The Information Content of Mandatory Human Capital Disclosures—Initial Evidence

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Abstract

This paper provides evidence on the information content of newly mandated qualitative Human Capital Disclosure (HCD) to equity and bond investors. We hand-collect and code the HCD of 1,636 firms from their 10-K filings based on the first year of the mandatory disclosure requirement. We first document that the amount of HCD is negatively associated with contemporaneous employee turnover after controlling for firm characteristics and existing human capital management information, suggesting qualitative mandatory HCD contains information related to employee welfare that was previously non-public. Next, we find that both the total and unexpected amount of HCD generate positive equity market reactions around the 10-K filing date. Further analysis shows that the equity market reacts positively to three factors extracted from HCD subcategories. In contrast, we find that the bond market reacts negatively to total and unexpected HCD and this negative market reaction is driven by factor one and three, which include disclosures on Diversity & Inclusion, Safety & Health, Employee Development, Engagement, Compensation, CSR, and Labor Relations. Our evidence collectively suggests that the principles-based mandatory HCD contains value-relevant information to equity and bond investors, but the value implications are different depending on the stakeholders' payoff functions.

1. Introduction

Human capital is widely recognized as a key input for value creation in firms (Zingales 2000). In *"The Age of Human Capital",* Becker (2002) posits that "*human capital is by far the most important form of capital in modern economies".* Despite this, firms were not historically required to disclose information about human capital. In an attempt to bridge this disclosure gap, a group of institutional investors representing the Human Capital Management Coalition submitted a 2017 petition to the Securities Exchange Commission (SEC), urging them to "*adopt new rules, or amend existing rules, to require issuers to disclose information about their human capital management policies, practices and performance"* since "*investors do not currently have the ability to obtain comparable human capital data from U.S. issuers"* (HCMC 2017). In August 2020, the SEC updated Regulation S-K (Final Rule 33-10825) to require registrants to disclose "*human capital resources, including any human capital measures or objectives*" that are material. Subsequent to the new rule, firms significantly increased both quantitative and qualitative human capital disclosures (Bourveau et al. 2022; Demers et al. 2022) in their 10-Ks.[1] We explore the information content of the newly mandated qualitative human capital disclosures (HCDs) by examining the reactions of the equity and bond markets to mandatory HCDs around firms' 10-K filing dates.

The SEC explicitly stated that given the varied and evolving nature of human capital management strategies, its final rule does not include prescriptive requirements. As such, the new disclosure requirements are principles-based and do not require disclosure of specific human capital metrics. Due to the discretion firms have on what to disclose, many commentators

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[1] Please refer to Appendix A for examples of firms' human capital disclosures.

expressed concern that the HCDs would be boilerplate, resulting in disclosures that are uninformative to investors. This possibility is especially salient given that investors can already extract a wealth of human capital information from other sources including ESG ratings, government agencies, and voluntary disclosures in firms' CSR reports, job postings, or periodic SEC filings.

On the other hand, prior research shows that other principles-based mandatory disclosures (such as risk factors disclosures) provide value relevant information to multiple stakeholders including equity, bond, and CDS investors (Campbell et al. 2014; Chiu et al. 2018). These results suggest that mandatory disclosures may be informative because of externalities or because they mitigate market failures that cannot be resolved with existing governance mechanisms. The mandatory HCDs may also be value-relevant because they alleviate investor uncertainty about the firm's intangible human capital-based assets or facilitate comparison with industry peers. For these reasons, it is unclear whether HCDs provided by firms for the purpose of complying with SEC requirements actually provide new incremental information to investors.

Firms typically emphasize their human capital investment with very positive tones. Given that the value implications of human capital investment to corporate stakeholders are *ex-ante* unclear, this mandatory disclosure setting also provides us an opportunity to use an event study method to explore how human capital investment affects shareholders' and debtholders' value, respectively. On the one hand, investments in human capital may increase overall firm value by increasing employee productivity, and multiple stakeholders including employees, shareholders, and creditors may enjoy such benefits uniformly. However, the optimal level and type of investment in on-the-job training has been debated ever since Becker (1962), and there is a lack of

consensus whether human capital investments especially pertaining to social dimensions such as Diversity, Equity, and Inclusion (DEI) and community engagement increase firm value.

Even if human capital investment increases overall firm value, the value implications for shareholders and debtholders can be different for at least two related reasons. Human capital represents one type of intangible asset with uncertain future payoffs. Since shareholders enjoy the upside potential while creditors primarily bear downside risk, risky investments that consume existing financial resources may be detrimental to creditors but create value for shareholders. Employee claims are similar to general debt claims in the bankruptcy courts but have higher priority than unsecured bonds (Lewis 2019). Thus, bond investors may respond negatively to new information revealing firms' human capital investment and engagement efforts. In addition, human capital expenditure tends to be stickier than firms' cash flows, leading to a form of labor leverage as a special type of operating leverage. Donangelo et al. (2019) document the existence of the labor leverage and show that the elasticity of labor costs to sales is much lower than that for non-labor costs. Such leverage will increase default risk when a firm experiences negative productivity or demand shocks, hurting the debtholders more than shareholders. By examining the signed equity and bond market reactions to the newly mandated HCDs, our objective is to test the joint hypothesis that the amount of mandatory disclosure reflects firms' human capital investments and provides incremental value-relevant information to equity and bond market investors.

To explore the information content of the newly mandated HCDs, we read through all the HCDs for our sample of firms. We examine the subsection of Item 1 and code HCDs into 13 categories. Most of the sample firms provide titles for each category, so we generally follow their classification. The list of 13 subcategories is: 1) Diversity & Inclusion; 2) Employee Development; 3) Safety & Health; 4) Compensation; 5) Engagement; 6) Tenure; 7) Culture; 8) Recruitment; 9)

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Pay Equity; 10) Succession Planning; 11) Employee Statistics; 12) Labor Relations, and 13) CSR. These subcategories are generally consistent with the recent descriptive study on human capital disclosures by Batish et al. (2021)[2]. The three most commonly discussed HCD subcategories are Employee Statistics, Diversity & Inclusion, and Safety & Health, and 77.2% of sample firms disclose between four and seven subcategories in their HCDs. Finally, our sample firms disclose 365 words in their HCDs on average, and firms tend to focus on topics (3) Safety & Health (average word count = 103) and (1) Diversity & Inclusion (average word count = 93) in their HCDs.

