non-Tech (consumer, corporate and public services, industrial, retail). For the VC-backed sample, there are more Tech firms than Non-Tech firms (185 vs 124), and more than twice as many reviews for Tech firms. In terms of average scores, we observe 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 report

[14] 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.

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

when they started working 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.

Glassdoor provides the company foundation year, from which we compute the firm's age at the time the review is written. The median firm age in the VC-backed sample is ten years and we use that threshold to split between young and old firms. Thus, most firms in the full sample are old.

We use textual analysis tools and the guidebook "Work in America" (page 597; see Appendix D) to assign each job title to one of the following job categories: (i) Management, (ii) Mid-Management, (iii) Other White Collar (consultants, researchers), (iv) Purple Collars (technical service providers), (v) Pink Collars (support staff), and (vi) Blue Collars (manual labor). As with the industry categories, we also aggregate further into two main categories: white collar and low-ranked staff. Reviews by white-collar employees represent half of the overall sample, and 44% of the VC-backed sample. The average rating is higher for white-collar employees than for low-ranked 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 aggregates the salary information, and reports the average salary for a given job title. We assign the average salary to all the people in the firm with that job title. We note that job titles are so granular that we expect information loss to be minimal. For example, the average salary of truck drivers at Kraft Heinz is \$41k; and we simply assign this average salary to all truck 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 salary.

We classify a salary as high if it is higher than the median salary in the same industry. Ratings are higher for higher salaries, especially in the VC-backed sample (\$102k for white-collar employees, \$61k for low-ranked employees).[16]

[Insert Table II]

[16] In non tabulated results, we find that the average salary across white-collar employees is \$85k versus \$50k for low-ranked staff (and \$70k for not classified ones).

D. Regression analysis – Dependent variable: Employee ratings

Our econometric approach follows the recommendations of Petersen (2009): our panel is estimated by pooled OLS with fixed effects and statistical inference based on standard errors clustered by quarter and company. Formally, a typical specification reads as follows

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

The dependent variable is the score $S_{r,c,d}$ given by a reviewer r to their company c on a day d.[17] 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 a dummy variable that is 1 if the company c is in the Tech industry, and zero otherwise.

The variable "Post X to Y" takes a value of 1 if the review r posted on day d is after 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 as "IPO", (ii) being absorbed by a company which is either public or private, we simply denote state Y as "Trade." Other states are VC-backed ("VC"), PE-backed ("PE"), and no sell-side financial sponsor ("No PEVC").

Whenever a specification contains variable "Post X to Y", it also contains a variable denoted "X to Y" which takes a value of 1 if company c has experienced transaction "X to Y." Hence, the "Post" variables capture the incremental effect on an employee's 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 fixed effects is important because employee ratings are expected to vary over business cycles, and different industries may have different cycles.

[17] 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.

[Insert Table III]

Table III – Panel A shows a first set of results. We observe a significant decline in scores after each type of VC exit. The decrease is similar for IPO and trade sales at about -0.25 and 50% larger for LBO exits. In addition, as independently documented by Gornall et al. (2024), following Primary Leveraged Buy-Outs ("NOPEVC to 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 simply due to change in ownership. There is something distinctive about entering a primary LBO and a VC exit.[18]

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. Before a primary LBO the scores are only slightly (abnormally) negative. Scores preceding all the other transactions are abnormally negative, but economically small.

Newly hired employees give much higher scores and controlling for 'New Hires' affects the magnitude of the coefficient of interest.[19] The reason is that employees hired right before the VC exit are satisfied after the VC exits. In addition, employees in publicly traded companies are less satisfied (versus employees in privately held companies). Employees working in the tech industry, in small companies, and in white collar jobs as well as those earning higher salaries are more satisfied.[20] Note that all these characteristics which are expected to be strongly related to job satisfaction have a much lower coefficients that the post VC exit variable. These results show the impact of ownership changes on employee satisfaction.

The results in Panel C show that the effect is stronger (more negative post VC exit) if the VC exit also coincides with a change in CEO, as well as for low-ranked employees. The effect is weaker

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

[19] 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).

[20] Those without wage information (omitted) have a similar coefficient as those with high wages.

(decrease by about half) if the firm is in the tech industry. Other cross effects are not significant.

In addition, we estimate a model that is similar to the one above but we replace Post VC-backed and VC-backed dummy variables with a series of dummy variables that record the quarter when the scoring was submitted with respect to the transaction date. The specification is as follow

$$S_{r,c,q} = \alpha_{qi} + \Sigma(\beta_s * Post - VCBacked\_Quarter_{c,s}) + \gamma * Z_r + \epsilon_{r,c,q}; s = [-12, -11, .., 11, 12] \quad (2)$$

The results are shown in Figure 1. The top panel shows the results for all VC exits. We do not observe any pre-trend, and we note a decrease in satisfaction that coincides with the exit. After the exit, the score continues to decline but very slowly. An important takeaway from this figure is that the abnormal satisfaction observed during VC-backing is closely related to VC presence. If the abnormal satisfaction was due to employee matching, results would be different. Employees who like the growth or young-firm environment would be as satisfied right after the VC exits as they were right before. In addition, employees in non-VC companies would also be satisfied with their match; thus an additional assumption would be required. People who like the growth or young firm environment need to be happier people than those who do not.

In addition, the lack of a pre-trend indicates that high satisfaction is not the result of company's success. VC-backed companies experiencing an exit are doing well and employees are likely to be more satisfied if their company does well. However, if this was the main driver of satisfaction, we would expect scores to increase as we approach the exit date, as this is the most significant success milestone. Moreover, right after the VC exits, the company is equally successful, yet the score decreases.

Interestingly, results differ depending on whether the VC fully or only partially exits. The next two panels in Figure 1 show the results. In the case of a partial exit (IPO), the difference in satisfaction before and after the exit is small. There is a slight (not statistically significant) positive pre-trend but a clear monotone decrease in satisfaction over the three years post-exit. Because the VC stake and influence decrease slowly over the few years following the IPO, these results are consistent with the view that VC presence is a key driver of employee satisfaction. Consistent with this assertion, the score plummets at the time of a full exit (with slight anticipation in the prior quarter) and satisfaction remains the same thereafter.

[Insert Figure 1]

II. Textual Analysis

A. Structural Topic Modeling

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).[21] 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 1 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 and hence have [0,1] support.[22]

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 loan classification (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 three assumptions are relaxed: (i) Topics within a document can be dependent on one another (review 1 containing topic 1 may be correlated with

[21] 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.

[22] 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.

review 1 containing topic 2); (ii) the 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 the score given.

B. *Methodology*

We employ the 'tm' (text mining) and 'stm' (structural topic models) packages available in R for our analysis. Utilizing the 'textProcessor' function, we tokenize each review into a collection of single words (unigrams). Stop words (as delineated by the word list from the 'tm' package), words comprising fewer than three letters, numerical values, and punctuation marks are systematically eliminated. All words are stemmed, and all characters are converted to lowercase. Consistent with the existing literature, we focus on unigrams rather than bigrams or trigrams, as the topic modeling algorithm is inherently designed to cluster the individual elements of composite words (e.g., New York City) within the same topic. Furthermore, we retain only the 1,000 most frequently occurring unigrams for each topic as a form of "pruning." Finally, it is requisite for reviews to contain a minimum of five unigrams and to be composed in English.

The main filter is the number of words combined with the removal of stop words. The average review contains 20 words, but half of these are stop words. In the final sample, the average Pros review contains 11 words (Table IV – Panel A). The average Cons review has 15 words (Table IV – Panel B). There are as many Pros reviews as Cons reviews: about 250,000 of each type. In total, we model a corpus of 6.5 million words.

In contrast to conventional qualitative methodologies such as surveys and questionnaires, Structural Topic Modeling (STM) does not depend on pre-established and fixed sets of dimensions to measure employee satisfaction. However, an inherent limitation of any clustering method is the need to predetermine the number of clusters, a decision that requires judgment assisted by quantitative metrics. We apply k-means clustering to the input data, experimenting with values of k ranging from 10 to 30, and calculate the sum of squared errors (SSE) within the cluster for each value of k, as illustrated in Figure 2. As the number of topics increases, the SSE diminishes given that the distance between any data point and its corresponding cluster center reduces with an increased number of clusters. However, this reduction in SSE is not the same in all steps. The prevalent strategy is to select the value of k where the decrease in SSE within clusters is most pronounced[23] In our sample, the optimal number of clusters appears to be 15 for the reviews of Pros and Cons.[24]

[23] This approach is often referred to as the "elbow method"; see Sainju, Hartwell, and Edwards (2021).

