

Venture Capital Backing and ESG Disclosure in Private Firms

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ABSTRACT

We examine how VC backing is associated with voluntary ESG disclosure in U.S. private firms. Using website-based disclosure for over 36,000 firms between 2013 and 2023, we find that VC-backed firms exhibit a 17% higher disclosure in late financing rounds compared to their pre-VC baseline. Relative to other private firms, VC-backed firms start from lower disclosure levels but converge gradually, surpassing non-VC-backed firms by approximately 11% in late financing rounds. We then examine whether this increase reflects disclosure adjustments in anticipation of ownership transactions (IPOs and acquisitions). Event-time analyses show stable disclosure in pre-transaction years for VC-backed firms. By contrast, non-VC-backed firms exhibit significant ESG disclosure adjustments before ownership transactions, particularly in IPO settings, where they increase ESG disclosure by 39% in the year before going public. Consequently, our results suggest that VC backing is associated with a gradual disclosure development over the financing cycle, contrasting with strategic pre-IPO adjustments among non-VC-backed firms. Overall, these patterns suggest that ESG disclosure in private firms reflects differences in disclosure incentives across financing environments and transaction-related market pressures.

Keywords: Venture capital, ESG disclosure, voluntary disclosure, private firms, information asymmetry.

JEL Codes: D82, G24, G30, G32, G34, M13, M14.

I. Introduction

Venture capitalists (VCs) are often described as value-adding intermediaries. Beyond financing, they professionalize young and innovative firms by shaping governance (Hellmann and Puri, 2002), strengthening management teams, and improving firm productivity (Bottazzi, Da Rin, and Hellmann, 2008; Croce, Marti, and Murtinu, 2013). They also implement contractual and monitoring mechanisms that foster portfolio-company growth and improve exit outcomes (Sahlman, 1990; Lerner, 1995; Kaplan and Strömberg, 2003; Chemmanur, Krishnan, and Nandy, 2011; Puri and Zarutskie, 2012). Yet, while prior work has primarily documented the effects of VCs on operations and governance, evidence on whether VCs also shape private firms' ESG practices remains limited.

Recent work investigating the effect of private capital funds on firms' ESG policies yields mixed evidence. On the one hand, Drobetz, El Ghouli, Guedhami, Hackmann, and Momtaz (2024) find that PE/VC backing improves small and medium-sized enterprises' (SMEs) ESG performance, with stronger effects among firms facing a higher risk of failure. On the other hand, several studies document weaker ESG outcomes among VC-backed firms. Alakent, Goktan, and Khoury (2020) find that VC-backed firms have lower ESG performance before IPOs than non-VC-backed firms. Cheng, Chu, Deng, and Huang (2022) similarly report that ESG performance is lower while VCs remain invested and improves after VC exit. Yet, beyond the contrasting evidence on how VCs affect firms' ESG outcomes, little is known about whether VC backing influences a distinct yet related ESG dimension, the voluntary ESG disclosure of private firms.

Building on voluntary disclosure theory (Verrecchia, 1983; Dye, 1985; Healy and Palepu, 2001) and evidence that VCs professionalize portfolio companies (Hellmann and Puri, 2002), this paper examines whether VC backing influences private firms' voluntary ESG disclosure. More specifically, we investigate how disclosure evolves over the VC financing cycle and whether private firms' disclosure dynamics differ around IPOs and acquisitions.

Consistent with the broader disclosure literature, prior studies suggest that ESG disclosure can mitigate information asymmetry, enhance price informativeness, and strengthen firm reputation (Axjonow, Ernstberger, and Pott, 2018; Pham and Tran, 2020; Grewal, Hauptmann, and Serafeim, 2021; Zhang, Shan, and Chang, 2021; Reber, Gold, and Gold, 2022; Krueger, Sautner, Tang, and Zhong, 2024). At the same time, external pressure and scrutiny may also be associated with selective ESG disclosure (Marquis, Toffel, and Zhou, 2016; Long, Wang, and Zhang, 2025). Furthermore, prior evidence shows that

ESG disclosure incentives respond to financing conditions, risk salience, and the broader market and legal-regulatory environment (Dhaliwal, Li, Tsang, and Yang, 2011; Harjoto and Jo, 2015; Wang and Li, 2016; Huang, Lu, Lin, and McBrayer, 2022; Frankel, Kothari, and Raghunandan, 2025).

However, most of these studies focus on public firms, whereas recent studies suggest that disclosure is also relevant in private markets. Baik, Berfeld, and Verdi (2025) show that public reporting requirements increase private firms' likelihood of obtaining private equity financing. Similarly, Boulland, Bourveau, and Breuer (2026) find that disclosure through firm websites can facilitate private equity transactions. Yet, evidence on ESG disclosure among private firms remains limited, with most studies focusing on the pre-IPO stage. In that setting, prior work documents that ESG disclosure is associated with lower information asymmetry and lower market risk around IPOs (Fenili and Raimondo, 2021; Reber et al., 2022). These findings suggest that ESG disclosure may play a role in private markets, yet evidence on how VC backing is associated with disclosure over the financing cycle and around exit events remains underexplored.

Understanding the relationship between VC backing and private firms' voluntary ESG disclosure is particularly relevant given the importance of VCs as drivers of innovation (Kortum and Lerner, 2000; Gornall and Strebulaev, 2020) and the growth of private markets.¹ Moreover, despite increasing demands for transparency in these private markets, opacity remains high, and firm-level ESG information is especially limited. Consequently, this paper sheds light on ESG disclosure behavior in a setting where firms face limited disclosure requirements.

To examine the association between VC backing and ESG disclosure, we construct a novel dataset of U.S. private firms' voluntary ESG disclosure between 2013 and 2023. We combine PitchBook and Capital IQ data to identify 7,303 VC-backed firms and 29,495 non-VC-backed private firms. To measure voluntary ESG disclosure, we retrieve historical firm website content from the Wayback Machine and construct a dictionary-based disclosure measure following the approach in Abraham, Olbert, and Vasvari (2024). This approach allows us to capture voluntary ESG communication on firm homepages, the primary channel for external stakeholders (Axjonow et al., 2018). We validate the measure using three tests. First, we show that our measure is positively correlated with ESG scores from Refinitiv and S&P Capital IQ Pro for listed firms. Second, we demonstrate that it predicts B Corp certification among private firms. Third, we document that the

¹<https://www.bain.com/about/media-center/press-releases/2024/private-market-assets-to-grow-at-more-than-twice-the-rate-of-public-assets-reaching-up-to-65-trillion-by-2032-bain-company-finds/>

measure varies significantly around major ownership transactions, with stronger patterns around IPOs.

Using this measure, we document that voluntary ESG disclosure among private firms has increased over time, especially in recent years. We then examine the relationship between VC backing and ESG disclosure in multivariate settings. Our empirical analysis yields two main findings.

First, within VC-backed firms, ESG disclosure increases primarily in late financing stages rather than immediately after VC entry. Late-stage VC-backed firms exhibit approximately a 17% higher disclosure relative to their pre-VC period, driven primarily by Environmental and Social components. Relative to other private firms, VC-backed firms start from lower disclosure levels but narrow the gap over successive financing rounds, surpassing non-VC-backed firms only in late rounds (Round 6+, approximately 11% higher). This staged pattern suggests that the association between VC backing and ESG disclosure may emerge gradually over the financing cycle rather than appearing immediately after VC entry.

Second, we assess whether the staged pattern in ESG disclosure documented above reflects gradual disclosure build-up or strategic pre-transaction adjustments by examining disclosure behavior around ownership transactions. Event-study analyses indicate that VC-backed firms maintain stable disclosure levels in pre-event years, with no significant deviations from $t - 1$. By contrast, non-VC-backed firms exhibit significantly lower disclosure in years $t - 3$ and $t - 2$ relative to $t - 1$, indicating a pre-event increase in disclosure around ownership transactions. We then compare disclosure in year $t - 1$ to all other years excluding post-event observations and find that this pattern is concentrated in IPO settings. Non-VC-backed firms show significant increases in disclosure levels (approximately 39%), disclosure changes, and initiation rates in the year before IPO. VC-backed firms show no such increases, with net effects close to zero or negative across all disclosure measures. These patterns hold for both early and late VC-backed firms, while acquisition-related effects are statistically insignificant.

Taken together, these findings suggest that VC backing is associated with a gradual disclosure build-up over the financing cycle, consistent with firm professionalization rather than strategic disclosure adjustments around transactions. By contrast, non-VC-backed firms show clear pre-IPO increases in disclosure levels, disclosure changes, and disclosure initiation rates, consistent with strategic disclosure adjustments before public market entry.

This paper contributes to several literatures. First, we contribute to the emerging

literature on website-based disclosure measurement (Abraham et al., 2024; Boulland et al., 2026; Momtaz and Parra, 2025) by developing and validating a firm-level measure of voluntary ESG disclosure for a large sample of U.S. private firms using historical website archives. This measure provides a scalable way to investigate nonfinancial disclosure in private markets, where standardized firm-level ESG information is especially scarce.

Second, while prior work shows that VCs shape governance and operations (Hellmann and Puri, 2002; Bottazzi et al., 2008; Chemmanur et al., 2011), we show that VC involvement is also related to private firms' ESG disclosure development, with higher disclosure levels emerging primarily in later financing stages. Furthermore, this finding might help interpret mixed evidence on VC backing and ESG outcomes (Alakent et al., 2020; Cheng et al., 2022; Drobetz et al., 2024) by highlighting the importance of heterogeneity across VC financing stages when studying ESG outcomes.

Third, we contribute to the ESG disclosure literature by extending the evidence beyond public firms (Grewal et al., 2021). Although prior studies document that ESG disclosure around IPOs has material effects (Fenili and Raimondo, 2021; Reber et al., 2022), we add to this literature by showing that non-VC-backed firms significantly adjust ESG disclosure before IPOs. By contrast, VC-backed firms do not exhibit comparable pre-IPO disclosure adjustments, consistent with disclosure developing progressively during the VC investment cycle. Moreover, this IPO-related pattern does not extend to acquisitions, for which we find no comparable pre-transaction disclosure adjustments.

The remainder of the paper proceeds as follows. Section II describes the data and validates the ESG disclosure measure. Section III examines ESG disclosure within and across VC-backed and non-VC-backed firms. Section IV investigates disclosure behavior around ownership transactions. Finally, Section V concludes the paper.

II. Data and descriptive statistics

A. Data sources and sample construction

Our U.S. private firm sample combines PitchBook and Capital IQ data over 2014–2024. From PitchBook (accessed via WRDS), we collect U.S. firms that received VC financing during our sample period. The data include the timing of VC investments (investment round and date)² and VC exit information (exit date and type). The VC-backed sample thus includes firms with a recorded exit and firms that remain private with VC backing by the end of the sample period. To construct the control sample, we use Capital IQ to collect U.S. private firms over the same period. Within the Capital IQ sample, we separate firms based on whether they experience a major ownership transaction during the sample period, defined as an IPO or a majority-stake acquisition of the private firm.³ Table – I displays the baseline sample, which consists of 7,473 VC-backed firms (Panel A) and 86,876 private firms (Panel B). To avoid overlap, we exclude from Panel B all firms identified as VC-backed in Panel A.

[Insert Table – I]

To measure voluntary ESG disclosure, we rely on historical firm website content retrieved from the Wayback Machine Application Programming Interface (API). This approach is consistent with recent evidence that website archives provide scalable and informative disclosure measures. In particular, Boulland et al. (2026) develop a website-based disclosure measure using historical firm webpages. They demonstrate that their website-disclosure measure is positively correlated with alternative disclosure measures (e.g., management forecasts and voluntary 8-Ks) and negatively correlated with investor information asymmetry. Similarly, Abraham et al. (2024) build a dictionary-based measure of voluntary ESG disclosure from historical websites for a global sample of private equity firms and show that PE firms’ disclosure is associated with investor demand for ESG information. In addition to disclosure measurement, web archives have been used in other areas of finance to construct historical firm-level measures (Axjonow et al., 2018; Fuster, Plosser, Schnabl, and Vickery, 2019; Antill, 2024; Dessaint, Foucault, and Fressard, 2024; Momtaz and Parra, 2025). Consequently, to implement this website-based

²Because our sample begins in 2014, some firms may already be VC-backed at the start of the sample period, such that the first financing round observed in our data may not be the firm’s initial VC investment.

³Hereafter, we use ownership transaction as shorthand for major ownership transaction, and acquisition as shorthand for majority-stake acquisition.

approach, we require website identifiers from PitchBook and Capital IQ for our sample of private firms.

After removing firms with missing website identifiers, we apply a firm–website consistency check to ensure that the recorded URL corresponds to the sampled company. We identify cases where the website appears unrelated to the firm name (including generic third-party domains) and exclude those observations from the analysis sample. As shown in Table – I, this filter has a limited effect across most groups but a larger impact on acquisition observations in Capital IQ.⁴

Using the validated firm website URLs, we query the Wayback Machine, which periodically crawls and archives websites, to construct a firm-year website snapshot dataset. To examine whether website-based disclosure changes in the year preceding an ownership transaction, the annual snapshot window of this study spans 2013–2023, with left truncation at the founding year for firms founded after 2013. For each firm-year with available archives, we retain the most recent snapshot within the calendar year (closest to year-end), following Abraham et al. (2024), thereby providing a standardized annual disclosure timestamp across firms. Appendices A1 and A2 provide interface-based illustrations of the Wayback retrieval process.

Our final working sample includes 7,303 VC-backed firms and 29,495 non-VC-backed private firms with at least one usable annual snapshot. The final rows of both panels of Table – I report the corresponding number of firm-year observations constructed from these annual snapshots, which constitute the baseline dataset for our descriptive and regression analyses.⁵ For firms experiencing an ownership transaction (IPO or acquisition), this procedure yields firm-year observations in both pre- and post-event years, conditional on archive availability. We define the event year as the calendar year in which the IPO or acquisition occurs. Firm-years prior to the event year are labeled “pre-event”, while the event year⁶ and subsequent firm-years are labeled “post-event”. Firms that do not experience an IPO or an acquisition during our sample period constitute the “no-event” sample.

⁴In Capital IQ transaction screens, we often observe that the recorded website corresponds to the acquirer after the deal rather than to the original target firm. By contrast, this pattern is much less observed in PitchBook.

⁵The firm-year panel is unbalanced: the number of observations is lower than the number of firms $\times$ 11 (maximum annual snapshots per firm) because Wayback coverage is incomplete across firm-years, and firms founded after 2013 enter only from their founding year onward.

⁶As we retain the most recent Wayback snapshot within each calendar year (typically captured close to year-end), the snapshot for the event may reflect disclosures after the ownership transaction.