Before examining the investor reaction to HCDs, we first build a mandatory HCD determinant model by regressing the amount of qualitative human capital disclosure on existing human capital management information, institutional investors' ownership and social preferences, and other firm characteristics measured before the 10-K filing date. We use Refinitiv's workforce ratings as an aggregate measure of existing human capital management information because these ratings are constructed using firms' existing human capital practices and disclosures (e.g., 10-Ks, sustainability reports, and government reports) and encompass seven dimensions, including Diversity and Opportunity, Training and Development, Health and Safety, Compensation Policy, Vision and Strategy, Employment Quality, and Society and Community. Our determinant model serves three purposes. First, we test if the amount of mandatory HCDs is correlated with Refinitiv's workforce ratings. Since firms usually discuss their human capital management with a positive tone in 10-K filings, a significant positive association between HCDs and Refinitiv's workforce ratings would suggest that mandatory HCDs contain firm-specific information. Our results confirm

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[2] The human capital disclosure areas in Batish et al. (2021) are: 1) diversity and inclusion, 2) employee development, 3) safety, 4) compensation practices, 5) employee engagement, 6) tenure/turnover, 7) culture, 8) recruiting, 9) mental health, 10) pay equity, and 11) succession planning.

this positive association. We also find that although institutional ownership is an important determinant of HCDs, there is no significant association between HCDs and institutional investors' preferences on social issues.

Second, we use the determinant model to examine whether mandatory HCDs are associated with one specific type of non-public information—employee turnover. Li et al. (2022) find that employee turnover negatively predicts future firm performance, and Agrawal et al. (2021) find rank-and-file labor flows proxy for employees' private information and predict future stock returns. We calculate employee turnover using employee position data provided by Revelio Labs, which extracts millions of public employment records from websites such as LinkedIn. Although the source data related to employee records is publicly available, Revelio Labs uses a proprietary algorithm to standardize employee records and link them to publicly traded companies. Thus, the turnover rate aggregated for each company is nonpublic. We find firms providing greater HCDs experience significantly lower employee turnover during the fiscal year. This result helps identify one dimension of the new information HCDs likely convey and further supports the previous result that the amount of qualitative mandatory HCDs, on average, reflects employee welfare. Third, we use the residual of the determinant model as the unexpected human capital disclosure for our subsequent tests, following the approach in Campbell et al. (2014).

In our equity market reaction analyses, we find that greater mandatory HCDs are associated with a significantly more positive 7-day abnormal stock market reaction around the 10-K filings.[3] This result is robust to multiple disclosure quantity measures, including total word count, the number of subcategories disclosed, and unexpected disclosure quantity. The economic magnitude

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[3] Following Pan et al. (2022), we focus on the seven-day [-1,+5] CAR around the 10-K filings to allow time for investors to process the information. Please see Section 4.3 for additional analysis related to the choice of the event window.

is comparable to risk factor disclosures, which generate significant negative market reactions (Campbell et al. 2014). Since Bourveau et al. (2022) find higher absolute abnormal returns after the HCDs mandate for firms that provide material quantitative HCDs information around 10-K filing dates, we further control the numeric intensity of HCDs and find the amount of qualitative HCDs such as the total word count remains significant. This finding is important because qualitative disclosures are more subject to the concern of being boilerplate.

Since multiple disclosure subcategories are highly correlated, we conduct factor analysis to extract distinct disclosure components from the 13 subcategories. Five distinct factors emerge, but we focus on the first, second, and fifth factors because the equity market reacts significantly positively to them, suggesting that mandatory HCDs provide new information to shareholders and that shareholders view the human capital investment as value increasing. The first factor represents a combination of disclosures on Diversity & Inclusion, Safety & Health, Employee Development, and CSR. The second factor is driven by Employee Recruitment and Tenure. The fifth factor represents Employee Statistics. Interestingly, the first two factors correspond well with the two facets of human capital described in prior literature on voluntary disclosure (e.g., Gerpott et al. 2008; Zhang (2022)) with factor one relating to social-oriented topics and factor two relating to operational-oriented topics.[4]

Finally, we examine how the bond market reacts to the newly mandated human capital disclosures. If bond investors share the benefits of increased firm value from human capital investment, we expect bond investors will also respond positively to the mandatory HCDs.

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[4] Zhang (2022) relies on machine learning and classifies firms' voluntary human capital disclosures as either social-oriented topics or operational-oriented topics. Social-oriented topics covers dimensions such as *labor relations*, *diversity and inclusion*, and *health and safety*. Operational-oriented topics include *attraction, development, retention, evaluation and policy*, *labor cost* and *human capital demographics*. Gerpott et al. (2008) describe operational human capital as encompassing employee tenure, turnover rates, and job satisfaction levels.

However, it is possible that the concerns arising from the risk of labor leverage as well as the potential dilution of debtholder claims outweigh the increase in firm value, which would give rise to a negative bond market reaction. Our results are consistent with the second explanation. On average, we find that the bond market reacts negatively to the newly mandated HCDs. This negative bond market reaction is driven by factors 1 and 3, primarily related to firms' social-oriented human capital, including Diversity & Inclusion, Safety & Health, CSR, Labor Relations, Employee Engagement, and Compensation.

Our paper makes two contributions to the accounting literature. First, the answers to our research questions have important policy implications. Since the goal of the SEC mandate is to provide relevant information to investors, our paper directly addresses this by conducting a comprehensive set of market reaction analyses. Our paper complements several concurrent working papers that also examine mandatory human capital disclosures. Mayew and Zhang (2022) and Goldman and Zhang (2022) utilize mandatory HCDs to measure firms' COVID-19 response and DEI commitment. Mayew and Zhang (2022) find that firms that commit to responding to COVID-19 and DEI have higher Tobin's Q and employee productivity. Goldman and Zhang (2022) further document positive equity market reactions to DEI disclosures for smaller firms. Our paper examines a broad set of HCD categories beyond those related to COVID-19 and DEI. We document that one latent factor drives multiple disclosure subcategories, including DEI, Safety, and CRS, and our main results are not driven by the DEI disclosures. Bourveau et al. (2022) examine changes in quantitative HCDs after the SEC mandate. They document increased quantitative human capital disclosures after the SEC mandate and that HCDs with at least one material human capital metric defined by SASB generate higher absolute stock returns around 10-

K filing dates. Different from Bourveau et al. (2022), we focus on the information content of qualitative human capital disclosures, which is at the center of the boilerplate-disclosure debate.