[24] Other metrics used in the literature are "Held-out likelihood" and "Lower bound." We show the plots with these two alternative measures in Panels B and C. These metrics also indicate that the goodness-of-fit improves significantly once we reach 15 topics.

[Insert Table IV and Figure 2]

C. The Topics

A measure of the contribution of a word to a topic is given by a FREX score (Bischof and Airoldi, 2012). FREX is the harmonic mean of the word's rank in terms of exclusivity and frequency. Thus words with a high FREX score must be both frequently mentioned in the topic but not frequently mentioned across the other topics.[25] Table V provides the list of the 15 topics. Panel A shows the topics from the Pros reviews, and Panel B shows the topics from the Cons reviews. For each topic, the top ten words in terms of FREX are displayed. Topics are ranked by the average FREX score of their top three words, and we label the topics using those top three words.

The extracted topics make intuitive sense. The top two pro topics are nice people (culture, amazing, care), and flexible (working) environment. The third highest topic is rewards (bonuses, promotions, performance). Management is often mentioned in this topic because it is about the rewards offered by management. The fourth topic is "benefits," which includes words such as health plan and insurance, but also paid vacation and bonus. The next topic is work-life balance.

Among the con topics, it is notable that about one-third mention the word "management." Three topics have management as their top word. The first is a topic about the hiring process, which includes words such as departure, lack of process, and stress. The next two management topics are promotions and training, respectively. The topic on politics also contains management as one of the key words.

The best identified con topics describe work challenges. Work busyness is the top topic and includes words such as time, busy environment, require, extreme, short, and response. Similarly, there are topics about how difficult the job is (hard, hour, balance, challenging), daily issues, and expectations at work. Overall, the clustering of words appears logical and the topics seem well-identifiable and reasonable.

[Insert Table V]

[25] Specifically, exclusivity is the conditional probability of seeing the topic given the word. Thus words with high exclusivity value are those where most of the mass for that word is assigned to the given topic. The frequency score is given by the empirical Cumulative Density Function of the word in its topic.

D. Regression Analysis – Dependent variable: Topic prevalence

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: Employee satisfaction is abnormally high under VC-backing and decreases after a VC exits (gradually in the case of a partial exit and abruptly in the case of a full exit). We also observe a decrease in satisfaction when a PE firm enters (Primary Buy-Out).

To identify the mechanism behind these results, we analyze how the likelihood of a topic being mentioned in an employee review changes with corporate ownership. This approach can be seen as the most direct route since the very people who give a score explain their reasoning in their review.

We use the same panel regression setting as above (panel regression with fixed effects, double clustering). The explanatory variables are the same as those used in specification (3) of Table III - Panel B. We estimate each equation separately for each of the thirty topics (two sets of fifteen). The dependent variable is the topic weight in a given review (topic k in review r for company c written on day d).[26] The results are displayed in Table VI.

To preserve space and facilitate readability, we do not show the coefficients of all the control variables. Each line is the outcome of one panel regression estimation. The two coefficients displayed on each line are those of the dummy variables "VC-backed" and "Post VC-backed." Finally, we sort the topics as a function of their coefficients of "VC-backed" so one can quickly see the most often mentioned topic by employees working in a VC-backed companies.

Panel A shows the results for the fifteen pro topics starting with the one most abnormally mentioned in VC-backed companies; given all the characteristics we control for (time, industry, firm and employee characteristics.) At the bottom are the Pros least mentioned in VC-backed companies. The most abnormally mentioned advantage to work in a VC environment is the supportive culture. The coefficient is highly significant and three times as large as the second most important Pro topic.

The next two topics have similar coefficients: growth environment, and hiring processes. The next topics have a much smaller coefficient, but are still statistically significant (Product, Fellow

[26] Although our dependent variable is a proportion, we use OLS estimations for simplicity. We observe that the distribution of weights is close to Normal. We nonetheless tried alternative methods and found similar results.

employees, Team). The topics listed at the bottom of the pros list are all related to compensation: pay and hours, benefits, flexible (working environment), work-life balance, rewards. Hence, people working in a VC environment are not satisfied with their compensation and working hours but enjoy the culture.

These results are probably not very surprising as they coincide with casual evidence. This may be what is remarkable, though. Reading these employee reviews provide the most comprehensive record to date about the unique advantages and disadvantages of working under VC-backing. We do not have a natural experiment to test causality. Having a setup where employees would be randomly assigned to companies is quite unrealistic. Having a non selected sample is equally unrealistic. Our sample is the largest ever studied and the patterns that come out are consistent with general belief. Employees working under a VC enjoy the supportive culture, being with smart people, experiencing high growth, and having superior HR processes. The drawback of this working environment is low pay and difficult working conditions.

Combining these results with those from the previous section, we can argue that to be an employee under VC-backing has both pros and cons, but the benefits outweigh the costs. Other employees may have chosen not to work for VC-backed companies, and therefore also matched with their preferred company type, but they are not as satisfied.

Another unique aspect that our setup delivers is post-exit analysis. There is relatively little literature on what happens to companies post-VC exit, and certainly little about how employees fare once the VC is gone. The coefficients in the column "post VC-backed" show a clear reversal. What was abnormally positive when the VC is around is still abnormally positive, but less so post-exit; and vice versa for what was least abnormally positive. This does not show causality, but it does indicate that something unique is happening when the VC is present. Furthermore, and most interestingly, this analysis enables us to observe which of the changes brought in by VCs have long-lasting effects.

When the VC exits, all of the six significantly most mentioned Pro topics become less mentioned. The largest decline is observed for the growth environment. The coefficient on the VC-backed dummy is 0.74, and the one for post VC-backed is -0.32. Hence, after the exit, the coefficient is 0.74-0.32= 0.42. Recall that the 0.32 measures how much the coefficient post-exit is, compared to pre-exit. Growth as a positive feature has a coefficient that is halved after the VC has exited.

In contrast, coefficients on supportive culture and hiring processes decrease only slightly upon exit. These two features are therefore the largest VC legacies. Post exit, supportive culture has a coefficient of 2.36-0.71= 1.65. The decrease compared to pre-exit (0.71) is statistically significant but only at a 5% level test. Moreover the post exit coefficient at 1.65 is still economically large compared to all the other coefficients. For example, it is twice the size of what the growth environment was under VC-backing. Similarly, the benefits of the hiring process decrease but the decrease is only statistically significant at a 10% level test.

Similar results are observed for the Cons. The coefficient on promotion policy is mostly reversed, but the HR-related topics (training, and hiring process) remain abnormally less mentioned as Cons once the VC exits. Again, these findings indicate that the satisfaction with the growth environment coincides with the VC presence. However, the benefits brought in by VCs regarding the working culture and the HR processes are long lasting.

We also note that the pros that were less mentioned under VC-backing have their coefficients reversed. For example, the topic "Pay and Hours" which is the least likely to be mentioned as a pro under VC-backing has a coefficient that is halved post exit. Under VC-backing the coefficient is -1.33, which is economically large and statistically significant. Post exit the coefficient is -1.33+0.63= -0.70. This is still economically large in comparison to other coefficients but shows a clear improvement. That said, the other topics related to compensation (Benefits, Rewards, Flexible environment, work-life balance) improve only marginally post exit. Hence, the legacy of low pay and benefits also persist after VCs exit.[27]

[Insert Table VI]

We carry the same analysis for PBOs both as a placebo test and to know why employees who experienced a PBO are less happy. The results are shown in Table A2. We find that issues related to pay and working hours are more often mentioned as a benefit of being PE-backed. However, this is the only significant pro topic for PBOs. There are several significant topics among the cons, mostly about senior management issues. The four con topics that mention management are

[27] Note that these results are obtained after controlling for many firm characteristics such as firm size, age,and sector of activity.

the four topics with the highest coefficient (promotions, employee care, hiring process, training). Similarly, after a PBO, employees complain less about growth issues and how busy and challenging the working environment is. These findings are somewhat the opposite of what they are for VC-backed companies. Thus, when studying the impact of financial sponsors on companies and their stakeholders, it seems important to distinguish between Venture Capital, Primary Buy-Out and Secondary Buy-Outs. The changes these three types of private equity transactions generate are distinct. A VC mostly professionalizes HR processes. PBOs mostly change the financial incentives of senior management. Secondary (and tertiary,...) buy-out are changes in financial sponsors but the incentive structure of senior management is unchanged.