B. Voluntary ESG disclosure measure

We construct a dictionary-based measure of voluntary ESG disclosure from archived firm websites, following the website-based ESG disclosure approach in Abraham et al. (2024). Consistent with Axjonow et al. (2018), we focus on homepage content as homepages serve as the primary communication channel for external stakeholders and are more consistently archived than subpages. For each firm-year snapshot, we preprocess homepage text by converting characters to lowercase, removing punctuation and non-letter characters, tokenizing into words, and filtering out standard English stopwords. We also exclude country names to reduce geographic mentions that may inflate keyword counts without reflecting disclosure content.

We then classify words using predefined ESG dictionaries (E, S, and G). For each firm-year, we compute total word counts and category-specific ESG word counts. We build the dictionaries from two reference glossaries. Specifically, the Cambridge Institute for Sustainability Leadership sustainability glossary⁷ and the UNDP SDG Impact Standards glossary.⁸ These sources provide a structured set of ESG-related terms which serve as a starting point for dictionary construction. We refine the initial term list by excluding generic terms that may capture unrelated content rather than ESG disclosure (e.g., “social” in social media contexts, “community” in community forums, “environment” in software development environments) and industry-specific jargon that would mechanically inflate counts without reflecting disclosure intent (e.g., “waste” in waste management industries, “energy” in utilities). The final dictionaries contain 31 Environmental, 20 Social, and 16 Governance terms (reported in Table A1).

Following Abraham et al. (2024), our main measure is the ESG ratio, defined as the total number of ESG words (E+S+G) per 10,000 words of homepage text. This measure provides a standardized disclosure metric for private firms by scaling ESG-related word counts by the total number of words in the homepage text. However, because the distribution is right-skewed and includes many firm-year observations with zero ESG disclosure,⁹ we apply a log transformation, which helps address skewness and limits the influence of extreme observations. Our baseline disclosure measure is therefore the natural-log transformed ESG ratio, defined in Equation 1.

$$\ln(1 + \text{ESG}) = \ln\left(1 + \frac{\#\text{ESG words}}{\#\text{Total words}} \times 10,000\right). \quad (1)$$

⁷<https://www.cisl.cam.ac.uk/news-and-resources/sustainability-glossary>

⁸<https://sdgprivatefinance.undp.org/sites/default/files/resource-documents/2024121>

⁹65% of firm-year observations in the pre-event and no-event samples have zero ESG disclosure.

We next evaluate whether the ESG dictionary captures genuine ESG disclosure rather than mechanical word usage and whether the resulting measure aligns with third-party ESG ratings.

Motivated by Drempetic, Klein, and Zwergel (2020), who document that ESG disclosure is positively correlated with ESG ratings, we first validate our website-based ESG disclosure measure using out-of-sample U.S. listed firms. As described in Section II.A, we collect annual homepage snapshots from the Wayback Machine for U.S. publicly listed firms and retain the most recent snapshot within the calendar year to compute the disclosure ratio. Using these out-of-sample observations, we examine whether the website-based ESG disclosure is associated with ESG ratings from two independent providers in Table II (Refinitiv in Panel A and S&P Capital IQ Pro in Panel B). We estimate both aggregate and pillar-level specifications under two fixed-effects structures (industry and year fixed effects, and industry-by-year fixed effects).

[Insert Table II]

The coefficients are consistently positive and statistically significant across both providers and all specifications. In aggregate models (specifications (1) and (2)), a one-standard-deviation increase in website-based ESG disclosure corresponds to a 0.19–0.25 standard-deviation increase in ESG scores. Pillar-level estimates exhibit the same pattern, with stronger associations for Environmental (0.30–0.38) and Social (0.28–0.30) than for Governance (0.08–0.09). This first validation test suggests that our website-based ESG disclosure measure aligns with third-party ESG ratings, providing initial support for its relevance.

As a second validation test, we evaluate our ESG disclosure measure in a private-firm setting by examining whether website-based ESG disclosure is associated with the probability of B Corp certification.¹⁰ In Table III, we focus on private firm-year observations that are not yet affected by an ownership transaction event (excluding post-event firm-year observations). Consistent with Gehman, Grimes, and Cao (2019), who state that B Corp certification provides a credible label by defining and verifying social and environmental practices, we expect our website-based ESG disclosure measure to be positively associated with the likelihood of B Corp certification.

[Insert Table III]

We estimate Probit models in which the dependent variable equals one if the firm

¹⁰B Corp certification is a third-party label awarded by B Lab to firms meeting minimum standards of social and environmental performance, accountability, and transparency.

is certified in year t and use similar fixed-effects specifications as in Table II. Consistent with Table II, coefficients are consistently positive and significant across all specifications, indicating that higher website-based ESG disclosure is associated with a higher likelihood of B Corp certification. The association is strongest for the aggregate ESG measure and the Environmental component, and remains positive for the Social and Governance components. Overall, these results provide additional support for the validity of our website-based ESG disclosure measure in a private-firm setting.

As a final validation test, we examine whether the website-based ESG disclosure by private firms increases following ownership transactions, particularly in the context of IPOs. As discussed by Goergen, Chahine, Wood, and Brewster (2019), listed firms are more likely than non-listed firms to provide non-financial disclosure. Accordingly, if our website-based ESG disclosure measure captures meaningful disclosure behavior, we expect disclosure to increase in the post-transaction period, with the most pronounced increase for IPO events. We estimate event-time regressions of the ESG disclosure ratio on event-time dummies (from $t - 3$ to $t + 3$, with $t - 1$ omitted), controlling for firm age, high-growth status, year fixed effects, and firm fixed effects. Figure 1 displays the estimated event-time coefficients and confidence intervals for IPO and acquisition transactions.

[Insert Figure 1]

Relative to the omitted year $t - 1$, the ESG disclosure coefficients are negative in the pre-transaction years, increase sharply in the transaction year $t = 0$, and remain positive in the post-transaction period. This pattern is observed for both IPOs and acquisitions. The post-transaction increase is more pronounced for IPOs than for acquisitions, consistent with stronger disclosure incentives in initial public offerings. These dynamics suggest that the measure captures transaction-related changes in disclosure rather than time-invariant website characteristics.

Taken together, the results of our three validity tests support the interpretation that our dictionary-based metric is a credible proxy for voluntary ESG disclosure and is therefore well-suited to examine the influence of VC backing on private firms' ESG disclosure.

C. Descriptive statistics

Having validated the ESG disclosure measure, we now document its evolution and descriptive statistics in private firms.

We begin with the evolution of ESG disclosure in private firms that have no VC backing and do not experience any ownership transactions during the sample period. We

focus on these no-event private firms to isolate baseline disclosure behavior from periods where disclosure incentives may be mechanically affected by transaction preparation or post-transaction communication policies.

[Insert Figure 2]

Figure 2 displays the evolution of the website-based ESG disclosure ratio for the no-event private-firm benchmark. The aggregate ESG ratio increases steadily throughout the period, rising from 28.03 in 2013 to 47.20 in 2023, with a visibly steeper slope after 2020. Additionally, the rise is not confined to a single pillar. The environmental ratio remains the largest component in every year, although the acceleration after 2020 coincides with a strong expansion in social disclosure, while governance increases more gradually. Overall, the figure suggests that ESG communication on private-firm websites has become increasingly emphasized over time. This pattern is consistent with the upward trends in website-based ESG disclosure documented for private equity firms in Abraham et al. (2024).

Based on the working sample reported in Table I, Table IV reports descriptive statistics for VC-backed firms (Panel A) and non-VC-backed firms (Panel B). We classify firm-year observations into two groups. The first group pools pre-event and no-event firm-years, while the second group consists of post-event firm-years following ownership transactions.

[Insert Table IV]

In the VC-backed sample, mean $\ln(1 + \text{ESG})$ is 1.30 in the full sample, 1.22 in pre-event and no-event observations, and 1.90 in post-event observations. The pillar-level measures exhibit a similar pattern, with higher post-event means for $\ln(1 + E)$, $\ln(1 + S)$, and $\ln(1 + G)$. In the non-VC-backed sample, mean $\ln(1 + \text{ESG})$ is 1.50 overall, 1.42 in pre-event and no-event observations, and 1.69 in post-event observations. ESG disclosure is therefore higher following ownership transactions in both groups. Furthermore, standard deviations exhibit large dispersion in disclosure outcomes across firms.

The table also reports additional firm characteristics. We collect industry classification,¹¹ founding year, and a high-growth indicator equal to one if the firm appears in the Inc. 5000 ranking¹² in a given year. We observe that VC-backed firms are younger on average than non-VC-backed firms (mean firm age 6.87 vs. 32.38 years) and exhibit a

¹¹Industry labels are harmonized across databases by mapping Capital IQ sector/industry fields to the PitchBook sector taxonomy through a predefined crosswalk.

¹²<https://www.inc.com/inc5000>: an annual list of the 5,000 fastest-growing private companies in the U.S.

higher share of high-growth observations.

Since ESG disclosure varies widely across firms, we next examine whether this disclosure heterogeneity is related to industry affiliation by reporting industry-level averages in Table V.

[Insert Table V]

Table V shows how ESG disclosure varies across industries, reporting industry-level averages using the pre-event and no-event samples. Several patterns emerge. First, ESG disclosure differs widely across industries. In Panel A (all firms), $\ln(1 + \text{ESG})$ is highest in Energy and Materials & Resources, and lowest in Consumer Products & Services and Healthcare. Second, the disclosure ranking observed in Panel A is broadly similar in Panel B (VC-backed firms) and Panel C (non-VC-backed firms). This is consistent with public-market evidence that the relevance of ESG topics differs across industries (Khan, Serafeim, and Yoon, 2016). Third, Environmental disclosure contributes most to cross-industry dispersion, while Social and Governance vary less across sectors.

We next provide a descriptive analysis of ESG disclosure dynamics within VC-backed firms by examining how disclosure varies across financing rounds, from Pre-VC to round 6+.

[Insert Figure 3]

Figure 3 reports ESG disclosure averages across financing stages, from Pre-VC to Round 6+. The aggregate ESG ratio increases from 16.16 at Pre-VC to 28.04 at Round 6+, indicating higher disclosure at later financing stages. At the pillar level, Environmental and Social disclosure account for most of the increase, while Governance rises more gradually but becomes more pronounced in later rounds. Although the aggregate ESG ratio increases across financing stages, pillar-level patterns are not perfectly monotonic across rounds.

To assess statistical significance, we conduct mean-comparison tests between Pre-VC and each subsequent financing round (Table A2). The aggregate ESG ratio exhibits significant increases across all later rounds, driven primarily by Environmental disclosure, which is significant throughout, and Social and Governance disclosure, which becomes significant from Round 3 onward. ESG disclosure thus becomes more prominent as VC-backed firms mature and progress through financing milestones.

Furthermore, before turning to regression analysis, we investigate firm ESG disclosure levels and changes around ownership transactions. Table VI restricts the sample to pre-event observations only, excluding the event year and all subsequent periods (post-event

observations). In this additional descriptive test, we examine whether ESG disclosure dynamics in the year preceding the ownership transaction ($t-1$) are significantly different from those in earlier pre-event years.

For each outcome, we conduct mean-comparison tests separately for IPO and acquisition subsamples, both in the full sample and within VC-backed and non-VC-backed firms. We examine three outcomes. The first outcome is the level of ESG disclosure, measured as $\ln(1 + \text{ESG})$, and the second is the change in disclosure, measured as $\Delta \ln(1 + \text{ESG})$. Following Dhaliwal et al. (2011), the third outcome is an indicator for disclosure initiation, equal to one when a firm reports ESG disclosure for the first time and zero otherwise.

[Insert Table VI]

Table VI shows that ESG disclosure levels in year $t-1$ are higher than in earlier pre-event years. This pattern holds in both VC-backed and non-VC-backed subsamples. In contrast, patterns in disclosure changes are more heterogeneous. In the full sample, average changes are larger in year $t-1$ primarily in the IPO subsample, while differences around acquisitions are small and statistically insignificant. This $t-1$ contrast is concentrated among non-VC-backed firms, while differences in disclosure changes in VC-backed firms are not statistically significant. Finally, disclosure initiation is more likely in year $t-1$ for non-VC-backed firms, especially prior to IPOs. For VC-backed firms, initiation rates in year $t-1$ do not differ statistically from earlier pre-event years.

These results suggest that disclosure adjustments in year $t-1$ differ by VC status. Non-VC-backed firms exhibit both larger disclosure changes and higher initiation rates in year $t-1$, particularly prior to IPOs. In contrast, VC-backed firms show higher disclosure levels in year $t-1$ but more modest changes in disclosure.

III. VC Backed Firms and ESG Disclosure

This section tests the prediction that VC backing is associated with higher voluntary ESG disclosure in private firms. This prediction builds on prior evidence that VC investors professionalize portfolio companies, strengthen governance and monitoring, and support growth in ways consistent with exit preparation (Gompers, 1995; Lerner, 1995; Hellmann and Puri, 2002; Bottazzi et al., 2008). In parallel, disclosure that reduces information asymmetry improves the information environment for ownership transfers and has been linked to a higher likelihood of transactions (Baik et al., 2025; Boulland et al., 2026). Moreover, Fenili and Raimondo (2021) and Reber et al. (2022) find that voluntary ESG disclosure improves the IPO information environment. Taken together, these findings suggest that VCs have incentives to develop voluntary ESG disclosure in their portfolio companies.

To test this prediction, we proceed in three steps. First, within VC-backed firms, we compare disclosure before and after VC entry and estimate how disclosure differs across financing stages. Second, we compare ESG disclosure in VC-backed firms to non-VC-backed firms to assess whether VC-backed firms disclose at higher levels. Third, we assess robustness by replicating the analysis using a binary abnormal-disclosure variable.

A. Disclosure Around VC Entry and Financing Stages

We begin by testing whether voluntary ESG disclosure differs between pre-VC and VC-backed periods within VC-backed firms, and whether disclosure varies across financing stages. We estimate the following baseline specification:

$$\ln(1+\text{ESG}_{i,t}) = \alpha + \beta \text{VC Stage}_{i,t} + \gamma_1 \ln(\text{Firm Age}_{i,t}) + \gamma_2 \text{HighGrowth}_{i,t} + \mu_t + \lambda_s + \varepsilon_{i,t}, \quad (2)$$

where i indexes firms and t indexes years. The dependent variable is $\ln(1 + \text{ESG}_{i,t})$, as constructed in Section II.B, and $\text{VC Stage}_{i,t}$ is measured at the firm-year level and can vary over time within a firm. Depending on the specification, $\text{VC Stage}_{i,t}$ is captured by (i) a single indicator $\text{VC Backed}_{i,t}$, (ii) two indicators $\text{Early VC Backed}_{i,t}$ and $\text{Late VC Backed}_{i,t}$,¹³ or (iii) round indicators $\text{Round } 1_{i,t}$ through $\text{Round } 6_{i,t}$. In all specifications, the omitted category is the pre-VC period. Furthermore, as the dependent variable is $\ln(1 + \text{ESG}_{i,t})$, coefficients on binary VC-stage indicators are interpreted

¹³Following Sanati and Spyridopoulos (2026), $\text{Early VC Backed}_{i,t}$ corresponds to financing rounds 1–3, and $\text{Late VC Backed}_{i,t}$ to financing round 4 onward.

relative to this omitted category and imply multiplicative changes of e^β in $(1 + \text{ESG}_{i,t})$, i.e., an exact percentage effect of $100 \times (e^\beta - 1) \%$.