Second, existing research on human capital disclosures, including papers mentioned above, primarily adopts a shareholder perspective as the newly mandated disclosure requirement responds to institutional investors' information demand. However, by their very nature, human capital-related issues are multifaceted. The value of the firm is determined and shared by multiple stakeholders, including employees, shareholders, and creditors. Given the common (and sometimes opposing) interests of different stakeholders, we believe it is important to expand beyond just the shareholders' perspective. As such, we examine how social-oriented and operational-oriented mandatory HCD topics inform equity and bond investors separately. In particular, we document that equity and bond investors respond in the opposite manner to social-oriented human capital disclosure topics such as DEI and CSR, highlighting their contrasting value implications. As such, we add important evidence on how certain dimensions of human capital differentially affect shareholders and creditors.

This paper proceeds as follows. In Section 2, we discuss Background and Hypothesis Development. Section 3 describes our research design. Section 4 presents the results, and Section 5 concludes the paper.

2. Background and Hypothesis Development

2.1 Institutional background

Investors have long recognized that human capital is a source of value creation and is among the most important assets of a firm. However, until recently there were largely minimal requirements for disclosure of human capital. Specifically, Regulation S-K, which governs

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disclosures required in firms' annual reports, mandated SEC registrants to disclose only the number of persons employed by the registrant since at least 1973.

In recent years, a growing number of investors have called for expanded disclosure of firms' human capital. For example, in 2017, a group of investors representing $2.8 trillion of assets petitioned the SEC to require firms to disclose information about their human capital management policies, practices and performance (HCMC 2017). In 2019, the SEC's Investor Advisory Committee posited that the SEC's historical approach to the workforce was to view human capital as a cost instead of an intangible asset and argued that the disclosure framework had not kept pace with the shift towards human capital management as a source of value. As such, the committee recommended that the SEC improve the disclosure framework relating to human capital (SEC 2019).[5]

In August 2020, the SEC modernized the regulation governing disclosure requirements for items in firms' annual reports under Regulation S-K, which had not undergone significant revision in over 30 years. This amendment signaled the SEC's recognition of the evolving nature of materiality and its response to a growing demand for information on human capital. While the amendment included changes to several aspects of firms' disclosure practices, the most significant change was to Item 101(c), which required firms to replace the existing requirement to disclose the number of persons employed by the registrant with a requirement to provide a description of the registrant's human capital resources. More specifically, SEC registrants were mandated to include a description of any human capital measures or objectives that management focuses on in

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[5] The importance of human capital has been recognized by the Sustainability Accounting Standards Board (SASB), given that as of 2020, human capital was one of the most prevalent areas of disclosure across SASB's 77 industry-specific standards, appearing in all 11 of its sectors and the majority of individual industry standards (cite SASB HC Bulletin November 2020).

managing the business to the extent that such disclosures would be material to an understanding of the registrant's business (SEC 2020).

The new disclosure rules took effect starting November 9, 2020. Importantly, the new human capital disclosure requirements are principles-based, not rules-based. As such, they avoid prescriptive line-item disclosure requirements in favor of allowing firms discretion not only regarding what information is deemed to be material but also flexibility in the manner in which the information is disclosed.

While the recent SEC mandate signifies progress on the disclosure of human capital information, the SEC has signaled that its disclosure requirements may further evolve going forward. For example, in August 2021 SEC Chairman Gary Gensler stated that he had asked SEC staff to propose recommendations on more detailed human capital disclosure requirements, and is considering disclosure of metrics including workforce turnover, skills and development training, compensation, benefits, workforce demographics including diversity, and health and safety (Gensler 2021).

2.2   *Existing literature on human capital disclosures*

There is a long-standing literature on how human capital investment affects firm value. However, academic research on the demand and supply of such information to capital providers is relatively recent. Below we provide a brief review of the emerging academic literature on voluntary and mandatory human capital disclosures.

Zhang (2022) examines the determinants and consequences of voluntary human capital disclosures extracted from 10-K filings from 1996 to 2017 for a sample of 71,556 companies. She classifies voluntary disclosure topics into the components of social-oriented (DEI, health and safety, and labor relations) or operational-oriented (employee attraction, development, retention,

evaluation, etc.). She finds product market competition reduces operational-oriented HCDs, consistent with proprietary costs of disclosures, but increases social-oriented HCDs. She also documents that social HCDs positively correlate with human capital-related ESG ratings. However, only operational HCDs positively associates with employee productivity and Tobin's Q. Gerpott et al. (2008) analyze disclosure about intangible assets in the telecommunications industry and posit that operational human capital (which covers a firm's job tenure structure, retention, turnover and job satisfaction) is a key component of firms' intangible assets and an important employee-based driver of firm value.

Haslag et al. (2022) also examine incentives for voluntary human capital disclosures provided in the SEC filings. They focus exclusively on disclosures related to employee attraction and retention. Different from Zhang (2022), they find both product and labor market competition positively associate with voluntary disclosure of employee attraction and retention. They also document that firms disclose more when employee turnover is high. These results support the view that managers respond to investors' information demand when providing voluntary human capital disclosures in SEC filings. Liang et al. (2022) examine voluntary disclosures of gender diversity. They find that managers are more likely to disclose favorable information (i.e., more diverse employee composition) when institutional ownership is high. Such disclosures are associated with increases in CSR diversity ratings, improved media coverage, and increased ownership by CSR-oriented funds.

In addition to the information provided through investor-relation channels, prior research shows that firms' job postings also convey value relevant information to investors. Gutiérrez et al. (2020) find that changes in the number of job postings are associated with firms' future performance and investors react positively when the changes in job postings represent hiring for

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growth and for firms with high marginal productivity of labor. Sran (2021) documents that firms trade off two effects in detailed job postings – attracting optimal job applicants versus revealing proprietary information to competitors, supporting the voluntary disclosure role of job postings.

After the SEC mandated HCDs in November 2020, several recent papers either exploit the disclosed human capital information or examine changes in the human capital disclosure behavior. Mayew and Zhang (2022) identify firms that discussed human capital management responses to the COVID-19 pandemic in the mandatory HCDs. They show that disclosing firms receive favorable employee reviews during the pandemic period, and disclosing firms with financial flexibility also enjoy higher employee productivity and Tobin's Q. Similarly, Goldman and Zhang (2022) identify firms that provide DEI information in the mandatory human capital disclosures. They show that such firms have higher DEI employee ratings and employee productivity. They also document positive equity market reactions to DEI disclosures for small firms. The above two studies provide suggestive evidence that firms' investments in employee safety and DEI activities increase shareholder value.