E. Long-lasting effects

The previous regression analysis shows that the prevalence of the three pros topics related to culture, hiring process, and growth environment significantly decreases post VC exit, while not reverting to zero. Table III - Panel C on scores shows that VC exit has a different impact on employees according to their positions (management vs non-management) or on firms according to their industry.

We therefore investigate whether the pros effects brought by the VC are long-lasting and whether they are different for managers vs. non managers and for tech firms.

To test for the long-lasting nature of the VC effect, we investigate, as in Figure 1, the yearly change in the coefficient pre- and post- VC exit. Table VII reproduces the coefficients of this regression, which represent the relative effects pre- and post-VC exit with regard to the sample of private firms.

[Insert Table VII]

Non-managers are less likely to report the three most mentioned Pro topics described in the previous section but the topic prevalence stays higher than for employees working in a private firm, suggesting a long-lasting effects of these pros. However, these pros tend to be even more mentioned by managers post VC exit. Our results are consistent with the Rajan (2012) theory of Venture Capital as a company standardization device. Rajan (2012) 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. Our results suggest that this standardization process benefits more to managers.

Panel B reproduces the same results for tech. versus non-tech firms.

Although not significant, most Post VC coefficients for non-tech companies are economically large, indicating a persistence in the effect. Furthermore, we observe that pros barely drop for tech firms, maintaining the pros on the long run.

F. Robustness: Using ChatGPT to Summarize Employee Views

ChatGPT can generate summaries by identifying relationships between words, sentences, and paragraphs. Several studies document that ChatGPT is the most accurate tool for automatized summaries (Bhaskar, Fabbri, and Durrett, 2023; Goyal, Li, and Durrett, 2023), and some recent studies have used ChatGPT to analyze online reviews; e.g., McCloskey, LaCasse, and Cox (2024) use it to study reviews of small businesses.

We submit a file containing the 20 VC-backed reviews with the highest prevalence score on each of the topics to ChatGPT.[28] On average, the 20 reviews represent a corpus of about 500 words. Yang, Yan, Zhang, Chen, and Cheng (2023) highlight the need for an accurate prompt to generate fluent and consistent summaries. We use the following prompt for the pros: "Please find attached a CSV file. Open the file and read the 20 reviews. After reading the 20 reviews, summarize the advantages in one sentence." For the cons, we use: "Please find attached a CSV file. Open the file and read the 20 reviews. After reading the 20 reviews, summarize the problems in one sentence."

[Insert Table IX]

Table VI shows the summaries for the five pros and five Cons that are significantly more often mentioned in VC-backed companies. The summaries of the five top pros are similar to our above results even though they are generated independently from one another and with a distinct set of reviews. The reviews emphasize a culture of continuous innovation and growth,

[28] We submit only 20 because we notice that ChatGPT does not read beyond that number. That is, if we submit 50 reviews, it provides the same answer as when we provide 20 reviews. We can also observe ChatGPT code and see it stops at 20. We also asked ChatGPT who replied that he reads only the first 20 reviews.

collaboration, support, and significant employee trust. There are also elements about the supportive environment that values employee input and fosters professional development, opportunities for significant impact within the company, and focus on personal and professional growth. Finally, some elements pertain to the company's strong leadership, strategic focus, and innovative product development. Overall, the summaries of ChatGPT line up well with the results obtained with STM, despite the two approaches being very different.

The summaries of the five main cons are also similar to one another and consistent with the previous results. Employees mention the company experiencing growing pains as it expands rapidly, frequent changes, challenging work, high demands, significant pressure, need for agility and adaptation to new opportunities, long hours.

III. Conclusion

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. Using quantitative proxy variables also presents significant challenges and room for judgment. With the recent availability of large textual datasets, like that of Glassdoor, and increased computational power, text mining has become an attractive method. In this paper, we use topic modeling as a new and complementary strategy of inquiry to study an important organizational phenomena: employee satisfactory under different forms of corporate ownership.

We find that the type of corporate ownership is strongly related to employee satisfaction, with VC-backing being the most significant effect. Employee satisfaction is abnormally high in the presence of a VC and decreases when the VC exits. VC-backed employees enjoy the supportive culture, and the human resource policies, but they complain more about their compensation and the challenging work environment. When the VC exits, the topics mentioned in the reviews, as well as the satisfaction scores, become closer to those of similar companies, but most of the initial differences persist, indicating that the positive influence of the VC on the company is long-lasting.

Figures

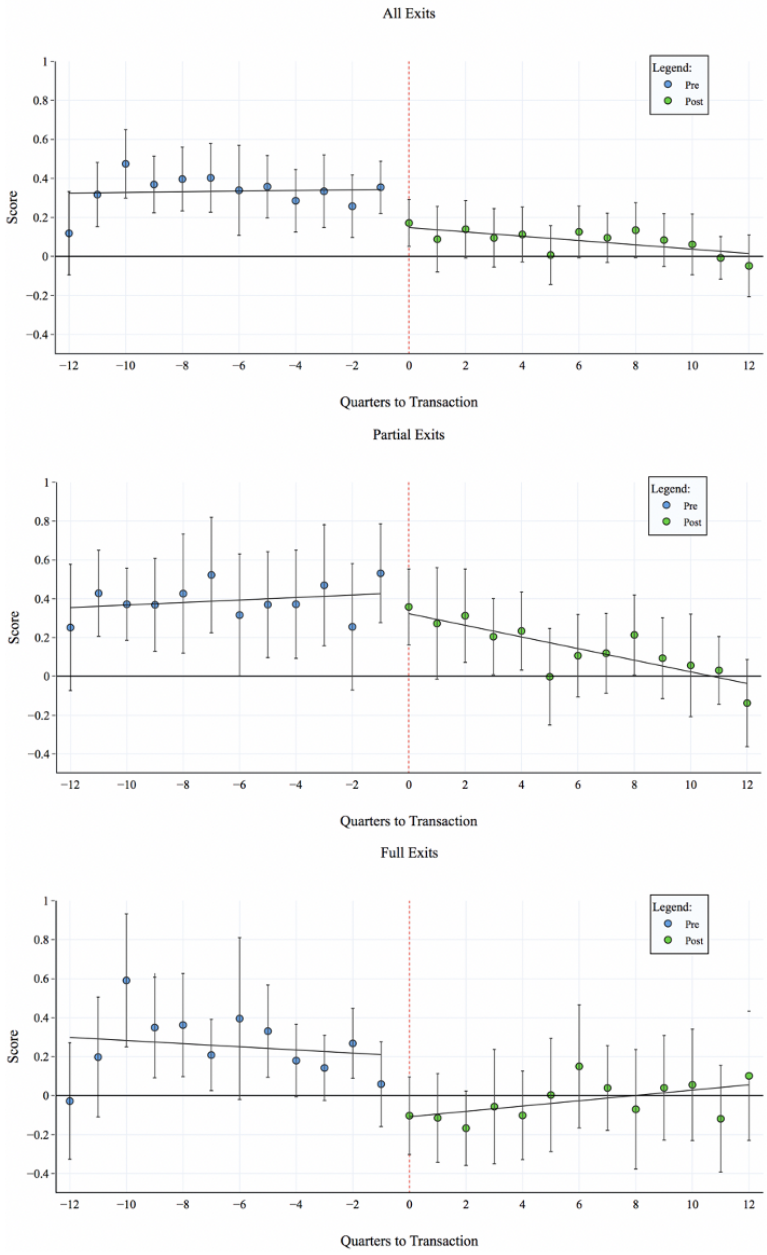

Figure 1. Score given by VC-backed employees around quarter of VC exit
Alt text: Figure 1 shows score evolution over quarters relative to VC exits. The top panel displays score for all VC exits. The middle panel shows partial exits. The bottom panel shows full exits.