In addition, in Equation 2, we control for firm age, measured as $\ln(\text{Firm Age}_{i,t})$, and firm growth, measured by $\text{HighGrowth}_{i,t}$. Firm age is the natural logarithm of the number of years since incorporation and captures firm maturity. $\text{HighGrowth}_{i,t}$ is an indicator equal to one for firm-years in which the firm appears in the Inc. 5000 ranking, capturing periods of rapid expansion. μ_t and λ_s denote year and industry fixed effects. In alternative specifications, we replace $\mu_t + \lambda_s$ with year $\times$ industry fixed effects. Standard errors are clustered at the firm level, and we restrict the sample to firm-year observations up to the VC exit (i.e., excluding post-exit observations).

[Insert Table VII]

Table VII presents the baseline results. The VC-backed coefficients in specifications (1) and (4) are economically small and statistically insignificant across fixed-effects structures, indicating that, on average, ESG disclosure in VC-backed firms does not differ from disclosure before VC entry. However, when the VC-backed variable is split by financing stages, a clear pattern emerges. Early-stage VC-backed firms are not statistically different from pre-VC firms, whereas late-stage VC-backed firms exhibit significantly higher ESG disclosure. Using the unstandardized coefficients, the late-stage estimates (0.153 in specification (2) and 0.162 in specification (5)) imply increases of approximately 16.5% and 17.6%, respectively, relative to the pre-VC period.

The round-based specifications (3) and (6) confirm this pattern. Relative to the pre-VC period, differences are not statistically significant in rounds 1 and 2. From round 3 onward, coefficients become positive and are broadly increasing across later rounds, with the largest estimates in round 6+. Using the unstandardized coefficients, the implied differences are about 7–8% in round 3, 15–16% in rounds 4 and 5, and 28–29% in round 6+, relative to the pre-VC period. These estimates indicate that the association between VC backing and ESG disclosure is concentrated in later VC financing stages rather than immediately after initial VC entry. Additionally, control variables display consistent patterns across specifications. $\ln(\text{Firm Age})$ is positive and highly significant, and HighGrowth is also positive and significant, consistent with higher ESG disclosure among more mature firms and firms on stronger growth paths.

Table VIII replicates Table VII using pillar-level dependent variables, replacing $\ln(1 + \text{ESG})$ with $\ln(1 + E)$, $\ln(1 + S)$, and $\ln(1 + G)$. Panel A includes year and industry fixed effects, while Panel B replaces them with year $\times$ industry fixed effects.

[Insert Table VIII]

The main pattern is consistent across both panels. Early-stage VC coefficients are small and not significant for all three pillars. By contrast, late-stage VC coefficients are positive for all pillars but statistically significant only for Environmental and Social disclosure. Using the unstandardized coefficients, late-stage VC is associated with increases of about 6.2–7.2% in Environmental disclosure and about 8% in Social disclosure, relative to the pre-VC period. These pillar-level results indicate that the late-stage increase in aggregate ESG disclosure documented in Table VII is primarily concentrated in the Environmental and Social components, while Governance effects are not statistically significant relative to pre-VC levels.

Overall, Tables VII and VIII show limited differences in ESG disclosure in early VC stages relative to the pre-VC period, while disclosure becomes significantly higher in later VC financing stages.

B. ESG Disclosure in VC-Backed vs. Non-VC Private Firms

We next examine whether the disclosure pattern documented among VC-backed firms also implies higher disclosure than among private firms without VC backing. We extend the sample beyond VC-backed firms and include non-VC-backed private firms, while maintaining the exclusion of post-transaction firm-year observations and focusing on the combined no-event and pre-event sample. We apply the same baseline framework as in Equation 2 to the extended sample and use non-VC-backed private firms as the reference group. The estimated coefficients therefore capture ESG disclosure differences across VC-status indicators relative to non-VC-backed private firms.

[Insert Table IX]

Table IX shows that the coefficient on Pre VC Backed is negative and significant in all specifications, implying that firms that will later receive VC funding start from lower ESG disclosure levels than non-VC private firms. Economically, this gap implies that pre-VC-backed firms disclose about 14% to 16% less than non-VC-backed firms.

This negative pre-VC coefficient also alleviates a natural selection concern. If VCs simply targeted firms already inclined toward ESG disclosure, we should expect VC-backed firms to exhibit higher disclosure before VC entry. However, the opposite holds. These firms start below non-VC-backed firms' disclosure levels, suggesting that the increase in disclosure across financing rounds reflects something that develops with VC involvement rather than a pre-existing propensity to disclose.

In specifications (1) and (4), estimates indicate that VC-backed firms still disclose

significantly less relative to non-VC-backed private firms, by roughly 5%. However, as in Table VII, this pooled VC-backed coefficient masks stage heterogeneity, with a more nuanced pattern emerging when VC-backed observations are separated into early and late VC stages as shown in specifications (2) and (5). In early VC stages, disclosure remains significantly below that of non-VC-backed firms by about 10.6–11.0%. By contrast, in late VC stages, the sign reverses, with disclosure about 4.7–4.8% significantly higher than in non-VC-backed firms.

The round-based specifications (3) and (6) confirm the same pattern observed in Table VII across the financing cycle. Disclosure is lower than the non-VC-backed benchmark in early rounds (about 16% lower in round 1, 11–12% lower in round 2, and 5–6% lower in round 3), becomes positive but not significant in intermediate rounds (rounds 4–5), and turns positive and significant only by round 6+, reaching about 10.8–11.1% above the benchmark.

Table IX documents a staged disclosure pattern relative to non-VC-backed private firms, with gaps in pre-VC and early VC stages that narrow over the financing cycle and turn positive and significant only by round 6+. Furthermore, control variables remain consistent with Table VII, as older firms and high-growth firms exhibit higher ESG disclosure.

C. Robustness Test: Abnormal ESG Disclosure Measure

As a robustness test, we replicate the baseline analyses of Sections III.A and III.B using a binary measure of abnormal ESG disclosure. We first estimate $\ln(1 + \text{ESG})$ as a function of firm controls ($\ln(\text{Firm Age})$ and HighGrowth indicator) and year-by-industry fixed effects, and obtain the residual component. We then define an indicator equal to one when the residual is positive, and zero otherwise. The indicator thus identifies firm-year observations with ESG disclosure above the level predicted by firm characteristics and year-by-industry effects.

We re-estimate the baseline specifications using logit models given the binary dependent variable. The robustness analysis preserves the empirical design as in Equation 2. Panel A reproduces the within-VC-backed design, comparing pre-VC and VC-backed periods and examining financing-stage heterogeneity. Panel B reproduces the VC-backed versus non-VC-backed private firm disclosure comparison (Table IX). The corresponding logit estimates are reported in Table X and indicate that the likelihood of above-predicted ESG disclosure increases with VC financing maturity.

[Insert Table X]

In Panel A (within-VC design), the aggregate VC-backed variable is not statistically significant in either fixed-effects structure. However, consistent with Table VII, the economically relevant variation comes from VC stage decomposition. Late VC-backed firm observations are associated with a higher likelihood of above-predicted ESG disclosure, while early VC-backed periods are not. The round-based specifications show a similar pattern, with no significant effect in early rounds but a clear increase in disclosure propensity in later rounds (Rounds 4 through 6+). This suggests that abnormal ESG disclosure is concentrated in mature VC financing phases rather than at initial VC involvement.

In Panel B (VC-backed versus non-VC private firms), the pooled VC-backed coefficient in specifications (1) and (4) is not significant, consistent with the heterogeneous VC-phase patterns documented in Table IX. When split by stage, the logit estimates show that early-stage VC firms are significantly less likely to exhibit above-predicted disclosure than non-VC firms, while late-stage VC firms are significantly more likely. The round-level specifications confirm this pattern, with Rounds 1 and 2 exhibiting significantly lower likelihood of above-predicted disclosure, Round 3 showing no significant difference, and Rounds 4 through 6+ exhibiting significantly higher likelihood, with the largest point estimate in Round 6+. This confirms that the staged disclosure pattern relative to non-VC private firms documented in Table IX holds when using abnormal disclosure propensity rather than continuous disclosure levels, with effects most pronounced in late financing rounds.

This section documents that VC backing is associated with higher ESG disclosure primarily in late financing stages. The staged pattern emerges consistently across specifications and robustness tests. Disclosure increases from Round 3 onward within VC-backed firms and turns positive relative to non-VC private firms only in late rounds. The concentration of disclosure effects in mature financing phases is consistent with two mechanisms. First, disclosure can develop gradually through VC professionalization over the investment cycle (Hellmann and Puri, 2002; Bottazzi et al., 2008). Second, disclosure may respond strategically to external scrutiny (Marquis et al., 2016; Frankel et al., 2025), as firms approach ownership transactions. We investigate these mechanisms in the following section.

IV. ESG Disclosure Around Ownership Transactions

Prior research argues that firms strategically adjust voluntary ESG disclosure in response to external scrutiny and market pressures. Marquis et al. (2016) and Long et al. (2025) argue that external pressure and scrutiny are associated with more selective ESG disclosure. Frankel et al. (2025) further document that ESG disclosure responds to market pressures and regulatory risks. Additionally, Dhaliwal et al. (2011) find that firms with higher costs of equity are more likely to initiate standalone CSR reporting, and that initiators are more likely to raise equity capital. Building on this evidence, we examine whether ESG disclosure in private firms changes as they approach major ownership transactions, when informational frictions and scrutiny may be heightened.

To assess this mechanism and distinguish gradual disclosure build-up discussed in Section III from strategic pre-transaction disclosure adjustments, we proceed in two steps. First, we estimate separate event-time regressions for IPO and acquisition samples, comparing VC-backed and non-VC-backed firms, to examine the ESG disclosure patterns around ownership transactions. Second, we test whether disclosure in the year preceding IPOs and acquisitions differs across private firm types, using several disclosure outcomes that capture disclosure levels, changes, and initiation.

A. Event-Time ESG Disclosure Around Ownership Transactions

We begin with event-time analyses around IPOs and acquisitions, estimated separately. Within each sample, we compare VC-backed and non-VC-backed firms by relative year τ , with $\tau = -1$ (the year before the transaction) as the reference period.

$$Y_{i,t} = \sum_{\tau=-3, \tau \neq -1}^3 \left(\beta_{\tau}^{NonVC} D_{i,t}^{NonVC,\tau} + \beta_{\tau}^{VC} D_{i,t}^{VC,\tau} \right) + \gamma' X_{i,t} + \alpha_i + \mu_t + \varepsilon_{i,t} \quad (3)$$

where i indexes firms and t indexes years. The dependent variable $Y_{i,t}$ is either $\ln(1 + \text{ESG})$ (Figure 4) or the abnormal ESG disclosure indicator as used in Section III.C (Figure 5). Event time is indexed by τ , which is measured in years relative to the transaction year. $D_{i,t}^{NonVC,\tau}$ and $D_{i,t}^{VC,\tau}$ are event-time dummy variables, where $D_{i,t}^{NonVC,\tau} = 1$ if firm i is non-VC-backed and observed in relative year τ , and 0 otherwise. $D_{i,t}^{VC,\tau}$ is defined analogously for VC-backed firms. The regression includes $\tau \in \{-3, -2, 0, 1, 2, 3\}$, with $\tau = -1$ omitted as the reference period. $X_{i,t}$ is a vector of firm-year controls, including

Firm Age, the High Growth indicator, and indicators for Early VC and Late VC financing stages. The VC-stage controls allow us to test whether event-time disclosure patterns near ownership transactions capture variation beyond the gradual disclosure progression documented across VC financing stages. α_i denotes firm fixed effects, μ_t denotes year fixed effects, and $\varepsilon_{i,t}$ is the error term. Standard errors are clustered at the firm level.

[Insert Figure 4]

In the IPO sample (Figure 4– Panel A), VC-backed firms exhibit disclosure levels that are not statistically different from the $\tau = -1$ baseline in pre-event years ($\tau = -3$ and $\tau = -2$), consistent with relatively stable disclosure leading up to the IPO event. By contrast, non-VC-backed firms show significantly lower disclosure in pre-event years relative to $\tau = -1$, indicating a sharper increase in disclosure in the year immediately before the IPO. At $\tau = 0$, both groups exhibit significantly higher disclosure relative to $\tau = -1$, with VC-backed firms showing larger increases relative to their baseline.¹⁴ Post-IPO, disclosure levels remain persistently higher than in the pre-IPO baseline year for both groups, with VC-backed firms exhibiting larger post-IPO increases. This pattern is consistent with evidence that VC-backed IPO firms engage in broader disclosure activities (e.g., early guidance) post-IPO (Allee, Christensen, Graden, and Merkley, 2021).

The acquisition sample (Figure 4– Panel B) displays similar broad patterns. VC-backed firms do not exhibit significant pre-event deviations from $\tau = -1$ (except at $\tau = -3$), while non-VC-backed firms display significantly lower disclosure before $\tau = -1$. At $\tau = 0$ and in subsequent years, both groups display higher disclosure relative to their pre-event baselines.

[Insert Figure 5]

Figure 5 examines the same event-time framework using the abnormal ESG disclosure indicator, which identifies firm-year observations with ESG disclosure above the level predicted by firm characteristics and year-by-industry effects. Results are consistent with Figure 4. VC-backed firms display no significant pre-event deviations from $\tau = -1$ in most pre-event periods, while non-VC-backed firms exhibit significantly lower propensity for abnormal disclosure before $\tau = -1$. At $\tau = 0$ and in subsequent years, both groups exhibit significantly higher propensity for abnormal disclosure relative to their baselines.

Taken together, these patterns are more consistent with gradual disclosure development among VC-backed firms than with abrupt pre-exit adjustments. In contrast, non-

¹⁴Annual snapshots are retrieved at year-end, meaning that $\tau = 0$ captures disclosure in the IPO year itself.

VC-backed firms exhibit a more pronounced increase in the year preceding the ownership transaction, consistent with strategic disclosure adjustments as the event approaches. Appendix A3 reports the underlying event-time coefficient estimates for Figures 4 and 5.