Demers et al. (2022) provide a large sample of descriptive evidence regarding the first year of mandatory HCDs. They document that mandatory HCDs exhibit heterogeneity in terms of length, numerical intensity, and similarity with peer firms. Consistent with earlier descriptive evidence based on a smaller sample (Batish et al. 2021), Demers et al. (2022) document that HCDs tend to have a positive tone but lack quantitative information. Overall, they challenge the usefulness of the principles-based qualitative mandatory HCDs. Finally, Bourveau et al. (2022) examine firms' human capital disclosures from 2018 to 2022. They document that disclosures increasingly include quantitative metrics after the SEC mandate. They also find quantitative HCD metrics that are classified as material by SASB generate significant abnormal absolute equity

market reactions. Our paper also examines the initial adoption of the mandatory HCDs, but we focus on the information content of qualitative HCDs along multiple subcategories. Factor analysis reveals that one underlying latent factor often drives multiple HCD subcategories. Relying on signed equity and bond market reactions, we test the joint hypothesis that qualitative mandatory HCDs provide new information to market participants and that the value implications of such disclosures may differ depending on stakeholders' payoff functions.

2.3   Hypothesis development

It is *ex-ante* unclear whether HCDs have directional value implications for equity and bond market investors. First, a concern with many ESG-related disclosures is corporate greenwashing, whereby firms may pose as "good" corporate citizens even when they do not have strong ESG records. Compounding this concern is the fact that the discretion allowed to firms in deciding what to disclose about human capital could result in disclosures that are uninformative and difficult to compare across firms. For example, SEC Commissioner Caroline Crenshaw expressed concern that *"the policy choice to impose a generic and vague principles-based requirement will fail to give American investors the information they need"* and *"undermine investors' ability to evaluate them [firms]"*. Indeed, firms do not have to quantify how human capital impacts their current or future financial statements, and investors may find it challenging to map the disclosed information to firm value.

Second, even if HCDs reveal some information, it is unclear if they are informative beyond the wealth of alternative sources of information about human capital that investors can access. For example, investors can already extract human capital information from numerous sources, including ESG ratings, government agencies, and voluntary disclosures in firms' CSR reports, job postings, or periodic SEC filings. Prior research finds that these alternative sources of information

about human capital are informative. For example, Green et al. (2019) document that firms with improving Glassdoor employee ratings earn higher future stock returns than firms with declining ratings. As such, any additional HCDs provided by firms to comply with SEC requirements may not provide any incremental new information.

On the other hand, because human capital is one of the most important assets of a firm, disclosure pertaining to human capital may have valuation implications. Further, HCDs may alleviate investor uncertainty about the firm's intangible assets. Prior work also suggests that principles-based mandatory disclosures, such as risk factor disclosures, provide value relevant information to multiple stakeholders (Campbell et al. 2014; Chiu et al. 2018). These works suggest that such mandatory disclosures may be informative despite the existing rich information environment.

Finally, even if mandatory disclosures provide new information about firms' efforts and investments to improve employee welfare, the exact mapping from HCDs to asset prices is *ex-ante* unclear. Similar to other intangibles, the future payoff of human capital is inherently uncertain. Ever since Becker (1962), the optimal level and type of on-the-job training have been subject to debate. As such, prior research does not generate consensus on the value implications of human capital investments, especially along social dimensions such as Diversity, Equity, Inclusion (DEI), or community engagements. Mayew and Zhang (2022) and Goldman and Zhang (2022) provide early evidence that human capital investment in DEI and Safety improves employee productivity but also suggest that this benefit depends on the level of firms' financial constraints. Drawing on these competing arguments, we state our first hypothesis in the null form:

H1: *Mandatory human capital disclosures (HCDs) do not generate directional equity market responses.*

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We highlight that even if HCDs have asset pricing implications, it is unclear whether such disclosures affect shareholders and debtholders in the same way. On the one hand, human capital investments may increase overall firm value, and shareholders and creditors may both enjoy such benefits. However, there are reasons that debtholders benefit less from human capital investment than equity investors. For example, intangible investments consume existing resources and tend to be risky with uncertain future payoffs. Since employee claims are similar to general debt claims in the bankruptcy courts but have higher priority than unsecured bonds, bond investors may be concerned about their diluted claims when firms invest more in employees. Furthermore, the recent literature highlights the existence of labor leverage when the adjustment to employee expenditures is slower than cash flow shocks. Thus, debtholders may respond negatively to new information revealing firms' human capital investment and engagement efforts. Our second hypothesis in the null form is as follows.

H2: *Mandatory human capital disclosures (HCDs) do not generate directional bond market responses.*

3.   Data and Research Design

3.1   Data and Sample Selection

Table 1 describes our sample selection process. We start from 10-K filings on or after November 9, 2020, when the new human capital disclosure rule became effective. Since the new disclosure requirement exempts smaller reporting companies, we use Intelligize web search to screen out smaller reporting companies and identify sample firms that include the term "human capital" in their 10-K Item 1 with 10-K filing dates between November 9, 2020, and June 30,

2021.[6] This process yields 2,701 firms for the fiscal year 2020. We require Compustat, IBES, Refinitiv, and CRSP return data for the analyses, yielding 1,727 firms. Finally, we require firms with available MD&A and Risk Factor word count data from the python automation process. The final sample consists of 1,636 firm observations for the fiscal year 2020.

We read through all sample firms' HCDs in their 10-K filings and classify them into 13 subcategories. Most of the sample firms provide titles for each category, so we generally follow their classifications. We read and classify each sentence into subcategories for disclosures with no titles. Specifically, we place tags before and after each category in the HCDs. Using these tags, we construct the word count measure for each subcategory. The list of 13 subcategories is: 1) Diversity & Inclusion; 2) Employee Development; 3) Safety & Health; 4) Compensation; 5) Engagement; 6) Tenure; 7) Culture; 8) Recruitment; 9) Pay Equity; 10) Succession Planning; 11) Employee Statistics; 12) Labor Relations, and 13) CSR. These subcategories are generally consistent with Batish et al. (2021), a recent descriptive study on mandatory human capital disclosures. Please refer to Appendix B for a detailed discussion of the tagging process.