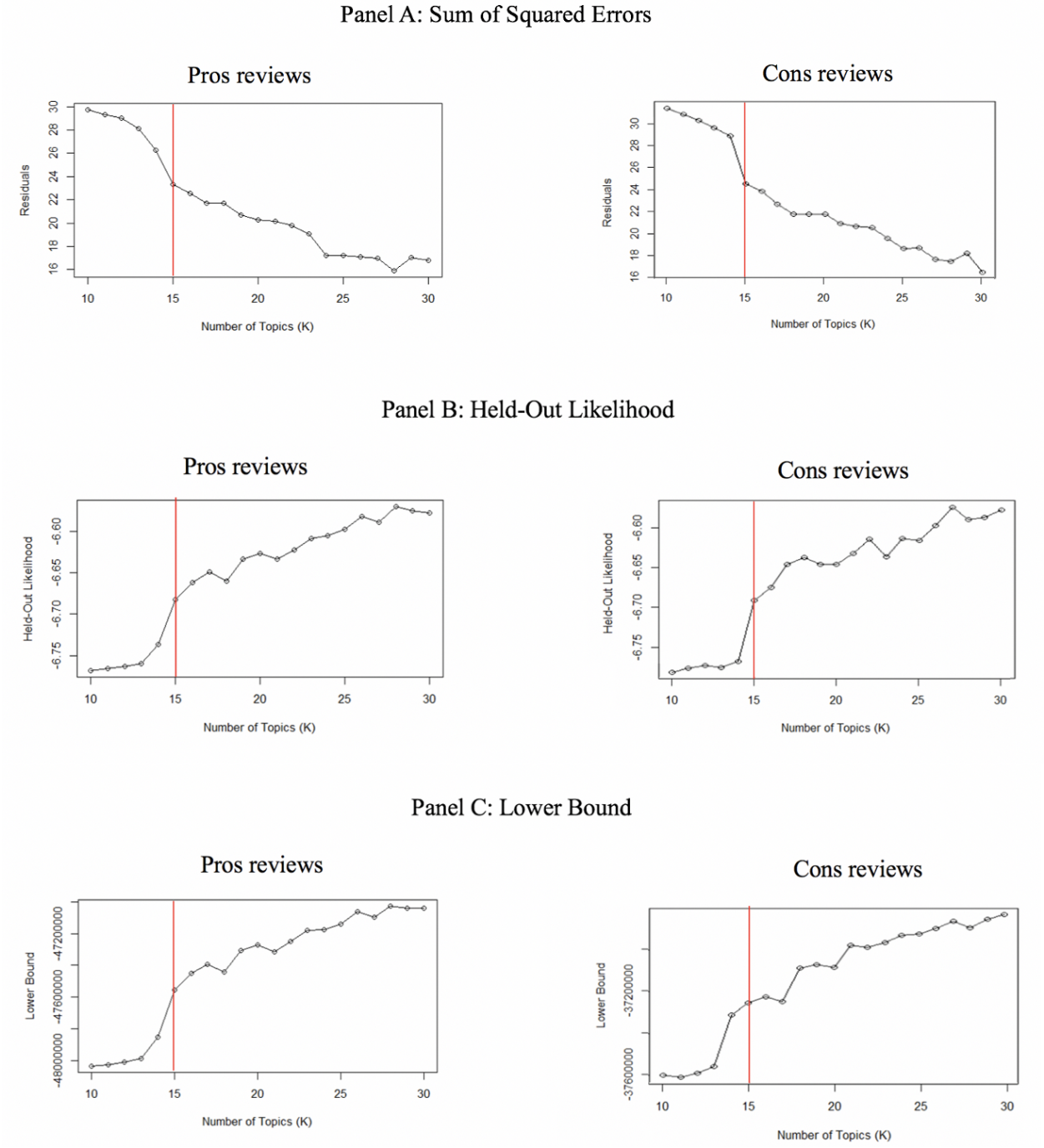

Figure 2. Optimal number of topics. The figures display the Sum of Squared Errors (panel A), the held-out likelihood (panel B) and the lower bound (panel C) for different numbers of topics (K) in the Structural Topic Model (STM) for Pros Reviews and Cons Reviews.
Alt text: Figure 2 shows that the optimal number of topics (K) is 15 for the Pros and Cons Reviews.

Table I – Sample Construction – Employee Scores

This table describes the different filters applied to the initial sample of employee scores 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, and for those that underwent a change of ownership over this period. The last line corresponds to the final (working) sample.

Panel A: Number of Firms

	Stayed Public	Stayed Private	Change Ownership	Total
Initial sample	2,174	8,997	5,831	17,002
Sample after removing				
Former employees	2,148	8,239	5,315	15,702
Interns	2,096	8,228	5,357	15,681
Missing length of employment	2,025	7,673	4,974	14,672
Those who joined post transaction	2,025	7,673	4,583	14,281
Ratings submitted too early/late	2,025	7,673	4,334	14,032
Minimum number of ratings required	1,622	4,405	1,525	7,552

Panel B: Number of Scores

	Stayed Public	Stayed Private	Change Ownership	Total
Initial sample	1,397,125	1,083,593	812,426	3,293,144
Sample after removing				
Former employees	784,558	575,238	461,529	1,821,325
Interns	769,368	565,351	456,321	1,791,040
Missing length of employment	484,081	352,632	296,193	1,132,906
Those who joined post transaction	484,081	352,632	164,401	1,001,114
Ratings submitted too early/late	484,081	352,632	118,207	954,920
Minimum number of ratings required	483,041	344,772	102,411	930,224

Table II – Descriptive statistics

This table provides the number of firms, number of scores and average scores. Panel A shows the results for groups of firms according to their ownership status and shows the average score pre- and post-transactions. Panel B displays descriptive statistics by firm characteristics (size, age, CEO change, industry classification). Small (large) firms correspond to firms with 1,000 employees or less (more than 1,000 employees). 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 S&P Capital IQ. The 134 Glassdoor industries are reclassified into seven categories (see appendix C). Panel C shows descriptive statics by employee status (tenure, job position and salary). New hire corresponds to employees who were hired maximum 3 years prior to writing the review, otherwise the reviewer is qualified of old hire. Young firms are less than 10 years-old at the time the review was submitted. Job titles are classified into 6 categories: Management, Mid Management, White Collar, Purple Collar, Pink Collar, Blue Collar (see appendix D). Job positions were matched with the Glassdoor salary databases to attribute a salary to each reviewer.

Panel A: Ownership Changes

	Number of Firms	Number of Reviews	Average Score Overall	Pre	Post
VC Backed					
VC to IPO (VC-sponsored 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 Sale	92	3,868	3.80	4.00	3.81
PE Backed					
PE to IPO (PE-sponsored IPO)	16	866	3.09	3.03	3.14
PE to PE (Secondary Buy-Out)	259	12,140	3.28	3.56	3.57
PE to Trade Sale	58	3,526	3.56	3.23	3.39
No PEVC Backed					
No PEVC to IPO (unsponsored IPO)	96	9,650	3.39	3.32	3.46
No PEVC to PE (Primary Buy-Out)	333	17,717	3.46	3.48	3.43
No PEVC to Trade Sale (unsponsored M&A)	455	39,482	3.45	3.43	3.50
No Change of Ownership					
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: Firm Characteristics

	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	4.00
Large	3,886	813,692	3.58	107	11,109	3.92
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	3.70
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: Reviewer Characteristics

	Full Sample		VC Backed	
	Number of Reviews	Average Score	Number of Reviews	Average Score
Tenure				
New Hire	432,170	3.65	10,184	4.05
Old Hire	498,054	3.55	8,846	3.83
Firm Age				
Young	44,317	3.59	8,787	4.04
Old	885,907	3.60	10,243	3.87
Job Position				
Management	46,648	3.87	975	4.37
Mid Management	136,227	3.65	2,269	4.17
Total – Management	182,875	3.71	3,244	4.23
White Collar	243,085	3.69	5,126	4.07
Purple Collar	65,457	3.56	1,283	3.72
Pink Collar	135,747	3.52	1,831	3.76
Blue Collar	69,910	3.40	984	3.30
Total – Non Management	514,199	3.59	9,224	3.88
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	4.10
No Salary Information	153,325	3.60	5,242	3.98

Table III – Score and Corporate Ownership

This table displays the results of pooled panel regressions. Dependent variable is employee score. In Panel A, the explanatory variables that are displayed are the 9 dummy variable (1/0) that capture the post-transaction period. In Panel B, VC-backed firms are pooled together and the coefficients on some of the control variables are displayed. In Panel C, we add three cross effects with Post VC-backed. Control for transaction type is a set of dummy variable for all the transactions listed in Table II Panel A, i.e., a dummy variable that is one if the review falls within three years of a VC-backed IPO (0 otherwise), of a VC to PE transaction, of a VC to trade sale transaction,...., if the company stayed publicly traded throughout the sample period. Control for reviewer characteristics include all the variables shown in Table 2 Panel C.