B. Disclosure in the Year Preceding Ownership Transitions

We next test whether disclosure in the year preceding IPOs and acquisitions differs across firm types. We estimate the following baseline specification:

$$Y_{i,t} = \beta_1 \text{IPOLead}_{i,t} + \beta_2 \text{AcqLead}_{i,t} + \gamma' X_{i,t} + \mu_t + \lambda_s + \varepsilon_{i,t}, \quad (4)$$

where i indexes firms and t indexes years. $Y_{i,t}$ represents four alternative disclosure outcomes: (i) ESG disclosure level $\ln(1 + \text{ESG}_{i,t})$, (ii) abnormal ESG disclosure indicator, (iii) change in ESG disclosure $\Delta \ln(1 + \text{ESG}_{i,t})$, and (iv) ESG disclosure initiation indicator. For continuous outcomes (i) and (iii), we estimate Equation 4 by OLS, whereas for binary outcomes (ii) and (iv), we estimate logit models. $\text{IPOLead}_{i,t}$ equals one if firm i is observed in the year immediately preceding an IPO, and zero otherwise; $\text{AcqLead}_{i,t}$ is defined analogously for acquisitions. $X_{i,t}$ includes firm-level controls ($\ln(\text{Firm Age}_{i,t})$ and $\text{HighGrowth}_{i,t}$), μ_t denotes year fixed effects, and λ_s denotes industry fixed effects. In alternative specifications, we replace $\mu_t + \lambda_s$ with year $\times$ industry fixed effects. Beyond this baseline specification, we include VC-status indicators (Pre-VC, VC-backed, or Early/Late VC). In specifications based on VC-backed or Early/Late VC indicators, we further interact these indicators with $\text{IPOLead}_{i,t}$ and $\text{AcqLead}_{i,t}$ to test whether pre-transaction disclosure behavior differs between VC-backed and non-VC-backed firms.¹⁵ Standard errors are clustered at the firm level, and the sample is restricted to the combined no-event and pre-event sample.

Table XI reports results for ESG disclosure levels, with specifications (1) and (4) providing baseline estimates without VC-status controls. The IPOLead coefficient is positive but not significant, while the AcqLead coefficient is negative and significant, suggesting lower disclosure in the year before acquisitions. However, after adding VC status in specifications (2) and (5), the IPOLead coefficient becomes positive and highly significant, indicating higher disclosure in the year preceding an IPO for non-VC-backed firms relative to other firm-years. Using the unstandardized coefficients, the estimates (0.329 in specification (2) and 0.336 in specification (5)) imply increases of approximately

¹⁵We do not interact Pre-VC with the lead indicators because pre-VC observations do not occur in the year immediately preceding ownership transactions in our sample construction.

39% and 40%, respectively. By contrast, the interaction term $\text{IPOLead} \times \text{VC Backed}$ is negative and highly significant, implying that VC-backed firms do not exhibit the same pre-IPO increase. The combined effect for VC-backed firms is approximately -18% to -19%. Overall, these estimates suggest that disclosure behavior in the run-up to IPOs differs across VC-backed and non-VC-backed firms.

[Insert Table XI]

Furthermore, the decomposition of VC-backed firms by stage in specifications (3) and (6) reveals that early and late VC-backed firms exhibit negative and highly significant interactions. The Early VC interaction is stronger in magnitude than the Late VC interaction, but both remain highly significant. Combined with the baseline IPOLead effect, Early VC-backed firms show a net effect of approximately -37% to -38%, while Late VC-backed firms show a net effect of approximately -10% to -11%, both indicating lower disclosure in the year before IPOs relative to other firm-years. This suggests that the absence of pre-IPO disclosure increases holds across both VC financing stages, unlike the increase observed for non-VC-backed firms.

For acquisitions, the main effect remains negative across specifications, contrasting with the positive IPO effect. The coefficients indicate lower disclosure in the year before the acquisition (approximately 10% lower). Moreover, VC interactions are not statistically significant, suggesting that both VC-backed and non-VC-backed firms display similar pre-acquisition disclosure patterns, with neither group exhibiting disclosure increases.

Table XII examines the same specifications using the abnormal ESG disclosure indicator. Results are consistent with Table XI. Non-VC-backed firms exhibit significantly higher propensity for abnormal disclosure in the year before IPOs across all specifications. When VC status is introduced in specifications (2) and (5), the IPOLead coefficient remains positive and highly significant for non-VC-backed firms, while the interaction term $\text{IPOLead} \times \text{VC Backed}$ is negative and significant, indicating that VC-backed firms do not exhibit this pre-IPO increase in abnormal disclosure propensity. Decomposing by VC stage in specifications (3) and (6), both Early and Late VC interactions are negative and significant, with the Early VC effect being stronger. For acquisitions, the main effect is negative and significant, indicating lower propensity for abnormal disclosure in year $t-1$, while VC interactions are not statistically significant. This is consistent with the results of Table XI, which show that firms do not increase disclosure before acquisitions, regardless of VC status.

[Insert Table XII]

Tables XI and XII together indicate that non-VC-backed firms increase both their disclosure levels and their propensity for abnormal disclosure in the year before IPOs, consistent with strategic disclosure adjustments as the IPO approaches. By contrast, VC-backed firms do not exhibit these pre-IPO disclosure adjustments across VC financing stages. Before acquisitions, firms exhibit lower disclosure levels rather than increases, with both VC-backed and non-VC-backed firms behaving similarly. This suggests that strategic disclosure adjustments are specific to the IPO context and are primarily driven by non-VC-backed firms.

Table XIII shifts focus to the magnitude of disclosure adjustments by examining year-over-year changes in ESG disclosure. Baseline specifications (1) and (4) show that private firms exhibit year-over-year disclosure increases before IPOs (coefficients of 0.100 and 0.102), whereas acquisition-related changes are not statistically significant. This initial pattern supports the view that disclosure adjustments may concentrate around IPOs rather than acquisitions.

[Insert Table XIII]

Adding VC status controls in specifications (2) and (5) reveals that the positive IPO effect is driven by non-VC-backed firms, with coefficients rising to 0.165 and 0.167. These estimates indicate that non-VC-backed firms exhibit significantly larger disclosure changes in the year before IPOs. The interaction $\text{IPOLead} \times \text{VC Backed}$ is negative (-0.158) and significant at the 10% level with a net effect approaching zero. This suggests limited change in disclosure magnitude for VC-backed firms in the year before IPOs.

Specifications (3) and (6) decompose VC-backed firms by financing stages, yielding nuanced results. Early VC firms show negative interactions of -0.210 and -0.208, both significant at the 10% level, implying smaller disclosure changes relative to non-VC-backed firms in the year before IPOs. For Late VC firms, the interaction coefficients are not statistically significant (-0.120 and -0.123). However, untabulated results show that Late VC-backed firms do not exhibit significant disclosure changes in year $t-1$ relative to other years. This implies that both Early and Late VC-backed firms show no evidence of meaningful pre-IPO disclosure adjustments.

The AcqLead coefficient and the interaction coefficients $\text{AcqLead} \times \text{VC status}$ remain insignificant across all specifications, reinforcing that disclosure change patterns before acquisitions differ fundamentally from those before IPOs.

Finally, Table XIV examines ESG disclosure initiation, defined as the transition from zero to positive ESG disclosure. This measure allows us to assess whether firms begin disclosing ESG information in year $t-1$ before ownership transactions.

[Insert Table XIV]

Results confirm the patterns documented in Table XIII. Baseline specifications (1) and (4) show that firms are more likely to initiate disclosure before IPOs (coefficients of 0.235 and 0.232), while acquisition-related initiation is not statistically significant. Adding VC status controls in specifications (2) and (5), the IPOLead coefficient increases to 0.415 and 0.411, indicating that non-VC-backed firms are significantly more likely to initiate ESG disclosure before IPOs. The interaction $\text{IPOLead} \times \text{VC Backed}$ is negative and significant at the 10% level, indicating that the Pre-IPO increase in disclosure initiation is significantly weaker for VC-backed firms.

Decomposing by VC stage in specifications (3) and (6) reveals that Early VC interactions are negative and significant at the 5% level, while Late VC interactions are not statistically significant. However, as in Table XIII, untabulated results show that Late VC firms do not exhibit a significant increase in ESG disclosure initiation in year $t-1$. Both Early and Late VC-backed firms thus show no evidence of strategic disclosure initiation before IPOs. Furthermore, consistent with Table XIII, acquisition-related initiation effects remain insignificant across all specifications.

Results across Tables XI through XIV provide consistent evidence that non-VC-backed firms adjust ESG disclosure in the year before IPOs across multiple dimensions. Non-VC-backed firms exhibit higher disclosure levels, higher propensity for abnormal disclosure, larger disclosure changes, and higher rates of disclosure initiation in year $t-1$ before IPO. By contrast, VC-backed firms do not undertake these pre-IPO adjustments. VC-backed firms maintain relatively stable disclosure in year $t-1$, with no significant increases in levels, changes, or initiation rates, regardless of financing stages. Before acquisitions, neither VC-backed nor non-VC-backed firms exhibit increases in disclosure, confirming that strategic disclosure adjustments are specific to IPO settings.

These results, combined with the event-study evidence in Figures 4 and 5, suggest that the disclosure increases documented in Section III for VC-backed firms reflect a gradual build-up over the financing cycle rather than strategic disclosure adjustments before exit. Non-VC-backed firms, by contrast, exhibit a pattern of pre-IPO disclosure increases consistent with disclosure serving as a signal to reduce information asymmetry in anticipation of public market entry.

V. Conclusion

We investigate how VC backing is associated with voluntary ESG disclosure among U.S. private firms. Our analysis combines PitchBook and Capital IQ data with historical website archives from the Wayback Machine to develop a website-based ESG disclosure measure for more than 36,000 private firms over 2013–2023. We validate this measure using external ESG scores, B Corp certification, and transaction-related disclosure patterns.

Our results show that VC-backed firms exhibit higher ESG disclosure than in the pre-VC period, with the effects concentrated in late financing stages. Disclosure in late rounds exceeds pre-VC levels by approximately 16–18%, driven by Environmental and Social components. Compared to non-VC-backed private firms, VC-backed firms begin with lower disclosure, close the gap over successive rounds, and overtake non-VC firms in the latest rounds.

Examining disclosure around ownership transactions reveals that VC-backed and non-VC-backed firms follow different pre-IPO disclosure patterns. Event studies first show that non-VC-backed firms display significantly lower disclosure in years $t - 3$ and $t - 2$ relative to $t - 1$, consistent with an increase in disclosure in the year before IPOs, whereas VC-backed firms show no pre-event deviations. Additional tests confirm that non-VC-backed firms exhibit higher disclosure levels, larger year-over-year changes, and more frequent disclosure initiation before IPOs, while VC-backed firms do not. These patterns are IPO-specific, as neither group exhibits disclosure adjustments before acquisitions.

Therefore, these findings point to different disclosure trajectories. VC-backed firms develop disclosure capacity over the financing cycle, consistent with professionalization unfolding across VC financing rounds. Non-VC-backed firms, by contrast, increase disclosure in the year before IPOs, when disclosure incentives related to information asymmetry become more salient. Taken together, these patterns are consistent with documented responses to different organizational structures and market pressures.

Our results have practical implications for venture capital investors, private firms preparing for ownership transactions, and policymakers debating disclosure frameworks for private firms in an environment that remains relatively opaque. However, a limitation of our analysis is that it focuses on website-based disclosure and identifies systematic associations rather than causal effects of VC backing. Future research could extend this framework by studying alternative disclosure channels, richer measures of ESG communication quality, and settings that allow stronger causal identification.

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Figures

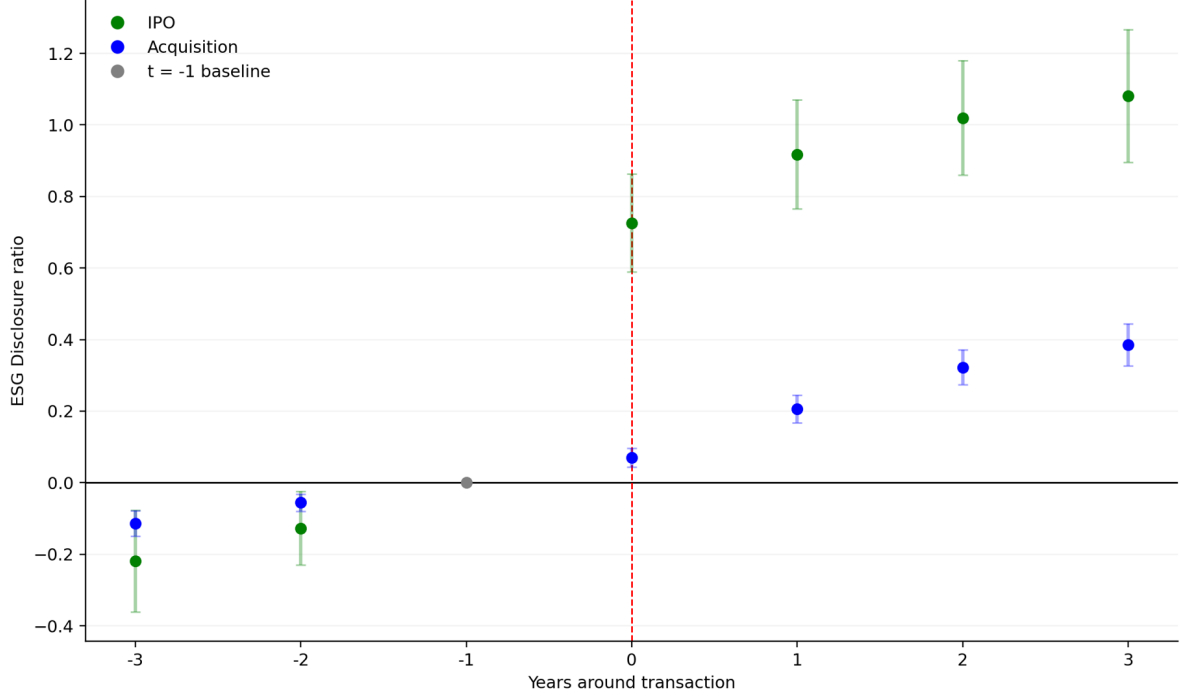


Figure 1. ESG Disclosure Around IPOs and Acquisitions. Figure 1 plots event-time estimates of the ESG disclosure ratio ($\ln(1 + \text{ESG Ratio})$) around major ownership transactions among private firms (VC-backed and non-VC-Backed private firms experiencing an IPO or an acquisition). Points report coefficients for years $t - 3$ to $t + 3$ relative to $t - 1$ (omitted), separately for IPOs and acquisitions, and vertical bars denote confidence intervals. Regressions include firm fixed effects, year fixed effects, and controls for firm age and high-growth status.