We create the variable *DIS All*, which is log (1 + the number of human capital disclosure word count) in a firm's 10-K filing. We use the log transformation to deal with the skewness in the variable. For each of the 13 subcategories, we create a similar variable that is log (1+ the word count of the subcategories). In addition to the word count measure, we also create *Subcategory#*, which is the number of subcategories in the human capital disclosures. As we have classified the human capital disclosures into 13 subcategories, the minimum and maximum numbers of the *Subcategory#* are 0 and 13, respectively. Please refer to Appendix C for the variable definitions.

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[6] The SEC estimates 43% of domestic registrants are smaller reporting companies upon the final rule became effective (Final Rule 33-10825 Section IV B).

3.2 Research Design

We first build a disclosure determinant model to examine whether the human capital disclosures reflect employee welfare. This model is a variant of the Campbell et al. (2014) risk-factor disclosure determinant model. More specifically, we regress the human capital disclosures on Refinitiv's workforce ratings, holdings of institutional investors, institutional investors' social preferences, labor intensity, and other firm characteristics measured before a firm's 10-K filing date using publicly available information (Model (1)):

Model 1

$$HCD\ Disclosure_i = \alpha_0 + \alpha_1 Prior\ HCI_i + \alpha_2 Inst\ Own_i + \alpha_3 Inst\ Social\ Pref_i$$
$$+ Controls + \varepsilon_i$$

Our main outcome variable, $HCD\ Disclosure_i$, is either $Dis\ All_i$, or $Subcategory\#_i$. Our first independent variable is $Prior\ HCI_i$, which is the Refinitiv's workforce rating measured prior to a firm's 10-K filing date. Since Refinitiv compiles information from various sources, including firms' existing sustainability disclosures, surveys, NGO websites, and media coverages, to generate a comprehensive workforce rating, this rating likely reflects all publicly available information about a firm's human capital management. $Inst\ Own_i$ is the sum of shares owned by institutional investors scaled by total shares outstanding. $Inst\ Social\ Pref_i$ is constructed similar to Pan et al. (2022) to capture to what extent a company's institutional investors prefer companies that invest in human capital. Specifically, for each institution-quarter, we calculate the value-weighted average of Refinitiv's workforce score for each institutional investor's portfolio firms using the portfolio weights at the end of 2020. For each firm in our sample, we then average across all institutional investor's revealed human capital preference using the institutional investor's

ownership as the weight. This variable measures the institutional investors revealed social preference for human capital.

We added several control variables, including market capitalization, book-to-market ratio, leverage, total tax expense, net income before extraordinary items divided by the lagged market value of equity, the number of analysts following, and R&D expense. We also include labor intensity, as human capital is likely more important for labor-intensive firms. Finally, we include industry-fixed effects based on the two-digit SIC code. Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions.

We also use the determinant model to examine whether human capital disclosures are associated with one particular type of non-public information—employee turnover. We compile the employee turnover measure, $Turnover_i$, as the number of employees who quit during a firm's fiscal year divided by the number of employees at the end of the previous fiscal year from Revelio Lab's employee position data, which extracts millions of public employment records from websites such as LinkedIn. Although the source data related to employee records is publicly available, Revelio Labs uses proprietary algorithms to standardize employee records and link them to our sample of publicly traded companies. We add our turnover measure to Model 1 and examine whether HCDs are also associated with contemporaneous employee turnover ratios using Model 2.

Model 2

$HCD\ Disclosure_i$

$$= \alpha_0 + \alpha_1 Turnover_i + \alpha_2 Prior\ HCI_i + \alpha_3 Inst\ Own_i + \alpha_4 Inst\ Social\ Pref_i$$
$$+ Controls + \varepsilon_i$$

We next examine the relation between cumulative abnormal returns during the release of human capital disclosures in a firm's 10-K filing. We conducted the short-window equity and bond-market reaction analysis using Model 3.

Model 3

$$Market\ Reaction_i = \alpha_0 + \alpha_1 HCD\ Disclosure_i + Controls + \varepsilon_i$$

The dependent variable is $Market\ Reaction_i$, either $CAR_{[-1,+5]}$ or $Bond\ Ret_i$. For the equity market reaction analysis, similar to Pan et al. (2022), we allow several days of investor processing time because the mandatory human capital disclosure is new. Our dependent variable is $CAR_{[-1,+5]}$, the cumulative abnormal return between event days -1 and +5, where the abnormal return is the difference between a firm's daily return and the value-weighted CRSP market return, where both returns exclude dividends. Day 0 in event time is the 10-K filing date. For the bond-market reaction analysis, the dependent variable is $Bond\ Ret_i$, which is the mean-adjusted abnormal bond return during the [-1, +5] window surrounding 10-K filings. We follow Bessembinder et al. (2009) to construct the mean-adjusted abnormal bond return during the 7-day window. If no trading activity is observed either before or after the 10-K filing dates within the 7-day window, the event window is expanded to [-3, 7]. The bond abnormal return is the difference between premium holding period return (PBR) and mean expected excess return (EBR). PBR is calculated as the bond's return minus the return on a matched Treasury security. EBR is equal to the average PBR for the previous six months. Abnormal bond return is calculated as a weighted average if a firm has more than one bond. We also clean the TRACE data by removing cancellations and reversals following the procedures in Dick-Nielsen (2009).

The independent variable of interest is $HCD\ Disclosure_i$ (either $Dis\ All_i$ or $Subcategory\#_i$). In subsequent tests, we use the residual from Model (1) to measure unexpected

human capital disclosures ($Unexp\ Dis_i$). Since most of the disclosure length of the 13 subcategories tends to be positively correlated, we conduct factor analysis and use the extracted distinct factors as test variables. Finally, we also use the log(1 + the number of human capital subcategory disclosure word count) as the independent variable to examine how the equity market reacts to each subcategory.

We control for variables shown in prior studies to relate to market reactions. Specifically, we include the variable EA_i, which is an indicator variable for whether a firm's 10-K filing date is the same as the earnings announcement date (Arif et al. 2019). The standardized earnings surprise using a rolling seasonal random walk model (SUE_i) is also included. We also add the log value of the total 10-K length, MD&A, and risk-factor disclosure length to capture other information in the same 10-K filing. Finally, we add $Numeric\ Intensity_i$, which is the percentage of numbers in the human capital disclosures because Bourveau et al. (2022) find higher absolute abnormal returns after the human capital disclosure mandate for firms that provide material quantitative human capital disclosure information around 10-K filing dates. Finally, we incorporate industry-fixed effects based on the two digits of the SIC code. Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions.