Panel A: Base specification

	1	2	3
Post VC-backed to IPO	-0.264***	-0.239***	-0.242***
	(-3.09)	(-2.92)	(-2.94)
Post VC-backed to PE	-0.410***	-0.369***	-0.358***
	(-3.69)	(-3.29)	(-3.43)
Post VC-backed to Trade Sale	-0.255**	-0.207*	-0.214*
	(-2.11)	(-1.69)	(-1.75)
Post PE-backed to IPO	-0.0695	-0.0298	-0.0324
	(-0.54)	(-0.23)	(-0.25)
Post PE-backed to PE	-0.102	-0.0592	-0.0578
	(-1.00)	(-0.57)	(-0.56)
Post PE-backed to Trade Sale	0.0340	0.0768	0.0900
	(0.61)	(1.44)	(1.66)
Post PBO (NOPEVC to PE)	0.0144	0.0426	0.0379
	(0.21)	(0.62)	(0.57)
Post unsponsored IPO (NOPEVC to IPO)	-0.205***	-0.176***	-0.176***
	(-4.11)	(-3.59)	(-3.59)
Post unsponsored M&A (NOPEVC to Trade)	-0.0888**	-0.0544	-0.0563
	(-2.29)	(-1.41)	(-1.46)
Quarter Fixed Effects	Yes	Yes	No
Industry Fixed Effects	Yes	Yes	No
Quarter x Industry Fixed Effects	No	No	Yes
Control for Firm size	No	Yes	Yes
Controls for Transaction Type	Yes	Yes	Yes
Controls for Reviewer Characteristics	No	Yes	Yes
Number of Observations	930,224	930,224	930,224
Adjusted R-squared	0.034	0.044	0.044

Panel B: Changing explanatory variables

	(1)	(2)	(3)
VC Backed	0.388***	0.328***	0.331***
	(5.07)	(4.57)	(4.70)
Post VC Backed	-0.292***	-0.250***	-0.252***
	(-4.78)	(-4.24)	(-4.25)
Primary Buy-Out (PBO)	-0.0783*	-0.0954**	-0.0919**
	(-1.69)	(-2.22)	(-2.15)
Post PBO	-0.205***	-0.176***	-0.176***
	(-4.11)	(-3.59)	(-3.60)
Other Transaction	-0.118***	-0.119***	-0.118***
	(-3.60)	(-3.84)	(-3.79)
Post Other Transaction	-0.0632*	-0.0268	-0.0279
	(-1.80)	(-0.78)	(-0.81)
Public Firm	-0.0962***	-0.0758***	-0.0743***
	(-4.38)	(-3.47)	(-3.41)
Tech Firm	0.153***	0.154***	
	(4.17)	(4.86)	
Small Firm		0.157***	0.157***
		(7.06)	(7.06)
Management		0.155***	0.154***
		(7.50)	(7.50)
New Hire		0.119***	0.119***
		(14.79)	(14.63)
Non-Management		0.0767***	0.0766***
		(6.77)	(6.77)
Low Salary		-0.179***	-0.179***
		(-11.25)	(-11.14)
High Salary		0.0102	0.0105
		(0.64)	(0.66)
Young Firm		-0.0268	-0.0256
		(-0.84)	(-0.80)
Quarter Fixed Effects	Yes	Yes	No
Quarter x Industry Fixed Effects	No	No	Yes
Number of Observations	930,224	930,224	930,224
Adjusted R-squared	0.033	0.043	0.043

Panel C: Adding some Cross Effects

	(1)	(2)	(3)
VC Backed	0.335***	0.295***	0.332***
	(4.72)	(3.59)	(4.71)
Post VC Backed	-0.235***	-0.025	-0.398***
	(-4.01)	(-0.29)	(-4.97)
Post VC Backed x CEO Change	-0.321*		
	(-1.95)		
Post VC Backed x Non-Management		-0.263***	
		(-5.78)	
Post VC Backed x Tech			0.205**
			(2.25)
Controls for Transaction Type	Yes	Yes	Yes
Controls for Firm size	Yes	Yes	Yes
Controls for Reviewer Characteristics	Yes	Yes	Yes
Control for CEO Change	Yes	No	No
Quarter x Industry Fixed Effects	Yes	Yes	Yes
Number of Observations	930,224	697,074	930,224
Adjusted R-squared	0.044	0.046	0.043

Table IV – Sample construction – Employee Reviews
This table shows our working sample of Pros reviews (Panel A) and Cons 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: Number of Pros Reviews

	Stayed Public	Stayed Private	Changed Ownership	Total	Average N Words
Initial Sample	483,041	344,772	102,411	930,224	20.36
Sample after removing					
Reviews with less than 5 words	478,669	341,809	101,654	922,132	20.51
Special characters (including numbers)	477,090	341,063	101,473	919,626	20.39
Stop words	261,477	209,821	69,887	541,185	11.97
Pruning	249,105	202,077	67,446	518,628	11.43

Panel B: Number of Cons Reviews

	Stayed Public	Stayed Private	Changed Ownership	Total	Average N Words
Initial Sample	483,041	344,772	102,411	930,224	27.43
Sample after removing					
Reviews with less than 5 words	479,611	341,953	101,704	923,268	27.60
Special characters (including numbers)	478,289	341,249	101,491	921,029	27.26
Stop words	261,924	197,777	67,436	527,137	15.44
Pruning	250,721	190,109	65,177	506,007	14.83

Table V – Key words defining each topic

This table provides the results from the Structural Topic Modeling. There are fifteen topics that are Pros (Panel A) and as many Cons (Panel B). We show the top 10 words per topic and the corresponding FREX score (measures how frequent the word is in a given topic but adjusting for how exclusive it is to that topic.

Panel A: Pros Topics

Nice People		Flexible environment		Rewards		Benefits		Work Life Balance	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
peopl	0.50	environ	0.32	manag	0.39	benefit	0.51	balanc	0.27
nice	0.18	flexibl	0.29	time	0.27	advanc	0.10	train	0.20
cultur	0.12	friend	0.20	hard	0.11	health	0.10	life	0.19
amaz	0.11	cowork	0.16	promot	0.06	paid	0.09	posit	0.15
care	0.07	schedul	0.16	reward	0.06	insur	0.07	worklif	0.13
awesom	0.07	fast	0.07	perform	0.05	vacat	0.07	offer	0.11
depart	0.06	perk	0.06	fantast	0.04	abil	0.06	program	0.09
valu	0.06	pace	0.05	worker	0.04	bonu	0.05	corpor	0.05
diver	0.06	staff	0.04	bonus	0.04	match	0.05	gener	0.04
secur	0.03	stabl	0.03	activ	0.03	plan	0.05	includ	0.04
Fellow employees		Pay & Hours		Growth Opportunities		Easy Job		Team	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
employ	0.41	pai	0.26	opportun	0.33	job	0.29	team	0.39
love	0.11	learn	0.18	growth	0.14	dai	0.18	depend	0.07
industri	0.10	hour	0.17	lot	0.13	easi	0.12	plenti	0.06
famili	0.10	decent	0.10	fun	0.12	person	0.09	packag	0.06
technolog	0.09	discount	0.08	experi	0.12	enjoi	0.06	leav	0.06
innov	0.05	help	0.08	offic	0.11	happi	0.04	polici	0.06
focu	0.05	start	0.07	competit	0.08	understand	0.04	treat	0.06
brand	0.04	atmosph	0.06	profess	0.07	extrem	0.04	share	0.05
financ	0.04	week	0.06	strong	0.07	supervisor	0.03	pro	0.05
stock	0.04	store	0.05	intern	0.05	laid	0.02	vision	0.05
Customer Care		Product		Supportive Culture		Growth environment		Hiring Processes	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
custom	0.19	product	0.17	support	0.10	grow	0.12	hire	0.08
excel	0.16	busi	0.16	cultur	0.10	project	0.09	process	0.07
salari	0.14	locat	0.09	career	0.08	client	0.07	goal	0.06
servic	0.09	sale	0.08	leadership	0.08	smart	0.06	expect	0.05
build	0.08	skill	0.08	care	0.07	improv	0.06	month	0.05
talent	0.07	set	0.04	feel	0.07	knowledg	0.05	execut	0.05
food	0.07	excit	0.03	develop	0.06	chang	0.04	medic	0.04
monei	0.06	exposur	0.03	commun	0.06	resourc	0.04	review	0.03
facil	0.04	freedom	0.03	challeng	0.05	travel	0.04	firm	0.03
lead	0.03	technic	0.03	encourag	0.04	engin	0.04	question	0.02