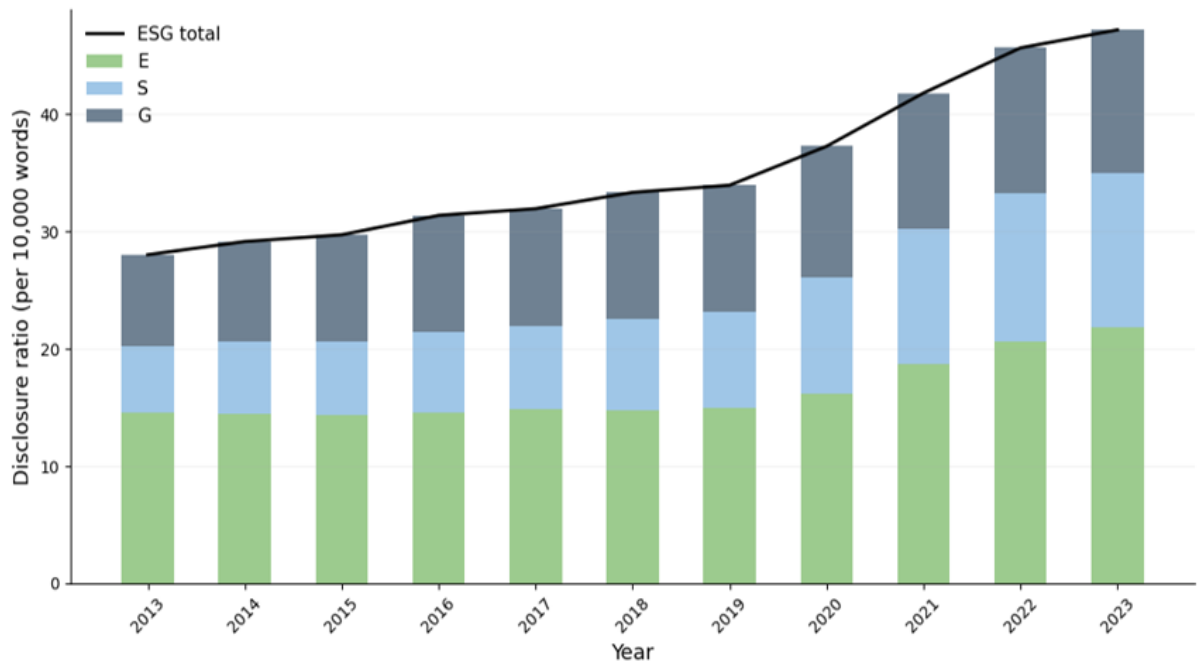


Figure 2. ESG Disclosure Evolution (Private Firms). Figure 2 plots annual averages of the ESG disclosure ratio constructed from archived homepages for the non-VC-backed private firms that do not experience any major ownership change (no event private firm sample) during the observation window. Bars report the pillar-level components (E, S, and G), while the line reports the aggregate ESG ratio.

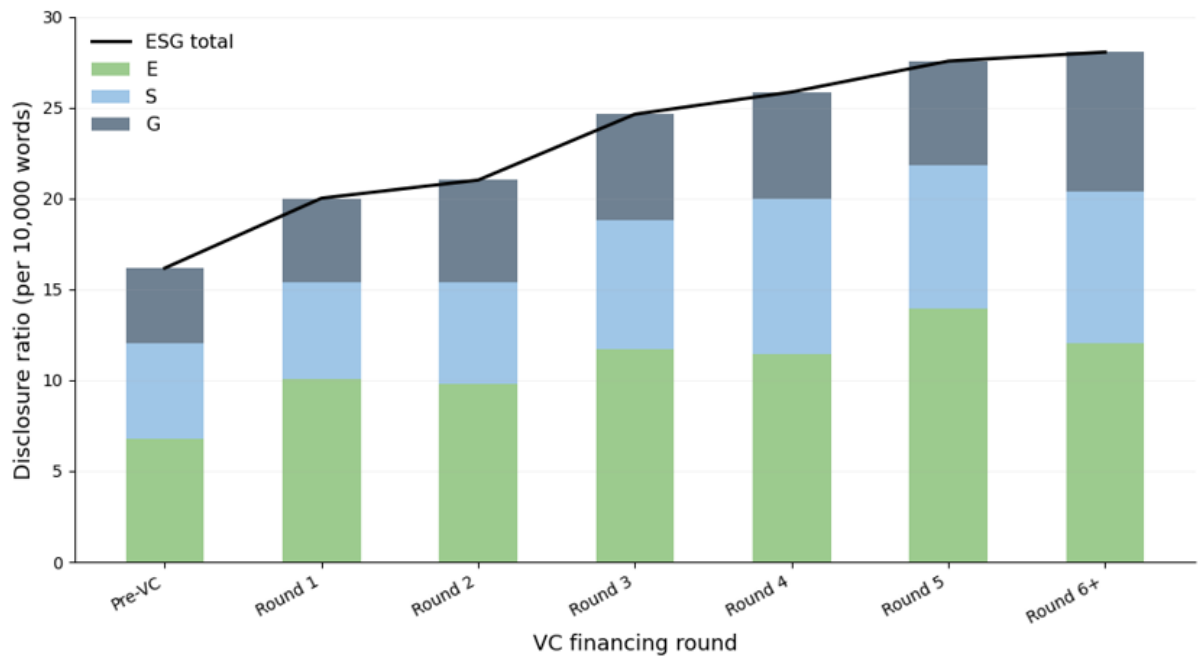


Figure 3. ESG Disclosure Across Financing Rounds in VC-Backed Firms. Figure 3 displays average website-based ESG disclosure ratios across financing stages for VC-backed firms, from the pre-VC stage (before VC entry) to Round 6+. The line plots the aggregate ESG disclosure ratio (per 10,000 words), and the stacked bars decompose the ratio into Environmental, Social, and Governance components.

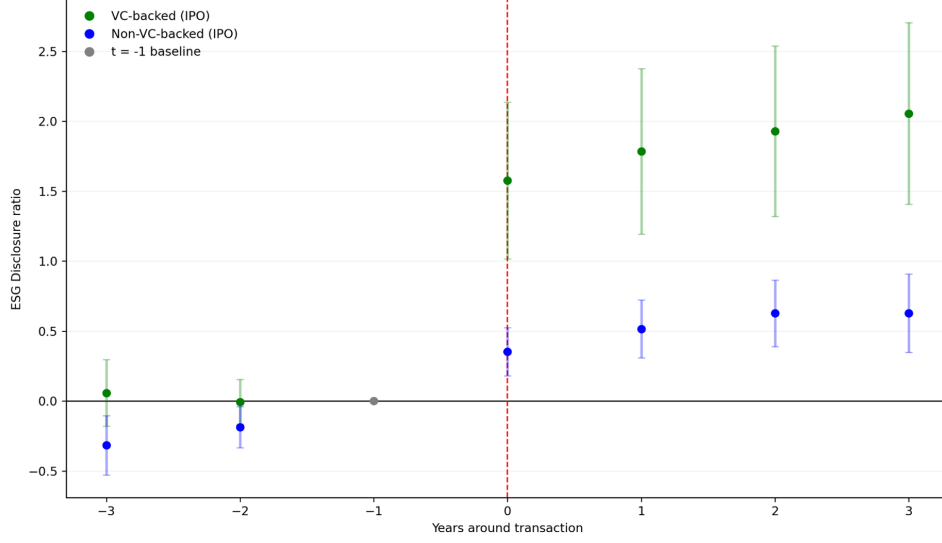


Figure 4. Panel A. Event-Time ESG Disclosure Around IPOs. Figure 4 – Panel A plots event-time estimates of $\ln(1 + \text{ESG Ratio}_{i,t})$ for VC-backed and non-VC-backed firms over $\tau \in \{-3, -2, -1, 0, 1, 2, 3\}$, where $\tau = 0$ is the transaction year and $\tau = -1$ is the omitted reference year. Points report coefficient estimates and vertical bars denote 95% confidence intervals.

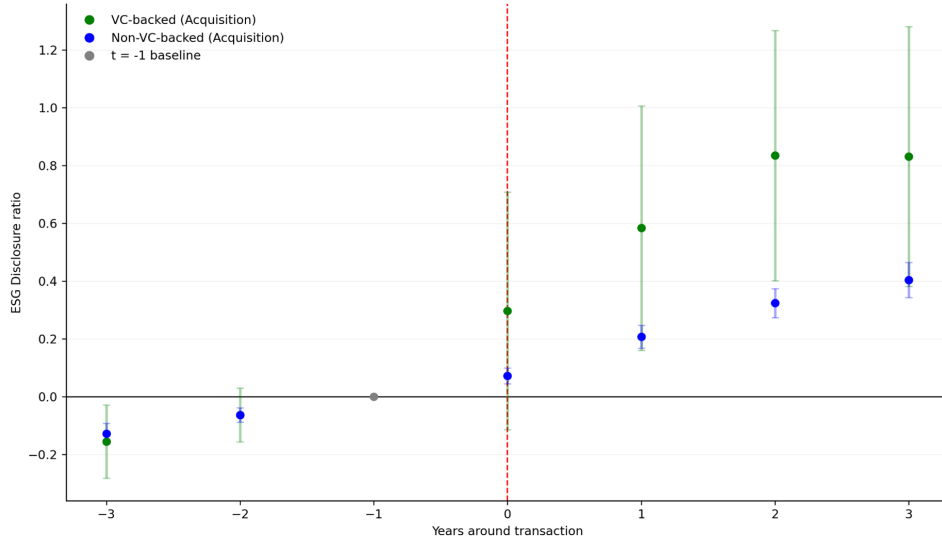


Figure 4. Panel B. Event-Time ESG Disclosure Around Acquisitions. Figure 4 – Panel B plots event-time estimates of $\ln(1 + \text{ESG Ratio}_{i,t})$ for VC-backed and non-VC-backed firms over $\tau \in \{-3, -2, -1, 0, 1, 2, 3\}$, where $\tau = 0$ is the transaction year and $\tau = -1$ is the omitted reference year. Points report coefficient estimates and vertical bars denote 95% confidence intervals.

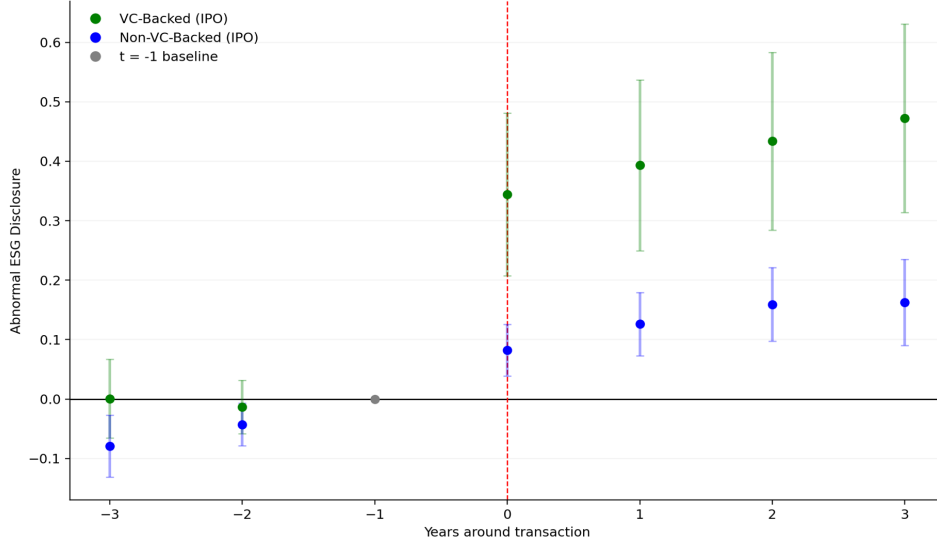


Figure 5. Panel A. Event-Time Abnormal ESG Disclosure Around IPOs. Figure 5 – Panel A plots event-time estimates of Abnormal ESG Ratio $_{i,t}$ for VC-backed and non-VC-backed firms over $\tau \in \{-3, -2, -1, 0, 1, 2, 3\}$, where $\tau = 0$ is the transaction year and $\tau = -1$ is the omitted reference year. Points report coefficient estimates and vertical bars denote 95% confidence intervals.

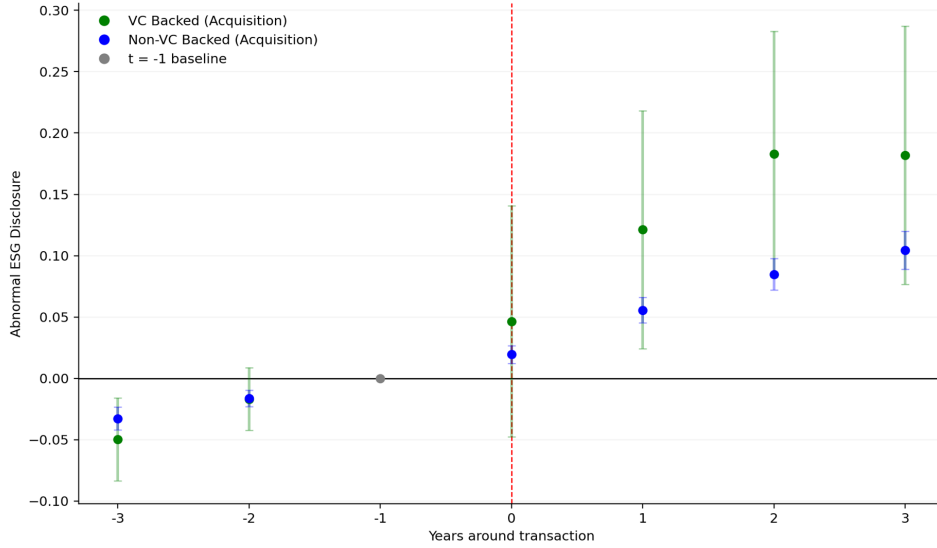


Figure 5. Panel B. Event-Time Abnormal ESG Disclosure Around Acquisitions. Figure 5 – Panel B plots event-time estimates of Abnormal ESG Ratio $_{i,t}$ for VC-backed and non-VC-backed firms over $\tau \in \{-3, -2, -1, 0, 1, 2, 3\}$, where $\tau = 0$ is the transaction year and $\tau = -1$ is the omitted reference year. Points report coefficient estimates and vertical bars denote 95% confidence intervals.

Table I – Sample Construction

Table I reports the construction of the VC-backed and non-VC-backed private firm samples. Firms are classified into four groups: No Ownership Change (no recorded transaction over the period, with VC-backed firms retaining their VC backing through the end of the sample), Acquisition, IPO, and Out of Business (bankruptcy or write-off). Panel A covers VC-backed firms retrieved from PitchBook (via WRDS) over 2014–2024. Panel B covers non-VC-backed U.S. private firms retrieved from Capital IQ over the same period. Firms identified as VC-backed in Panel A are excluded from Panel B to avoid overlap. In both panels, three sequential filters are then applied. First, firms with missing website identifiers are excluded. Second, a firm–website consistency check removes observations where the retrieved URL is unrelated to the firm name or corresponds to a third-party domain. Third, firms for which no archived snapshot could be retrieved from the Wayback Machine are excluded. The Working Sample rows report the number of firm-year observations generated from annual Wayback Machine snapshots for each firm with at least one usable archive, retaining the most recent snapshot within each calendar year. The firm-year panel is unbalanced, reflecting both incomplete Wayback coverage across firm-years and left-truncation at the founding year for firms founded after 2013.