4.   Results

4.1   Descriptive statistics

Figure 1 reports the percentage of companies disclosing each HCD subcategory. Since the number of employees was a mandatory disclosure prior to the SEC's human capital-related rule change, the vast majority (96.6%) of our sample firms continue to disclose Employee Statistics. The next two most frequently disclosed subcategories are Diversity & Inclusion and Safety & Health, with 75.7% and 73.8% of companies discussing Diversity & Inclusion and Safety & Health,

respectively, in the newly mandated human capital disclosure. This is consistent with the COVID-19 outbreak and heightened racial reckoning in 2020. Figure 2 shows that firms tend to discuss Diversity & Inclusion and Safety & Health at length, with an average of 103 words for Safety & Health and 93 words for Diversity & Inclusion. The next several disclosure subcategories for which firms tend to have lengthier discussions tend to be social-oriented, as defined in Zhang (2022), i.e., Development, Engagement, Compensation, and Firm Culture. While Haslag et al. (2022) use natural language processing techniques to identify employee attract & retain (A&R) activity and argue that this category is one of the frequently discussed human capital-oriented topics in 10-Ks, we find that less than 15% of the companies disclose employee recruitment and tenure information in the mandatory human capital disclosures. The average word count for these two subcategories is also lower than the average word count of the other categories mentioned above. Figure 3 shows that, out of the 13 disclosure subcategories, firms disclose five or six subcategories on average, and the number of subcategories disclosed approximates a normal distribution.

Table 2 reports the distributions of our main variables. Overall, both the total word count of HCD (*"Dis All"*) and the word count of each subcategory exhibit significant variation. For example, the standard deviation of disclosure length for Diversity & Inclusion, Development, and Safety & Health are 59%, 83%, and 62% of the means for each subcategory. Even the length of disclosures pertaining to Employee Statistics exhibits significant cross-sectional variation, with a standard deviation equal to 33% of the sample mean, consistent with the concern that human capital disclosures may not provide much quantitative information. The numeric intensity of HCDs is low, as only 4.2% of the HCDs contain numeric information. Finally, the average employee turnover rate for our sample firms is 21.9%, much higher than the 3.3% average turnover ratio

from 2008 to 2018 reported in Li et al. (2022). This is likely due to disruption caused by COVID-19.

Table 3 reports the correlations among the main variables. As expected, we find that the amount of mandatory human capital disclosures exhibits strong positive correlations with firm size and institutional ownership. The HCD quantity also positively correlates with existing Refinitiv's workforce ratings (*Prior HCI*) and is negatively correlated with the turnover ratio, providing univariate support that the amount of HCD does reflect a firm's employee welfare on average. The Refinitiv workforce rating has the strongest negative correlation *(ρ = -0.29)* with employee turnover, consistent with Refinitiv's ratings embedding workforce-related information. Finally, we find the HCD quantity positively correlates with 7-day abnormal equity market returns but not with bond market returns.

4.2   Main results

Table 4 reports determinants of human capital disclosure quantity. We continue to find the firm size and institutional investor ownership to be important, as both variables are significantly positively related to HCDs. Consistent with our expectations, labor intensity also significantly positively associates with HCDs, as human capital is likely more important for labor-intensive firms. Interestingly, we find no association between institutional investor's preference toward employee welfare (*Inst Social Pref*) and human capital disclosures after controlling for total institutional investor ownership, inconsistent with the idea that firms provide disclosure to cater to difference types of investor preferences. Existing human capital information (*Prior HCI*), as proxied by Refinitiv's workforce ratings also positively associates with HCD quantity. Specifically, the estimated coefficient on *Prior HCI* in Column (1) is 0.6538, meaning a one standard deviation change in *Prior HCI* associates with 16% of the standard deviation change in HCD word count.

This economic magnitude is comparable to the impact of firm size (18%) and institutional investor ownership (13%). Overall, the strong positive association between *Prior HCI* (Refinitiv's workforce ratings) and HCD quantity is inconsistent with the idea that firms simply provide mandatory HCDs as a green-washing strategy or that mandatory HCDs are pure noise driven by cheap talk.

Columns (3) and (4) further include contemporaneous employee turnover as a determinant. We find the word count of HCD significantly negatively associates with employee turnover, although the negative association between employee turnover and the number of subcategories disclosed is only significant with a one-tailed t-test. In particular, a one standard deviation change in employee turnover negatively associates with 5% of the standard deviation change of HCDs word count. The results of Table 4 suggest the HCD quantity contains at least one piece of non-public information relating to employee turnover, consistent with prior research documenting that employee turnover has a predictive ability for future firm performance and stock returns (e.g., Li et al. 2022; Agrawal et al. 2021).

Next, we examine the equity market reaction to mandatory HCDs and report the results in Table 5. We control for *Numeric Intensity* in all specifications because Bourveau et al. (2022) primarily examine quantitative HCDs, and our main research interest pertains to qualitative HCDs.[7] To capture unexpected HCDs, we either include all the variables used in our determinant analysis in Table 4 as control variables, or use the residuals from Table 4 Column (1) as the test

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[7] It is possible that qualitative disclosures are more meaningful in the context of quantitative information. Thus, we also include the interaction term of *Dis All * Numeric Intensity* or *Unexp Dis * Numeric Intensity* in Table 5. Untabulated results show that the estimated coefficients of the interaction terms are insignificant, further suggesting that Table 5 results are not driven by quantitative information in HCDs.

variable of interest (*Unexp Dis*). Overall, we find consistently positive equity market reactions to the total word count of HCDs, number of HCD categories, and unexpected HCDs.

This result supports H1. More specifically, our finding supports the joint hypothesis that the initial HCD contains value-relevant information to equity investors and that human capital investment creates positive shareholder value on average. In terms of economic magnitude, the estimated coefficients for *Unexp Dis* suggest that the information content of qualitative disclosure is comparable to quantitative information, which is measured using the coefficient estimate for *Numeric Intensity*. More specifically, a one standard deviation change in *Dis All* is associated with a 4.5% standard deviation change in *CAR[-1,+5]*.