Panel B: Cons Topics

Busy		Customer Care		Pay & Benefits		Hard job		Hiring Processes	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
time	0.43	employ	0.36	pai	0.30	hour	0.29	manag	0.27
busi	0.17	peopl	0.14	benefit	0.14	hard	0.15	lack	0.13
environ	0.11	custom	0.14	opportun	0.13	balanc	0.11	depart	0.10
intern	0.06	care	0.10	salari	0.13	week	0.10	hire	0.09
requir	0.05	servic	0.04	offic	0.11	schedul	0.09	process	0.07
extrem	0.05	terribl	0.04	career	0.10	start	0.08	stress	0.06
short	0.05	real	0.03	advanc	0.10	depend	0.06	organ	0.05
respon	0.04	worker	0.03	poor	0.08	bad	0.06	role	0.05
resourc	0.04	overtim	0.03	compen	0.07	challeng	0.06	polici	0.05
close	0.04	forc	0.03	limit	0.07	worklif	0.05	poor	0.04
Politics		Daily issues		Expectations		Changes		Promotions	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
job	0.30	dai	0.22	expect	0.19	team	0.16	manag	0.14
perform	0.08	constant	0.11	person	0.11	chang	0.14	promot	0.12
polit	0.08	posit	0.10	project	0.10	base	0.08	peopl	0.10
develop	0.08	difficult	0.09	support	0.09	issu	0.07	leadership	0.09
manag	0.07	feel	0.08	program	0.05	lead	0.06	upper	0.08
level	0.07	famili	0.05	term	0.05	client	0.05	commun	0.07
treat	0.06	review	0.04	vacat	0.04	improv	0.05	senior	0.06
execut	0.04	told	0.04	consist	0.04	account	0.04	increa	0.05
layoff	0.04	matter	0.04	flexibl	0.03	qualiti	0.03	direct	0.04
middl	0.03	neg	0.04	reward	0.03	build	0.03	level	0.04
Sales		Training		Culture		Leaving		Growth	
Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX	Ngram	FREX
sale	0.16	manag	0.11	cultur	0.12	rai	0.11	growth	0.10
staff	0.11	train	0.10	industri	0.07	leav	0.08	product	0.09
monei	0.08	store	0.09	market	0.07	plan	0.07	life	0.07
meet	0.08	month	0.06	competit	0.06	stai	0.06	slow	0.07
deci	0.07	shift	0.06	cost	0.05	insur	0.05	grow	0.06
goal	0.07	paid	0.05	leader	0.05	health	0.05	technolog	0.05
fast	0.05	associ	0.03	talent	0.04	wage	0.05	learn	0.05
sell	0.05	break	0.03	live	0.04	cut	0.04	locat	0.05
bonus	0.04	supervisor	0.03	travel	0.03	minimum	0.03	corpor	0.04
push	0.03	call	0.03	option	0.03	fire	0.03	limit	0.07

Table VI – Structural Topic Modelling

This table shows, for each of the 15 topics, the results of pooled regressions on their STM prevalence. Prevalence has been multiplied by 100. Only two explanatory variables are displayed for each regression: VC-backed, and Post VC-backed. Control variables are similar to those in Table III. Standard Errors are clustered by company and by quarter. There are 518,628 observations in each specification.

Panel A – Pros Reviews

	VC Backed	Post VC Backed	Controls	Adjusted R-squared
Supportive Culture	2.36***	-0.71**	Yes	0.070
	(7.01)	(-2.22)		
Growth Environment	0.74***	-0.32***	Yes	0.048
	(5.90)	(-2.95)		
Hiring Processes	0.65***	-0.19*	Yes	0.013
	(6.64)	(-1.98)		
Product	0.36***	0.02	Yes	0.021
	(3.85)	(0.25)		
Fellow Employees	0.26**	-0.18**	Yes	0.022
	(2.50)	(-2.43)		
Team	0.12***	-0.04	Yes	0.005
	(3.58)	(-1.08)		
Growth Opportunities	0.12	-0.07	Yes	0.022
	(1.09)	(-0.70)		
Nice People	0.06	0.23***	Yes	0.003
	(0.80)	(3.41)		
Customer Care	-0.14**	0.11*	Yes	0.009
	(-2.10)	(1.80)		
Easy Job	-0.24**	0.20**	Yes	0.044
	(-2.05)	(2.10)		
Rewards	-0.50***	0.18**	Yes	0.020
	(-6.19)	(2.05)		
Work Life Balance	-0.71***	-0.20**	Yes	0.015
	(-7.66)	(-2.23)		
Flexible Environment	-0.72***	0.28**	Yes	0.028
	(-5.18)	(2.25)		
Benefits	-1.04***	0.07	Yes	0.027
	(-8.62)	(0.68)		
Pay & Hours	-1.33***	0.63***	Yes	0.080
	(-5.07)	(2.86)		

Panel B – Cons reviews

	VC Backed	Post VC Backed	Controls	Adjusted R-squared
Promotions	-0.86***	0.69***	Yes	0.031
	(-6.49)	(5.05)		
Training	-0.72***	0.45**	Yes	0.090
	(-3.08)	(2.35)		
Hiring Processes	-0.71***	0.37***	Yes	0.014
	(-5.69)	(3.06)		
Pay & Benefit	-0.55***	-0.22**	Yes	0.008
	(-6.26)	(-2.08)		
Customer Care	-0.51***	0.31*	Yes	0.038
	(-2.73)	(1.79)		
Politics	-0.46***	0.13*	Yes	0.012
	(-6.67)	(1.84)		
Leaving	-0.35**	0.17	Yes	0.020
	(-2.15)	(1.09)		
Expectations	0.09	-0.25***	Yes	0.006
	(1.46)	(-4.02)		
Hard Job	0.14	-0.27***	Yes	0.028
	(1.47)	(-3.17)		
Culture	0.20	-0.08	Yes	0.044
	(1.62)	(-0.71)		
Busy	0.24***	-0.15*	Yes	0.008
	(3.62)	(-1.89)		
Daily Issues	0.40	-0.29	Yes	0.028
	(1.05)	(-1.00)		
Sales	0.50***	-0.05	Yes	0.004
	(6.03)	(-0.64)		
Changes	0.63***	0.14	Yes	0.043
	(3.73)	(0.93)		
Growth	1.96***	-0.96***	Yes	0.055
	(5.62)	(-3.20)		

Table VII – Structural Topic Modelling (Pros): Cross-effect

This table shows, for each of the three main pros topics of Table VI – Panel A, the results of pooled regressions on their STM prevalence. Prevalence has been multiplied by 100. Only coefficients showing the yearly prevalence (from -3Y to +3Y) of the topics are displayed. Control variables are similar to those in Table III. Standard Errors are clustered by company and by quarter. There are 386,542 observations in Panel A specifications (as we remove the anonymous and non-classified employees), and 518,628 observations in Panel B specifications.