Table I: Sample Construction					
Panel A: VC Backed		Number of Firms			
	All	No Ownership Change	Acquisition	IPO	Out of Business
Baseline	7,473	5,161	1,445	539	328
Excluded: No website retrieved	7,411	5,109	1,441	535	326
Excluded: Invalid firm–website	7,390	5,092	1,438	535	325
Excluded: No Wayback snapshots	7,303	5,027	1,427	529	320
<u>Working Sample:</u>					
Firm x Year VC Backed	53,148	35,386	11,348	4,263	2,151
Panel B: No VC Backed		Number of Firms			
	All	No Ownership Change	Acquisition	IPO	Out of Business
Baseline	86,876	23,442	61,083	2,086	265
Excluded: VC-backed firms	84,733	22,792	60,043	1,646	252
Excluded: No website retrieved	63,927	13,071	49,298	1,361	197
Excluded: Invalid firm–website	38,201	13,005	23,749	1,257	190
Excluded: No Wayback snapshots	29,495	10,762	17,629	954	150
<u>Working Sample:</u>					
Firm x Year No VC Backed	236,498	88,797	139,619	6,810	1,272

Table II – Website-Based ESG Disclosure and Third-Party ESG Ratings

Table II assesses our website-based ESG disclosure measure with out-of-sample U.S. listed firms by relating disclosure ratios to third-party ESG ratings. Panel A reports results using Refinitiv ratings and Panel B uses S&P Capital IQ Pro ratings. We estimate aggregate and pillar-level specifications for Environmental, Social, and Governance using industry and year fixed effects, and alternatively industry-by-year fixed effects. All reported coefficients are standardized beta coefficients. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

Panel A - Refinitiv ESG Score								
	ESG Score		Environmental Score		Social Score		Governance Score	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln (1+ESG)	0.254*** (29.00)	0.253*** (28.90)						
Ln (1+E)			0.382*** (43.38)	0.383*** (43.23)				
Ln (1+S)					0.300*** (36.57)	0.299*** (36.35)		
Ln (1+G)							0.082*** (9.26)	0.081*** (9.14)
Year-F.E	Yes	No	Yes	No	Yes	No	Yes	No
Indus-F.E	Yes	No	Yes	No	Yes	No	Yes	No
YearxIndus-F.E	No	Yes	No	Yes	No	Yes	No	Yes
Number of Obs.	13,386	13,386	13,386	13,386	13,386	13,386	13,386	13,386
Adjusted r-sq	0.108	0.112	0.187	0.190	0.138	0.141	0.052	0.057
Panel B - S&P Capital IQ Pro ESG Score								
	ESG Score		Environmental Score		Social Score		Governance Score	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln (1+ESG)	0.194*** (21.22)	0.194*** (21.12)						
Ln (1+E)			0.305*** (31.51)	0.304*** (31.33)				
Ln (1+S)					0.282*** (32.72)	0.283*** (32.81)		
Ln (1+G)							0.092*** (10.22)	0.090*** (10.03)
Year-F.E	Yes	No	Yes	No	Yes	No	Yes	No
Indus-F.E	Yes	No	Yes	No	Yes	No	Yes	No
YearxIndus-F.E	No	Yes	No	Yes	No	Yes	No	Yes
Number of Obs.	12,180	12,180	12,180	12,180	12,180	12,180	12,180	12,180
Adjusted r-sq	0.121	0.121	0.145	0.146	0.161	0.164	0.111	0.114

Table III – Website-Based ESG Disclosure and Likelihood of B Corp Certification

Table III examines the relationship between our website-based ESG disclosure measure and the likelihood of being B Corp certified using the private firm sample. The analysis excludes post-event private firm-year observations and VC-backed firms. As in Table II, specifications include industry and year fixed effects, and alternatively industry-by-year fixed effects. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	Pr (B Corp Certified)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln (1+ESG)	4.696*** (10.63)	4.493*** (10.70)						
Ln (1+E)			4.471*** (12.05)	4.218*** (12.19)				
Ln (1+S)					2.818*** (7.62)	2.732*** (7.68)		
Ln (1+G)							1.779*** (4.49)	1.720*** (4.52)
Year-F.E	Yes	No	Yes	No	Yes	No	Yes	No
Indus-F.E	Yes	No	Yes	No	Yes	No	Yes	No
YearxIndus-F.E	No	Yes	No	Yes	No	Yes	No	Yes
Number of Obs.	173,022	153,935	173,022	153,935	173,022	153,935	173,022	153,935
Pseudo r-sq	0.101	0.099	0.105	0.103	0.087	0.084	0.079	0.076

Table IV – Working Sample Summary Statistics

Table IV displays summary statistics for the main analysis sample. Panel A covers VC-backed firms and Panel B covers non-VC-backed firms. Within each panel, statistics are reported for the full sample and by event timing, pooling pre-event and no-event firm-years and reporting post-event firm-years separately. Events are defined as major ownership transactions (IPOs or acquisitions).

	Ln (1+ESG)	Ln (1+E)	Ln (1+S)	Ln (1+G)	Firm Age	High Growth
Panel A:						
<u>VC-Backed Firms</u>						
<i>All</i>						
Mean	1.30	0.53	0.47	0.55	6.87	2.40%
Standard Deviation	1.90	1.36	1.26	1.31	5.25	15.30%
Number of Obs.	53,148	53,148	53,148	53,148	53,148	53,148
<i>Pre-event & no-event</i>						
Mean	1.22	0.53	0.44	0.47	6.40	2.64%
Standard Deviation	1.86	1.37	1.22	1.21	4.99	16.04%
Number of Obs.	46,635	46,635	46,635	46,635	46,635	46,635
<i>Post-event</i>						
Mean	1.90	0.58	0.70	1.14	10.24	0.63%
Standard Deviation	2.06	1.35	1.48	1.76	5.78	7.91%
Number of Obs.	6,513	6,513	6,513	6,513	6,513	6,513
Panel B:						
<u>No-VC-Backed Firms</u>						
<i>All</i>						
Mean	1.50	0.70	0.54	0.65	32.38	1.75%
Standard Deviation	2.03	1.57	1.33	1.43	30.02	13.12%
Number of Obs.	236,498	236,498	236,498	236,498	236,498	236,498
<i>Pre-event & no-event</i>						
Mean	1.42	0.68	0.50	0.61	33.04	1.86%
Standard Deviation	2.01	1.56	1.29	1.40	30.83	13.50%
Number of Obs.	167,852	167,852	167,852	167,852	167,852	167,852
<i>Post-event</i>						
Mean	1.69	0.76	0.65	0.76	30.77	1.49%
Standard Deviation	2.07	1.60	1.43	1.50	27.89	12.13%
Number of Obs.	68,646	68,646	68,646	68,646	68,646	68,646

Table V – ESG Disclosure by Industry

Table V displays industry-level averages of the website-based ESG disclosure measures using the pre-event and no-event firm-year sample. Panel A covers all private firms, Panel B VC-backed firms, and Panel C non-VC-backed firms. The table reports $\ln(1 + \text{ESG})$ and its Environmental, Social, and Governance components by industry.

Panel A: All	Ln (1+ESG)	Ln (1+E)	Ln (1+S)	Ln (1+G)
Business and Products and Services	1.70	1.02	0.49	0.61
Consumer Products and Services	1.03	0.46	0.37	0.41
Energy	2.64	1.96	0.78	1.02
Financial Services	1.31	0.30	0.62	0.73
Healthcare	1.11	0.24	0.53	0.56
Information Technology	1.33	0.52	0.51	0.61
Materials and Resources	2.00	1.62	0.31	0.62
Panel B: VC-Backed Firms	Ln (1+ESG)	Ln (1+E)	Ln (1+S)	Ln (1+G)
Business and Products and Services	1.64	0.91	0.56	0.45
Consumer Products and Services	1.01	0.54	0.40	0.23
Energy	2.83	2.63	0.45	0.24
Financial Services	1.05	0.33	0.43	0.52
Healthcare	0.86	0.23	0.35	0.41
Information Technology	1.32	0.52	0.48	0.57
Materials and Resources	2.97	2.73	0.43	0.35
Panel C: No-VC-Backed Firms	Ln (1+ESG)	Ln (1+E)	Ln (1+S)	Ln (1+G)
Business and Products and Services	1.71	1.03	0.48	0.63
Consumer Products and Services	1.03	0.45	0.37	0.43
Energy	2.62	1.89	0.82	1.10
Financial Services	1.34	0.30	0.64	0.75
Healthcare	1.25	0.24	0.63	0.64
Information Technology	1.34	0.53	0.52	0.63
Materials and Resources	1.94	1.55	0.30	0.64

Table VI – ESG Disclosure in the Year Before Ownership Transactions.

Table VI shows mean-comparison tests for ESG disclosure outcomes in the year preceding a major ownership transaction (event year $t-1$) versus earlier pre-event years. The sample is restricted to pre-event firm-years only. Panels A–C report, respectively, ESG disclosure levels ($\ln(1 + \text{ESG})$), changes in disclosure ($\Delta \ln(1 + \text{ESG})$), and an initiation indicator equal to one when a firm reports ESG disclosure for the first time and zero otherwise. Results are shown separately for IPO and acquisition subsamples and by VC status (VC-backed vs non-VC-backed). T-tests are reported in the last column. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

Panel A:		ESG Disclosure	
	Event year (t-1)	Other pre-event years	T-test
<i>All Private Firms</i>			
IPO	1.38	0.996	0.383***
Acquisition	1.28	1.112	0.168***
<i>VC Backed Firms</i>			
IPO	0.955	0.71	0.25***
Acquisition	1.277	0.968	0.309***
<i>No VC Backed Firms</i>			
IPO	1.699	1.199	0.50***
Acquisition	1.367	1.201	0.165***
Panel B:		Change in ESG Disclosure	
	Event year (t-1)	Other pre-event years	T-test
<i>All Private Firms</i>			
IPO	0.22	0.1	0.12**
Acquisition	0.074	0.075	-0.001
<i>VC Backed Firms</i>			
IPO	0.149	0.094	0.054
Acquisition	0.124	0.131	-0.007
<i>No VC Backed Firms</i>			
IPO	0.272	0.104	0.168***
Acquisition	0.084	0.068	0.016
Panel C		ESG Disclosure Initiation	
	Event year (t-1)	Other pre-event years	T-test
<i>All Private Firms</i>			
IPO	0.1	0.075	0.25**
Acquisition	0.067	0.066	0.001
<i>VC Backed Firms</i>			
IPO	0.097	0.082	0.015
Acquisition	0.099	0.104	-0.005
<i>No VC Backed Firms</i>			
IPO	0.102	0.069	0.033***
Acquisition	0.066	0.062	0.004*

Table VII – VC backing and Voluntary ESG Disclosure.

Table VII reports OLS estimates from Equation 2 where the dependent variable is $\ln(1 + \text{ESG}_{i,t})$. The main explanatory variable $\text{VC Stage}_{i,t}$ is alternatively measured as a single VC-backed indicator in specifications (1) and (4), early- and late-stage VC indicators in specifications (2) and (5), or VC financing-round indicators in specifications (3) and (6). Firm-year observations prior to VC entry are omitted and form the reference category. All specifications control for $\ln(\text{Firm Age}_{i,t})$ and $\text{HighGrowth}_{i,t}$. Columns vary the fixed-effects structure and use year and industry fixed effects in specification (1) to (3), and year $\times$ industry fixed effects in specification (4) to (6). Standard errors are clustered at the firm level. The sample is restricted to VC-backed firms prior to VC exit. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	$\ln(1 + \text{ESG})$					
	(1)	(2)	(3)	(4)	(5)	(6)
VC Backed	0.0313 (0.84)			0.0419 (1.13)		
Early VC Backed		0.00775 (0.21)			0.0183 (0.49)	
Late VC Backed		0.153*** (3.76)			0.162*** (3.98)	
VC Round 1			-0.0342 (-0.84)			-0.0228 (-0.56)
VC Round 2			0.00660 (0.17)			0.0166 (0.42)
VC Round 3			0.0702* (1.72)			0.0800* (1.96)
VC Round 4			0.140*** (3.22)			0.150*** (3.44)
VC Round 5			0.137*** (2.88)			0.146*** (3.07)
VC Round 6 and +			0.248*** (5.27)			0.255*** (5.41)
Ln Firm Age	0.180*** (13.87)	0.136*** (9.52)	0.115*** (7.73)	0.176*** (13.54)	0.133*** (9.29)	0.112*** (7.53)
High Growth	0.222*** (4.28)	0.208*** (4.00)	0.207*** (3.99)	0.216*** (4.16)	0.202*** (3.89)	0.201*** (3.87)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
Year $\times$ Industry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	46,635	46,635	46,635	46,635	46,635	46,635
Adjusted R-sq	0.083	0.084	0.084	0.084	0.085	0.086

Table VIII – VC Backing and Pillar-Level ESG Disclosure.

Table VIII replicates Table VII using pillar-level dependent variables: $\ln(1 + E_{i,t})$, $\ln(1 + S_{i,t})$, and $\ln(1 + G_{i,t})$. The VC-stage variables are defined as in Table VII, and firm-year observations prior to VC entry form the reference category. Panel A includes year and industry fixed effects, while Panel B uses year $\times$ industry fixed effects. Standard errors are clustered at the firm level. The sample is restricted to VC-backed firms prior to VC exit. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

Panel A						
	Ln (1+E)		Ln (1+S)		Ln (1+G)	
	(1)	(2)	(3)	(4)	(5)	(6)
VC Backed	0.0234 (0.87)		-0.0135 (-0.54)		0.00152 (0.06)	
Early VC Backed		0.0164 (0.61)		-0.0312 (-1.24)		-0.00509 (-0.20)
Late VC Backed		0.0597** (2.02)		0.0778*** (2.83)		0.0357 (1.31)
Ln Firm Age	0.0867*** (9.22)	0.0736*** (7.10)	0.0663*** (7.57)	0.0333*** (3.46)	0.0763*** (8.81)	0.0640*** (6.70)
High Growth	-0.108*** (-2.85)	-0.112*** (-2.96)	0.153*** (4.37)	0.142*** (4.06)	0.261*** (7.51)	0.257*** (7.39)
Year-FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-FE	Yes	Yes	Yes	Yes	Yes	Yes
YearxIndustry-FE	No	No	No	No	No	No
Number of Obs.	46,635	46,635	46,635	46,635	46,635	46,635
Adjusted R-sq	0.104	0.104	0.022	0.024	0.026	0.027

Panel B						
	Ln (1+E)		Ln (1+S)		Ln (1+G)	
	(1)	(2)	(3)	(4)	(5)	(6)
VC Backed	0.0334 (1.24)		-0.0121 (-0.48)		0.00606 (0.24)	
Early VC Backed		0.0264 (0.98)		-0.0299 (-1.19)		-0.000431 (-0.02)
Late VC Backed		0.0692** (2.35)		0.0784*** (2.85)		0.0390 (1.43)
Ln Firm Age	0.0814*** (8.65)	0.0685*** (6.62)	0.0654*** (7.44)	0.0328*** (3.40)	0.0770*** (8.85)	0.0651*** (6.81)
High Growth	-0.108*** (-2.87)	-0.112*** (-2.98)	0.150*** (4.27)	0.139*** (3.97)	0.256*** (7.37)	0.252*** (7.25)
Year-FE	No	No	No	No	No	No
Industry-FE	No	No	No	No	No	No
YearxIndustry-FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Obs.	46,635	46,635	46,635	46,635	46,635	46,635
Adjusted R-sq	0.109	0.109	0.023	0.024	0.027	0.027

Table IX – VC Financing Stages and ESG Disclosure Relative to Non-VC Private Firms.