Recent research by Goldman and Zhang (2022) suggests that the stock market responds positively to disclosures about DEI contained within firms' HCDs. Specifically, they document a positive and statistically significant equity market reaction to DEI disclosures for smaller firms and a positive but not statistically significant reaction to DEI disclosures across all firms. As such, we test whether our finding of a positive stock market reaction to *Unexp Dis* is robust to parse out the DEI-related disclosure in firms' HCDs explicitly. We measure non-DEI human capital disclosure using *Dis Nondiversity*, defined as log(1 + the number of Non-Diversity & Inclusion human capital disclosure word count). Similarly, we measure DEI-related human capital disclosure via *Dis Diversity*, defined as log(1 + the number of Diversity & Inclusion human capital disclosure word count). As demonstrated in Table 5 Columns (4) and (5), the positive equity market reaction to HCDs is not driven by DEI disclosure.

Because one underlying latent variable can potentially drive multiple disclosure subcategories such as CSR, Culture, and Engagement, we next conduct factor analyses and extract five distinct factors with an eigenvalue greater than 1. Table 6 Panel A reports the factor analysis

results. We find that the first and most important factor represents a linear combination of HCD subcategories, including Diversity & Inclusion, Safety & Health, Development, and CSR. In contrast, factor 2 represents a linear combination of Recruitment and Tenure, which Haslag et al. (2022) argue to be the most important elements of human capital management. Factor 3 is related to Labor Relations, Engagement, and Compensation, and factor 4 is related to Pay Equity and Succession Planning. Finally, Employee Statistics stands alone as a distinct category. Interestingly, the first two factors correspond well with the social-oriented and operational-oriented voluntary human capital disclosures examined in Zhang (2022). Table 6 Panel B reports that factor 2 (Recruitment and Tenure) generates the most significant positive equity market reactions. While factor 1 is the most important extracted from the 13 subcategories, the statistical significance of its impact on unexpected equity returns is relatively weak. However, the economic magnitude of the impact of a one standard deviation change on *CAR[-1,+5]* is comparable for both factor 1 and factor 2. These results are consistent with those in Table 5 and further support human capital disclosure's positive valuation role (and informational role more broadly). For completeness, we report the equity market reaction test for each of the 13 subcategories in Table 7. We find only disclosure related to Recruitment (*Dis Recruit*) is associated with a significantly positive market reaction, although disclosures related to Safety & Health (*Dis Safety*) are close to statistical significance.

Finally, we examine how the bond market reacts to newly mandated human capital disclosures. Table 8 reports the results. The bond sample is much smaller because not all companies issue bonds, and not all bonds are traded during our event window.[8] In contrast to the

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[8] The sample reduction from equity to bond market reactions to 10-K filings is consistent with Beatty et al. (2019), who report the bond sample to be 18.5% of the equity sample when examining market reactions to risk factor disclosures.

positive equity market reactions to HCDs we document in the previous tests, human capital disclosures generate weak *negative* bond market reactions.[9] Specifically, the coefficient on *Dis All* is -0.0017 with a p-value of 0.0785. We further examine the source of the negative bond market reaction and find that the coefficients on factors 1 and 3 are significantly negative. Recall that these two factors are related to discussions of firms' efforts to improve employee Diversity & Inclusion, Safety & Health, Development, CSR, Labor Relations, Engagement, and Compensation. As argued in Mayew and Zhang (2022) and Goldman and Zhang (2022), human capital investment along these social-oriented dimensions consumes firms' current resources. Table 8 Columns (8) and (9) further support this idea. Specifically, Column (8) shows that bond market participants react negatively to DEI disclosure, indicating that bond investors consider investment in diversity as consuming firms' current resources. The results of our analysis in Table 8 suggest that the downside risk related to social-oriented investment (and in particular DEI) is an important consideration for bond investors. Overall, the results reported in Tables 6 and 8 provide a stark contrast regarding the value implications for equity and debt holders relating to human capital investment, especially social-oriented human capital activities.

4.3   Additional analyses

We follow Pan et al. (2022) and use a 7-day window to examine the equity market response to HCDs because it likely takes investors some time to understand the new type of disclosures fully. To validate this argument, we plot the estimated equity market response coefficient to HCDs

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[9] We also examine the equity market reactions to HCDs for the 330 firms in the bond sample to make sure the differential results are not purely driven by the sample difference. Untabulated results show that the estimated coefficient is 0.0064 (p value = 0.3818) for *Dis All* and 0.0132 (p-value = 0.1270) for *Unexp Dis*. The magnitude is comparable to the coefficients reported in Table 5 but the statistical significance goes down potentially due to reduced power.

(α_1 in Model 3) for various event windows from two days to 20 days starting from 1 day before the 10-K filing dates. Figure 4 plots the estimated coefficients and the 90% confidence intervals. We do not find significant equity market response to HCDs for the 3-day or 5-day window. However, the equity market response coefficient to HCDs becomes significantly positive starting from the 7-day window and reaches its peak for the event window [-1, 14] before gradually decreasing to insignificantly different from zero as we further extend the event windows. This pattern supports the idea that it takes time for investors to understand the value implications of mandatory HCDs fully.

Since there are multiple alternative information sources for firms' human capital management, including 10-Ks and stand-alone sustainability reports, we use the Refinitiv workforce rating as an aggregate measure to capture a company's existing information set related to human capital management because Refinitiv states that they "*transparently and objectively measure a company's relative ESG performance, commitment and effectiveness, based on company-reported data*" and are "*based on the relative performance of ESG factors with the company's sector*." To validate this statement, we collect the voluntary human capital disclosures from firms' 2020 sustainability reports for 20% of randomly selected sample firms. We find that 45.34% of the firms (146 out of 322) provide voluntary human capital disclosures in their sustainability reports. Untabulated results show that the Refinitiv workforce rating positively correlates with the existence and length of voluntary human capital disclosures with correlations of 0.52 and 0.40, respectively. Both are highly significantly different from 0.

Finally, an institutional investor's social preference is measured using its existing portfolios, which can be noisy. Prior research shows retail investors exhibit local bias (Ivkovic and Weisbenner 2005). Thus, we also examine whether the partisan preference of the disclosing firm's

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headquarters state is associated with the amount of HCD. Using the democratic party's support rate in the 2020 election to measure local investors' partisan preference, we find no association between HCD and such measure.