Panel A - Management & Non Management

	Pre VC Exit			Post VC Exit x Mngt			Post VC Exit x Non Mngt		
	Year-3	Year-2	Year-1	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Support	1.939***	2.182***	2.372***	3.286***	3.876***	2.459***	0.964**	1.558**	0.930*
Culture	(4.20)	(5.11)	(5.81)	(5.65)	(5.61)	(4.68)	(2.25)	(2.56)	(2.00)
Growth	0.592***	0.662***	0.657***	0.635***	0.747***	0.401**	0.152	0.208	0.206
Environment	(2.89)	(4.05)	(5.30)	(3.55)	(4.52)	(2.34)	(0.93)	(1.25)	(0.93)
Hiring	0.819***	0.765***	0.585***	0.812***	1.262***	1.406***	0.0945	0.233*	0.176
Process	(3.59)	(4.49)	(5.23)	(3.63)	(3.24)	(3.50)	(0.89)	(1.85)	(1.29)

Panel B - Tech & Non Tech firms

	Pre VC Exit			Post VC Exit x Tech			Post VC Exit x Non Tech		
	Year-3	Year-2	Year-1	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Support	2.211***	2.223***	2.567***	1.970***	2.479***	1.994***	0.323	0.640	0.442
Culture	(5.75)	(5.99)	(7.53)	(4.01)	(3.87)	(4.11)	(0.74)	(0.87)	(0.59)
Growth	0.733***	0.716***	0.761***	0.528***	0.513***	0.411*	0.0340	0.529**	0.292
Environment	(4.30)	(4.85)	(6.54)	(3.31)	(3.44)	(1.84)	(0.19)	(2.47)	(1.57)
Hiring	0.775***	0.710***	0.537***	0.329**	0.810***	0.606***	0.354**	0.172	0.174
Process	(4.74)	(5.02)	(5.67)	(2.33)	(4.90)	(3.61)	(2.07)	(1.24)	(0.80)

Table VIII – Structural Topic Modelling (Cons): Cross-effect

This table shows, for each of the three main cons topics of Table VI – Panel B, the results of pooled regressions on their STM prevalence. Prevalence has been multiplied by 100. Only coefficients showing the yearly prevalence (from -3Y to +3Y) of the topics are displayed. Control variables are similar to those in Table III. Standard Errors are clustered by company and by quarter. There are 374,902 observations in Panel A specifications (as we remove the anonymous and non-classified employees), and 506,007 observations in Panel B specifications.

Panel A - Management & Non Management

	Pre VC Exit			Post VC Exit x Mngt			Post VC Exit x Non Mngt		
	Year-3	Year-2	Year-1	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Promotions	-1.093***	-0.819***	-0.760***	-0.652**	-1.079***	-0.273	-0.102	-0.419	0.223
	(-6.77)	(-3.91)	(-4.38)	(-2.20)	(-3.70)	(-0.74)	(-0.54)	(-1.57)	(0.79)
Training	-0.493*	-0.598*	-0.586**	-0.607***	-0.453*	-0.0422	-0.356	-0.0415	0.0396
	(-1.76)	(-1.74)	(-2.15)	(-2.70)	(-1.93)	(-0.20)	(-1.42)	(-0.17)	(0.21)
Hiring	-0.885***	-0.671***	-0.748***	-0.543***	-0.640*	-0.518***	-0.246*	-0.444***	-0.199
Process	(-6.15)	(-3.12)	(-4.86)	(-2.70)	(-1.87)	(-3.14)	(-1.76)	(-3.01)	(-1.15)

Panel B - Tech & Non Tech firms

	Pre VC Exit			Post VC Exit x Tech			Post VC Exit x Non Tech		
	Year-3	Year-2	Year-1	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Promotions	-0.981***	-0.816***	-0.825***	-0.147	-0.743***	0.0144	-0.140	-0.0767	0.554
	(-6.66)	(-4.85)	(-5.72)	(-0.76)	(-3.80)	(0.07)	(-0.57)	(-0.31)	(1.33)
Training	-0.751***	-0.692**	-0.731***	-0.400*	-0.0923	-0.0328	-0.603	-0.0259	-0.427*
	(-3.21)	(-2.47)	(-3.20)	(-1.96)	(-0.49)	(-0.20)	(-1.63)	(-0.08)	(-1.67)
Hiring	-0.771***	-0.667***	-0.711***	-0.297***	-0.499***	-0.427***	-0.308	-0.380*	0.0600
Process	(-6.40)	(-4.34)	(-5.31)	(-2.69)	(-3.67)	(-3.17)	(-1.38)	(-1.67)	(0.41)

Table IX – ChatGPT Reviews Summaries
Summaries of the 20 reviews of VC-backed companies (pre-exit) with the highest prevalence on a given topic.

Panel A: Pros Reviews (VC-Backed companies, pre-exit)

Topics	ChatGPT Summaries
Supportive Culture	The reviews consistently emphasize a highly supportive and collaborative culture, led by visionary leaders who prioritize creativity, transparency, and employee empowerment, along with a strong commitment to values. and mission-driven work.
Growth environment	The reviews underscore a culture of continuous innovation and growth, highlighting the company's commitment to safety, access to knowledgeable leadership, encouragement for technical enrichment and a dynamic, supportive environment that values employee input and fosters professional development.
Hiring Process	The reviews praise the company's inclusive and supportive hiring process, which reflects its strong culture of collaboration, respect, and focus on personal and professional growth, alongside exceptional work-life balance and opportunities for significant impact within the company.
Product	The reviews praise the company for its strong leadership, strategic focus, and innovative product development, emphasizing a collaborative work environment and a competitive edge in market leading products, coupled with excellent social events and significant employee trust.
Fellow employees	The reviews emphasize a strong sense of community and passion within the company, with employees loving the collaborative culture, innovative products, and impactful work that combines personal fulfillment with significant industry contributions

Panel B: Cons Reviews (VC-Backed companies, pre-exit)

Topics	ChatGPT Summaries
Growth	The company is experiencing growing pains as it expands rapidly, leading to challenges such as insufficient training, unclear career growth opportunities, and a need for better resource management.
Changes	The reviews suggest that the main issues are frequent changes and constant improvement, challenging work due to critical infrastructure, perceived lack of planning in implementation, continuous growth causing some issues, and the need to adapt to constructive criticism.
Sales	The reviews highlight issues such as unfair quota distribution, frequent management overrides, communication problems due to rapid growth, encouragement of aggressive sales tactics, and challenges faced by the sales and pre-sales teams.
Daily Issues	In summary, the reviews reflect a work environment characterized by high demands, significant pressure, and a perceived lack of support and fairness from management, all compounded by issues with passenger behavior and an inconsistent rating system.
Busy	The reviews indicate that the main problems are a fast-paced environment requiring high tolerance for ambiguity, the need for agility and adaptation to new opportunities, long hours during busy seasons, and the difficulty of securing full-time work unless in a busy region.

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.

Table A2 – Structural Topic Modelling –PBO

Panel A – Pros Reviews

	Post PBO	PBO Target	Controls	Adjusted R-squared
Pay & Hours	0.54***	0.17	Yes	0.080
	(3.04)	(0.73)		
Customer Care	0.04	0.08	Yes	0.009
	(0.51)	(1.21)		
Product	0.11*	0.10	Yes	0.021
	(1.69)	(1.01)		
Benefits	0.08	-0.55***	Yes	0.027
	(0.80)	(-6.14)		
Rewards	0.02	0.10	Yes	0.020
	(0.38)	(1.26)		
Nice People	0.02	0.02	Yes	0.003
	(0.46)	(0.28)		
Easy Job	0.01	0.22**	Yes	0.044
	(0.15)	(2.42)		
Hiring Process	0.02	0.16**	Yes	0.013
	(0.18)	(2.27)		
Team	-0.003	0.03	Yes	0.005
	(-0.08)	(0.69)		
Growth Opportunities	-0.04	-0.16**	Yes	0.022
	(-0.48)	(-2.16)		
Flexible	-0.01	0.13	Yes	0.028
	(-0.11)	(0.96)		
Fellow employees	-0.11	0.09	Yes	0.022
	(-1.55)	(0.65)		
Growth environment	-0.12	-0.04	Yes	0.048
	(-1.45)	(-0.34)		
Work Life Balance	-0.14	-0.35***	Yes	0.015
	(-1.54)	(-5.40)		
Supportive Culture	-0.41	-0.002	Yes	0.070
	(-1.36)	(-0.01)		

Panel B – Cons Reviews				
	Post PBO	PBO Target	Controls	Adjusted R-squared
Growth	-0.55***	-0.18	Yes	0.055
	(-3.85)	(-0.96)		
Hard Job	-0.27***	-0.03	Yes	0.028
	(-2.69)	(-0.27)		
Busy	-0.21***	-0.04	Yes	0.008
	(-2.89)	(-0.68)		
Expectations	-0.17***	-0.04	Yes	0.006
	(-3.42)	(-0.69)		
Pay & Benefit	-0.08	-0.28***	Yes	0.008
	(-0.95)	(-2.83)		
Daily Issues	-0.06	0.01	Yes	0.028
	(-0.96)	(0.10)		
Changes	-0.03	-0.01	Yes	0.043
	(-0.34)	(-0.07)		
Culture	0.01	-0.18*	Yes	0.044
	(0.12)	(-1.72)		
Leaving	0.03	0.23**	Yes	0.020
	(0.38)	(2.65)		
Sales	0.05	0.15*	Yes	0.004
	(0.68)	(1.80)		
Politics	0.11	-0.18***	Yes	0.012
	(1.27)	(-2.70)		
Training	0.15	0.77**	Yes	0.090
	(0.94)	(2.34)		
Hiring Process	0.17**	-0.39***	Yes	0.014
	(2.08)	(-5.09)		
Customer Care	0.34**	0.37***	Yes	0.028
	(2.65)	(2.92)		
Promotions	0.51***	-0.21	Yes	0.031
	(2.97)	(-1.48)		

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 (2017) 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.