Table IX displays OLS estimates from Equation 2 on an extended sample that includes both VC-backed firms and non-VC-backed private firms. The dependent variable is $\ln(1 + \text{ESG}_{i,t})$. Non-VC-backed private firms constitute the reference group. VC Stage $_{i,t}$ is alternatively measured using indicators for pre-VC, VC-backed status, early versus late VC stages, or VC-round indicators. Columns vary the fixed-effects structure and use year and industry fixed effects in specifications (1) to (3), and year $\times$ industry fixed effects in specifications (4) to (6). Standard errors are clustered at the firm level. The sample excludes post-transaction firm-year observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	$\ln(1 + \text{ESG})$					
	(1)	(2)	(3)	(4)	(5)	(6)
Pre VC Backed	-0.152*** (-3.85)	-0.163*** (-4.13)	-0.167*** (-4.23)	-0.156*** (-3.96)	-0.167*** (-4.23)	-0.171*** (-4.33)
VC Backed	-0.0537*** (-4.28)			-0.0508*** (-4.02)		
Early VC Backed		-0.116*** (-7.92)			-0.112*** (-7.60)	
Late VC Backed		0.0459*** (2.64)			0.0470*** (2.69)	
VC Round 1			-0.176*** (-7.54)			-0.171*** (-7.29)
VC Round 2			-0.126*** (-6.14)			-0.122*** (-5.93)
VC Round 3			-0.0590*** (-2.73)			-0.0552** (-2.55)
VC Round 4			0.0133 (0.52)			0.0165 (0.65)
VC Round 5			0.0209 (0.66)			0.0218 (0.69)
VC Round 6 and +			0.105*** (3.69)			0.103*** (3.65)
Ln Firm Age	0.155*** (33.53)	0.150*** (32.00)	0.148*** (31.47)	0.155*** (33.47)	0.150*** (31.98)	0.148*** (31.46)
High Growth	0.195*** (6.60)	0.183*** (6.19)	0.181*** (6.10)	0.191*** (6.47)	0.180*** (6.07)	0.177*** (5.99)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
Year $\times$ Industry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	214,487	214,487	214,487	214,487	214,487	214,487
Adjusted R-sq	0.057	0.058	0.058	0.058	0.058	0.058

Table X – Abnormal ESG Disclosure and VC Financing Stages.

Table X reports logit estimates using a binary measure of abnormal ESG disclosure. The dependent variable equals one if a firm-year's ESG disclosure exceeds its predicted level based on $\ln(\text{Firm Age}_{i,t})$, $\text{HighGrowth}_{i,t}$, and $\text{year} \times \text{industry}$ fixed effects, and zero otherwise. Panel A replicates Table VII and Panel B replicates Table IX. Columns vary the fixed-effects structure and use year and industry fixed effects in specifications (1) to (3), and $\text{year} \times \text{industry}$ fixed effects in specifications (4) to (6). Standard errors are clustered at the firm level. The sample excludes post-transaction firm-year observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

Panel A						
	Abnormal ESG Disclosure					
	(1)	(2)	(3)	(4)	(5)	(6)
VC Backed	0.0486 (0.96)			0.0547 (1.09)		
Early VC Backed		0.0164 (0.32)			0.0227 (0.45)	
Late VC Backed		0.194*** (3.58)			0.198*** (3.66)	
VC Round 1			-0.0336 (-0.61)			-0.0265 (-0.48)
VC Round 2			0.0176 (0.33)			0.0238 (0.44)
VC Round 3			0.0843 (1.54)			0.0891 (1.63)
VC Round 4			0.173*** (3.01)			0.177*** (3.09)
VC Round 5			0.183*** (2.96)			0.187*** (3.01)
VC Round 6 and +			0.306*** (5.00)			0.309*** (5.04)
Ln Firm Age	0.260*** (15.35)	0.202*** (10.83)	0.176*** (9.01)	0.259*** (15.27)	0.203*** (10.83)	0.177*** (9.03)
High Growth	0.296*** (4.90)	0.280*** (4.63)	0.280*** (4.62)	0.293*** (4.83)	0.277*** (4.57)	0.276*** (4.55)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	46,635	46,635	46,635	46,635	46,635	46,635
Pseudo R-sq	0.061	0.062	0.062	0.062	0.063	0.063

Panel B						
	Abnormal ESG Disclosure					
	(1)	(2)	(3)	(4)	(5)	(6)
Pre VC Backed	-0.177*** (-3.62)	-0.192*** (-3.93)	-0.197*** (-4.04)	-0.182*** (-3.72)	-0.197*** (-4.03)	-0.202*** (-4.13)
VC Backed	-0.00984 (-0.69)			-0.0168 (-1.16)		
Early VC Backed		-0.0984*** (-5.81)			-0.103*** (-6.03)	
Late VC Backed		0.118*** (6.16)			0.108*** (5.60)	
VC Round 1			-0.178*** (-6.39)			-0.181*** (-6.48)
VC Round 2			-0.110*** (-4.58)			-0.114*** (-4.75)
VC Round 3			-0.0318 (-1.29)			-0.0374 (-1.52)
VC Round 4			0.0687** (2.44)			0.0608** (2.15)
VC Round 5			0.0941*** (2.72)			0.0840** (2.42)
VC Round 6 and +			0.193*** (6.31)			0.181*** (5.90)
Ln Firm Age	0.196*** (36.27)	0.188*** (34.50)	0.186*** (33.91)	0.195*** (35.94)	0.187*** (34.24)	0.184*** (33.66)
High Growth	0.289*** (8.98)	0.273*** (8.48)	0.270*** (8.37)	0.287*** (8.90)	0.272*** (8.42)	0.269*** (8.32)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
N	214,487	214,487	214,487	214,487	214,487	214,487
Pseudo R-sq	0.036	0.036	0.037	0.036	0.036	0.037

Table XI – ESG Disclosure Before IPOs and Acquisitions.

Table XI reports OLS estimates from Equation 4 where the dependent variable is $\ln(1 + \text{ESG}_{i,t})$. $\text{IPOLead}_{i,t}$ and $\text{AcqLead}_{i,t}$ indicate firm-years in the calendar year immediately preceding an IPO or an acquisition, respectively. Specifications add VC-status controls (Pre-VC and VC-backed) or decompose VC-backed observations into early- and late-stage indicators, and include interactions between VC-status indicators and the lead-year dummies. Columns (1)–(3) include year and industry fixed effects, while Columns (4)–(6) replace them with year $\times$ industry fixed effects. Standard errors are clustered at the firm level. The sample is restricted to pre-exit observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	Ln (1+ESG)					
	(1)	(2)	(3)	(4)	(5)	(6)
IPOLead	0.0950 (1.61)	0.329*** (4.18)	0.317*** (4.11)	0.0967 (1.63)	0.336*** (4.27)	0.324*** (4.20)
AcqLead	-0.0890*** (-5.40)	-0.103*** (-5.89)	-0.105*** (-6.04)	-0.0891*** (-5.40)	-0.102*** (-5.88)	-0.105*** (-6.02)
Pre VC Backed		-0.159*** (-4.03)	-0.175*** (-4.45)		-0.163*** (-4.13)	-0.180*** (-4.55)
VC Backed		-0.0594*** (-4.62)			-0.0564*** (-4.36)	
Early VC Backed			-0.121*** (-8.09)			-0.116*** (-7.77)
Late VC Backed			0.0387** (2.17)			0.0399** (2.22)
IPOLead x VC backed		-0.527*** (-4.43)			-0.542*** (-4.56)	
AcqLead x VC Backed		0.0331 (0.58)			0.0347 (0.61)	
IPOLead x Early VC backed			-0.687*** (-4.61)			-0.700*** (-4.70)
IPOLead x Late VC backed			-0.419*** (-2.74)			-0.436*** (-2.85)
AcqLead x Early VC Backed			0.00600 (0.08)			0.00709 (0.09)
AcqLead x Late VC Backed			0.0708 (0.84)			0.0741 (0.87)
Ln Firm Age	0.166*** (40.78)	0.154*** (33.23)	0.149*** (31.68)	0.166*** (40.63)	0.154*** (33.17)	0.149*** (31.67)
High Growth	0.200*** (6.75)	0.199*** (6.71)	0.187*** (6.31)	0.196*** (6.62)	0.195*** (6.58)	0.183*** (6.19)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	214,487	214,487	214,487	214,487	214,487	214,487
Adjusted R-sq	0.057	0.057	0.058	0.058	0.058	0.058

Table XII – Abnormal ESG Disclosure Before IPOs and Acquisitions.

Table XII reports logit estimates from Equation 4 where the dependent variable is abnormal ESG disclosure. $IPOLead_{i,t}$ and $AcqLead_{i,t}$ indicate firm-years in the calendar year immediately preceding an IPO or an acquisition, respectively. Specifications add VC-status controls (Pre-VC and VC-backed) or decompose VC-backed observations into early- and late-stage indicators, and include interactions between VC-status indicators and the lead-year dummies. Columns (1)–(3) include year and industry fixed effects, while Columns (4)–(6) replace them with year $\times$ industry fixed effects. Standard errors are clustered at the firm level. The sample is restricted to pre-exit observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	Abnormal ESG Disclosure					
	(1)	(2)	(3)	(4)	(5)	(6)
IPOLead	0.119* (1.82)	0.339*** (4.00)	0.332*** (3.99)	0.116* (1.77)	0.338*** (3.99)	0.330*** (3.97)
AcqLead	-0.0885*** (-4.81)	-0.0976*** (-5.01)	-0.101*** (-5.18)	-0.0866*** (-4.70)	-0.0963*** (-4.94)	-0.0995*** (-5.11)
Pre VC Backed		-0.184*** (-3.76)	-0.205*** (-4.19)		-0.189*** (-3.86)	-0.210*** (-4.28)
VC Backed		-0.0159 (-1.08)			-0.0225 (-1.52)	
Early VC Backed			-0.104*** (-5.99)			-0.108*** (-6.19)
Late VC Backed			0.111*** (5.64)			0.101*** (5.11)
IPOLead x VC backed		-0.537*** (-3.95)			-0.541*** (-3.98)	
AcqLead x VC Backed		0.0551 (0.87)			0.0499 (0.79)	
IPOLead x Early VC backed			-0.802*** (-4.24)			-0.808*** (-4.27)
IPOLead x Late VC backed			-0.418** (-2.48)			-0.418** (-2.48)
AcqLead x Early VC Backed			0.0502 (0.59)			0.0410 (0.48)
AcqLead x Late VC Backed			0.0642 (0.70)			0.0643 (0.70)
Ln Firm Age	0.166*** (40.78)	0.154*** (33.23)	0.149*** (31.68)	0.166*** (40.63)	0.154*** (33.17)	0.149*** (31.67)
High Growth	0.200*** (6.75)	0.199*** (6.71)	0.187*** (6.31)	0.196*** (6.62)	0.195*** (6.58)	0.183*** (6.19)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	214,487	214,487	214,487	214,487	214,487	214,487
Pseudo R-sq	0.036	0.036	0.0367	0.036	0.037	0.037

Table XIII – ESG Disclosure Changes Before IPOs and Acquisitions.

Table XIII reports OLS estimates from Equation 4 where the dependent variable is $\Delta \ln(1 + \text{ESG}_{i,t})$. IPOLead_{*i,t*} and AcqLead_{*i,t*} indicate firm-years in the calendar year immediately preceding an IPO or an acquisition, respectively. Specifications add VC-status controls (Pre-VC and VC-backed) or decompose VC-backed observations into early- and late-stage indicators, and include interactions between VC-status indicators and the lead-year dummies. Columns (1)–(3) include year and industry fixed effects, while Columns (4)–(6) replace them with year×industry fixed effects. Standard errors are clustered at the firm level. The sample is restricted to pre-exit observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	ESG Disclosure Change					
	(1)	(2)	(3)	(4)	(5)	(6)
IPOLead	0.100** (2.37)	0.165*** (2.95)	0.165*** (2.97)	0.102** (2.41)	0.167*** (2.98)	0.167*** (3.00)
AcqLead	-0.0121 (-1.06)	-0.00304 (-0.25)	-0.00332 (-0.27)	-0.0125 (-1.09)	-0.00329 (-0.27)	-0.00356 (-0.29)
Pre VC Backed		0.0559 (1.63)	0.0530 (1.55)		0.0558 (1.63)	0.0530 (1.55)
VC Backed		0.0477*** (4.99)			0.0491*** (5.12)	
Early VC Backed			0.0371*** (3.31)			0.0392*** (3.49)
Late VC Backed			0.0628*** (4.87)			0.0633*** (4.89)
IPOLead x VC backed		-0.158* (-1.85)			-0.158* (-1.85)	
AcqLead x VC Backed		-0.0202 (-0.51)			-0.0199 (-0.50)	
IPOLead x Early VC backed			-0.210* (-1.95)			-0.208* (-1.93)
IPOLead x Late VC backed			-0.120 (-1.11)			-0.123 (-1.15)
AcqLead x Early VC Backed			-0.0631 (-1.20)			-0.0636 (-1.21)
AcqLead x Late VC Backed			0.0304 (0.52)			0.0321 (0.55)
Ln Firm Age	-0.0168*** (-5.18)	-0.00794** (-2.16)	-0.00898** (-2.42)	-0.0171*** (-5.27)	-0.00798** (-2.17)	-0.00896** (-2.42)
High Growth	0.0687*** (3.15)	0.0681*** (3.12)	0.0659*** (3.02)	0.0684*** (3.14)	0.0677*** (3.10)	0.0656*** (3.01)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	181,933	181,933	181,933	181,933	181,933	181,933
Adjusted R-sq	0.001	0.001	0.001	0.001	0.001	0.002

Table XIV – ESG Disclosure Initiation Before IPOs and Acquisitions.