"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."

Appendix C. Industries

Table A3 – 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 D. 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[29]. 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.

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

Appendix E. 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).

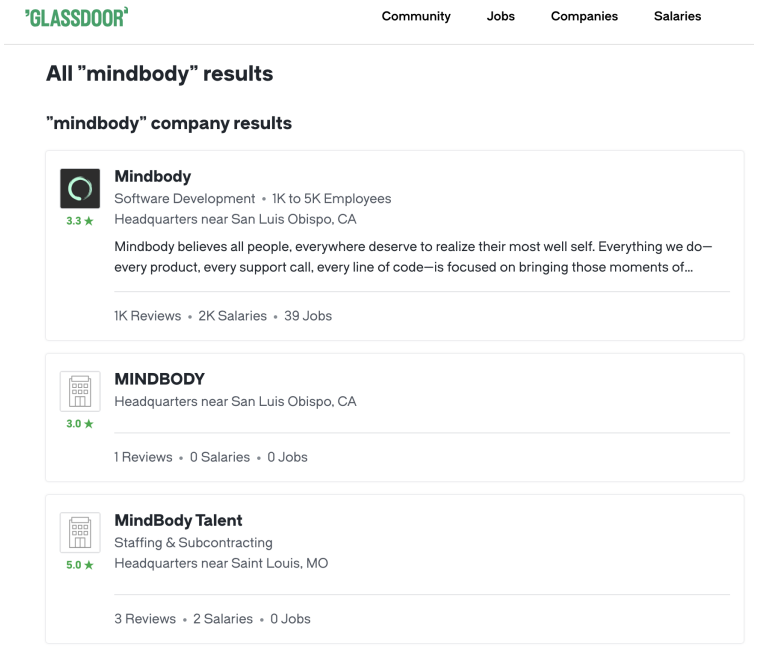

Figure A1. Searching a company on Glassdoor based on its name.

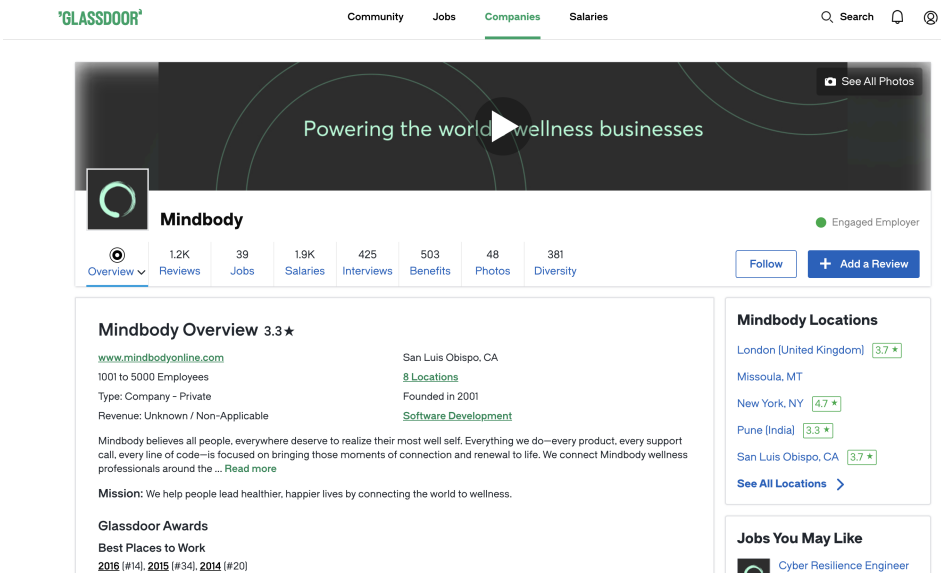

Figure A2. Overview of a company given by Glassdoor.

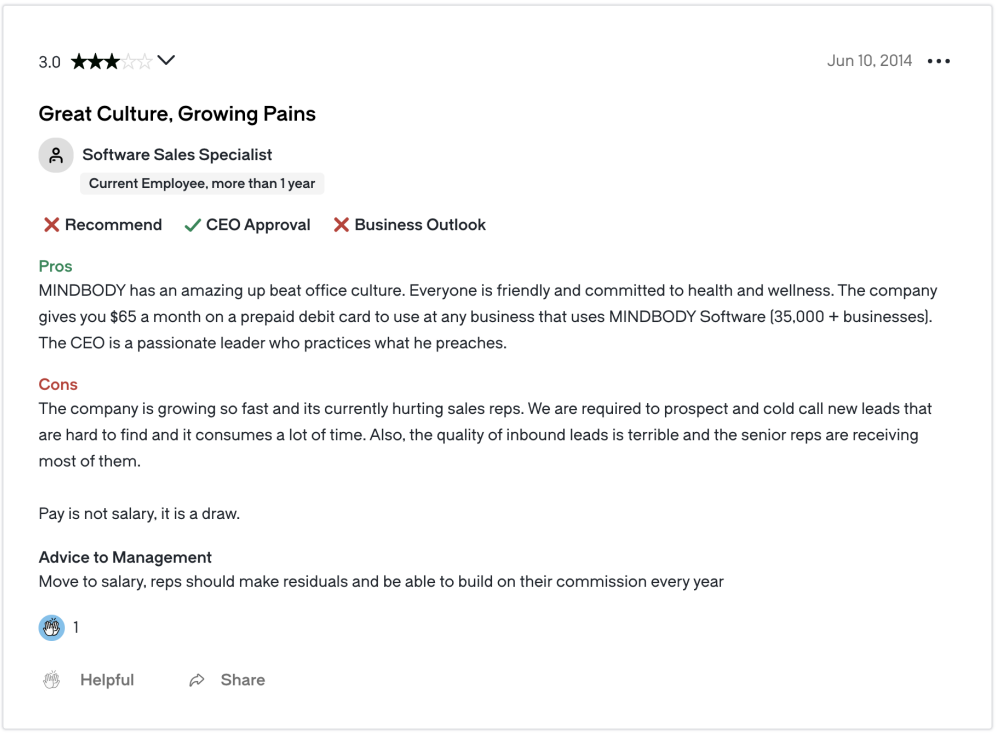

Figure A3. Example of a review.

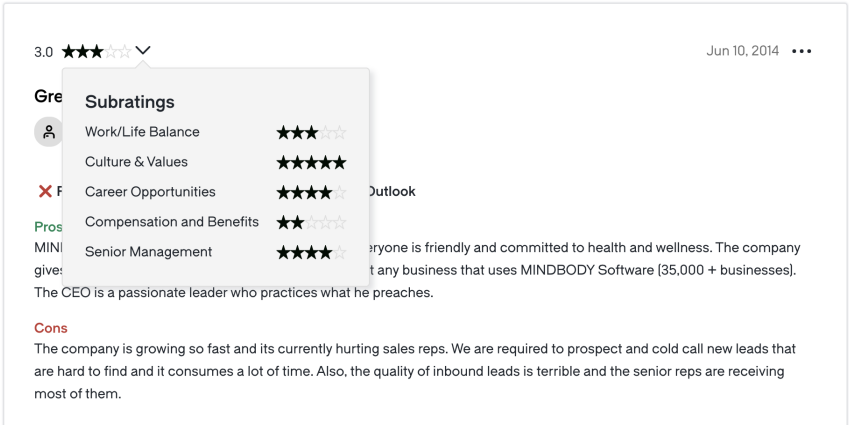

Figure A4. Detailed scores along different welfare dimensions.

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