Table XIV reports logit estimates from Equation 4 where the dependent variable is ESG Disclosure Initiation. $IPOLead_{i,t}$ and $AcqLead_{i,t}$ indicate firm-years in the calendar year immediately preceding an IPO or an acquisition, respectively. Specifications add VC-status controls (Pre-VC and VC-backed) or decompose VC-backed observations into early- and late-stage indicators, and include interactions between VC-status indicators and the lead-year dummies. Columns (1)–(3) include year and industry fixed effects, while Columns (4)–(6) replace them with year $\times$ industry fixed effects. Standard errors are clustered at the firm level. The sample is restricted to pre-exit observations. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	ESG Disclosure Initiation					
	(1)	(2)	(3)	(4)	(5)	(6)
IPOLead	0.235** (2.17)	0.415*** (2.92)	0.411*** (2.92)	0.232** (2.14)	0.411*** (2.89)	0.408*** (2.89)
AcqLead	-0.0825** (-2.39)	-0.0144 (-0.38)	-0.0156 (-0.42)	-0.0829** (-2.40)	-0.0151 (-0.40)	-0.0162 (-0.43)
Pre VC Backed		0.176* (1.87)	0.166* (1.77)		0.172* (1.83)	0.163* (1.73)
VC Backed		0.343*** (13.10)			0.345*** (13.12)	
Early VC Backed			0.313*** (10.27)			0.316*** (10.34)
Late VC Backed			0.383*** (11.50)			0.384*** (11.48)
IPOLead x VC backed		-0.426* (-1.95)			-0.425* (-1.95)	
AcqLead x VC Backed		-0.0539 (-0.52)			-0.0522 (-0.50)	
IPOLead x Early VC backed			-0.603** (-2.03)			-0.601** (-2.02)
IPOLead x Late VC backed			-0.316 (-1.21)			-0.317 (-1.22)
AcqLead x Early VC Backed			-0.0804 (-0.58)			-0.0790 (-0.57)
AcqLead x Late VC Backed			-0.0272 (-0.19)			-0.0258 (-0.18)
Ln Firm Age	-0.126*** (-13.25)	-0.0560*** (-5.04)	-0.0599*** (-5.32)	-0.127*** (-13.33)	-0.0568*** (-5.10)	-0.0605*** (-5.37)
High Growth	0.387*** (7.23)	0.376*** (7.02)	0.369*** (6.88)	0.387*** (7.24)	0.377*** (7.02)	0.370*** (6.89)
Year-FE	Yes	Yes	Yes	No	No	No
Industry-FE	Yes	Yes	Yes	No	No	No
YearxIndustry-FE	No	No	No	Yes	Yes	Yes
Number of Obs.	181,933	181,933	181,933	181,933	181,933	181,933
Pseudo R-sq	0.010	0.012	0.012	0.011	0.013	0.013

Appendix

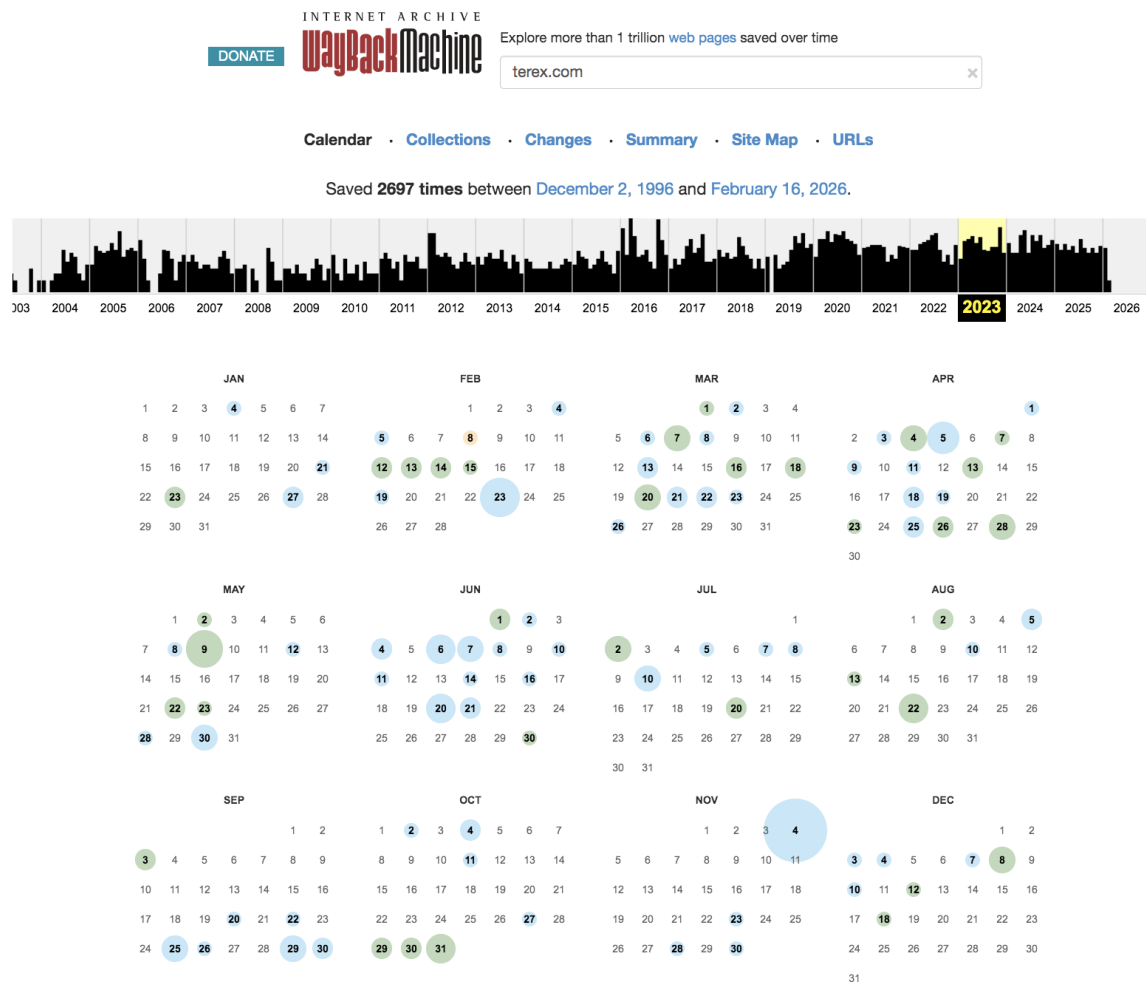
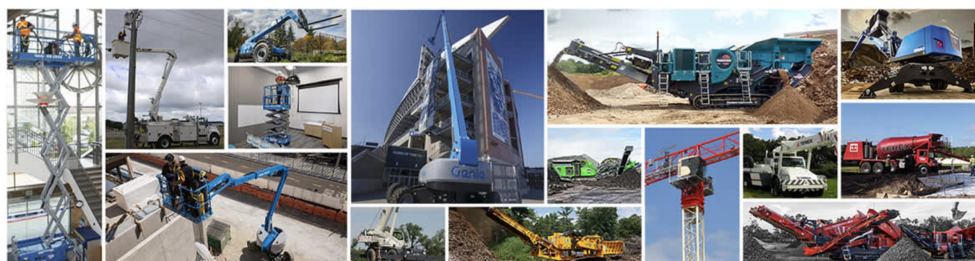


Figure A1. Wayback Machine Calendar View and Snapshot Selection This figure shows the Internet Archive Wayback Machine “calendar view” for a given firm URL. The timeline at the top summarizes the intensity of archived captures over time, while the calendar highlights the specific capture dates available within a selected year (bubble size reflecting capture volume/availability).



Terex is a global manufacturer of materials processing machinery and aerial work platforms. We design, build and support products used in construction, maintenance, manufacturing, energy, recycling, minerals and materials management applications. Certain Terex products and solutions enable customers to reduce their environmental impact including electric and hybrid offerings that deliver quiet and emission-free performance, products that support renewable energy, and products that aid in the recovery of useful materials from various types of waste. Our products are manufactured in North America, Europe, Australia and Asia and sold worldwide. We engage with customers through all stages of the product life cycle, from initial specification and financing to parts and service support.

"About Terex" Video

Environmental, Social & Governance

Figure A2. Archived Page Snapshot Retrieved from the Wayback Machine
This figure displays an example of a historical webpage snapshot retrieved via the Internet Archive Wayback Machine for a firm URL and date selected from the archive calendar, illustrating the archived page content used in our data collection process.

Table A1 – ESG Dictionary

Table A1 reports the ESG word dictionaries used for website-based disclosure measurement. Terms are grouped into Environmental (E), Social (S), and Governance (G) categories and are drawn from the CISL sustainability glossary and the UNDP SDG Impact Standards glossary. We remove overly generic and sector-specific terms to reduce non-disclosure matches. The final dictionary includes 31 E terms, 20 S terms, and 16 G terms.

Panel A. Environmental (E) terms			
afforestation	biodiversity	biodiverse	carbon
climate	cleantech	coal	decarbonisation
decarbonization	decarbonize	decarbonized	decarbonizing
deforestation	ecosystem	effluent	emissions
environmental	environmentally	ghg	greenhouse
landfill	netzero	offset	pollution
recycle	recycling	reforest	renewable
renewables	sustainability	warming	
Panel B. Social (S) terms			
antislavery	citizenship	communities	diversity
gender	inclusion	inclusiveness	inclusivity
indigenous	minority	nondiscrimination	nondiscriminatory
philanthropy	slavery	socially	stakeholder
volunteering	wellbeing	workforce	workplace
Panel C. Governance (G) terms			
accountability	anticorruption	antibribery	avoidance
bribery	conduct	corruption	ethics
governance	integrity	misconduct	oversight
responsibility	stewardship	transparency	

Table A2 – ESG Disclosure Across Financing Rounds in VC-Backed Firms.

Table A2 reports average website-based ESG disclosure measures across financing stages for VC-backed firms, from the pre-VC stage to Round 6. The table reports the aggregate disclosure measure and its Environmental, Social, and Governance components. For each round, we report a mean-comparison test relative to the pre-VC stage. * stands for significant at 10%, ** significant at 5%, and *** significant at 1% level.

	Ln(1+ESG)	Ln(1+E)	Ln(1+S)	Ln(1+G)
Pre VC	16.16	6.74	5.28	4.14
Round 1	20.01	10.03	5.35	4.63
<i>T-test (Round 1 - Pre VC)</i>	<i>3.85***</i>	<i>3.29***</i>	<i>-0.07</i>	<i>0.49</i>
Round 2	21.00	9.82	5.53	5.66
<i>T-test (Round 2 - Pre VC)</i>	<i>4.84***</i>	<i>3.08***</i>	<i>0.25</i>	<i>1.52***</i>
Round 3	24.63	11.70	7.10	5.82
<i>T-test (Round 3 - Pre VC)</i>	<i>8.47***</i>	<i>4.96***</i>	<i>1.82**</i>	<i>1.68***</i>
Round 4	25.85	11.41	8.55	5.89
<i>T-test (Round 4 - Pre VC)</i>	<i>9.69***</i>	<i>4.67***</i>	<i>3.27***</i>	<i>1.75***</i>
Round 5	27.55	13.97	7.87	5.71
<i>T-test (Round 5 - Pre VC)</i>	<i>11.39***</i>	<i>7.22***</i>	<i>2.59***</i>	<i>1.58***</i>
Round 6	28.04	12.02	8.37	7.65
<i>T-test (Round 6 - Pre VC)</i>	<i>11.88***</i>	<i>5.28***</i>	<i>3.09***</i>	<i>3.51***</i>

Table A3 – Event-Time Regression Estimates Around IPOs/Acquisitions.

Table A3 reports coefficient estimates from Equation 3 underlying Figures 4 and 5. Columns (1) and (2) use $\ln(1 + \text{ESG}_{i,t})$ as the dependent variable, while columns (3) and (4) use the abnormal ESG disclosure indicator. The omitted reference year is $\tau = -1$. All specifications include firm and year fixed effects and cluster standard errors at the firm level.

	Panel A		Panel B	
	Ln (1 + ESG)		Abnormal ESG	
	IPO	ACQ	IPO	ACQ
Year -3 $\times$ VC Backed	0.0575 (0.47)	-0.155** (-2.40)	0.000695 (0.02)	-0.0498*** (-2.90)
Year -2 $\times$ VC Backed	-0.00563 (-0.07)	-0.0632 (-1.33)	-0.0134 (-0.59)	-0.0170 (-1.30)
Year 0 $\times$ VC Backed	1.576*** (5.52)	0.297 (1.41)	0.344*** (4.95)	0.0464 (0.97)
Year +1 $\times$ VC Backed	1.784*** (5.92)	0.583*** (2.70)	0.393*** (5.38)	0.121** (2.45)
Year +2 $\times$ VC Backed	1.929*** (6.21)	0.834*** (3.78)	0.434*** (5.70)	0.183*** (3.57)
Year + 3 $\times$ VC Backed	2.055*** (6.21)	0.831*** (3.62)	0.472*** (5.84)	0.182*** (3.39)
Year -3 $\times$ No VC Backed	-0.316*** (-2.91)	-0.128*** (-6.98)	-0.0793*** (-2.99)	-0.0328*** (-6.86)
Year -2 $\times$ No VC Backed	-0.187** (-2.52)	-0.0633*** (-5.00)	-0.0427** (-2.32)	-0.0163*** (-4.87)
Year 0 $\times$ No VC Backed	0.353*** (4.00)	0.0725*** (5.22)	0.0822*** (3.73)	0.0194*** (5.33)
Year +1 $\times$ No VC Backed	0.516*** (4.90)	0.208*** (10.24)	0.126*** (4.66)	0.0556*** (10.57)
Year +2 $\times$ No VC Backed	0.627*** (5.15)	0.324*** (12.66)	0.159*** (5.04)	0.0849*** (12.96)
Year + 3 $\times$ No VC Backed	0.628*** (4.39)	0.404*** (12.98)	0.163*** (4.41)	0.104*** (13.13)
Ln Firm Age	0.280 (1.55)	0.132** (2.40)	0.0549 (1.31)	0.0345** (2.50)
High Growth	-0.159 (-0.86)	-0.0503 (-0.94)	-0.0529 (-1.04)	-0.00897 (-0.64)
Early VC	0.0819 (0.31)	0.0899 (0.44)	0.00336 (0.05)	0.000787 (0.02)
Late VC	0.802*** (2.73)	0.217 (1.00)	0.150** (2.06)	0.0281 (0.55)
Year-F.E	Yes	Yes	Yes	Yes
Firm-F.E	Yes	Yes	Yes	Yes
Number of Obs.	7,110	89,331	7,110	89,331
Adjusted R-sq	0.583	0.628	0.515	0.571