5. Conclusions

This paper explores the information content of the newly mandated human capital disclosures (HCDs) to equity and bond investors around firms' 10-K filings. We hand-collect and code the mandatory human capital disclosures for a sample of 1,636 firms from their 10-K filings based on the first year of the mandatory disclosure requirement. We classify mandatory HCDs into 13 subcategories based on the subsections of firms' HCDs. We first document that firms' qualitative HCDs exhibit significant variation in total word count and subcategories disclosed. We next examine the determinants of mandatory HCDs and find that firm size and investor demand are important determinants. Inconsistent with the concern that principles-based qualitative HCDs are boilerplate, we find that the amount of HCDs positively associate with publicly available employee welfare information, such as Refinitiv's workforce rating. On the other hand, we find the amount of HCDs negatively associate with contemporaneous employee turnover information after controlling for multiple firm characteristics, suggesting HCDs likely contain non-public information related to employee welfare.

In our analysis of the equity market reaction to HCDs, we find that equity investors positively react to multiple measures of disclosure quantity, including unexpected disclosures calculated using the residuals from our determinant model. Factor analysis reveals that five factors are extracted with an eigenvalue greater than one from the 13 disclosure subcategories. The positive equity market reaction is driven by three factors, where factor 1 is based on a linear combination of disclosures on Diversity & Inclusion, Safety & Health, Development, and CSR,

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factor 2 is based on a linear combination of disclosures on employee Recruitment and Tenure, and factor 5 is related to Employee Statistics. The above results support the joint hypothesis that the initial HCDs contain value-relevant information to equity investors and that human capital investment creates positive shareholder value, on average.

Analyses examining how the bond market reacts to the initial HCDs reveal results that starkly contrast with our equity market results. We find that the bond market reacts negatively to the total wordcount of HCDs and the unexpected HCDs. In particular, the bond market responds negatively to factors 1 and 3, which include disclosures related to firms' efforts to improve employee Diversity & Inclusion, Safety & Health, Development, CSR, Labor Relations, Engagement, and Compensation. This result suggests the bond market views such human capital investment along social dimensions negatively, probably due to their resource consumption.

Our paper contributes to the emerging human capital disclosure literature, complementing existing research by examining the information content of the initial mandatory HCDs and the value implications based on short-window signed market reactions. The findings of this paper have important policy implications. In particular, we document that equity and bond investors respond in the opposite manner to social-oriented human capital disclosure topics such as DEI and CSR, highlighting their contrasting value implications.

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FIGURE 1
The Percentage of Companies Disclosing Each Subcategory

Figure 1 reports the percentage of companies disclosing each subcategory. *Employee Statistics, Diversity & Inclusion, Safety & Health, Compensation,* and *Development* categories are the most disclosed categories in the mandatory human capital disclosures, while *Pay Equity* and *Succession Planning* are the least disclosed categories.
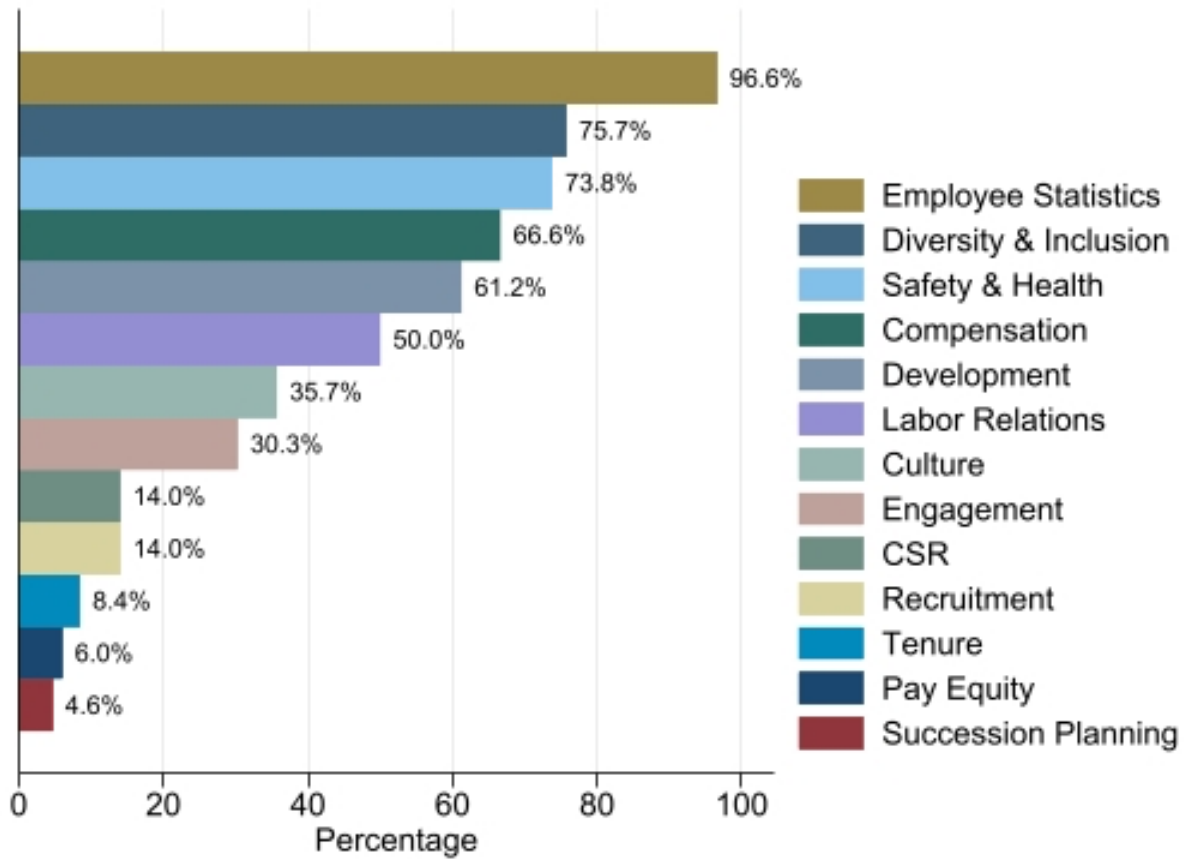
FIGURE 2
Average Word Count by Each Subcategory

Figure 2 reports each average subcategory word count. The average values are calculated conditional on firms that disclose their subcategories. *Safety & Health* has the maximum word count in human capital disclosures, followed by *Diversity & Inclusion*. Firms provide less information about *Labor Relations* and *Employee Statistics* subcategories in their human capital disclosures.
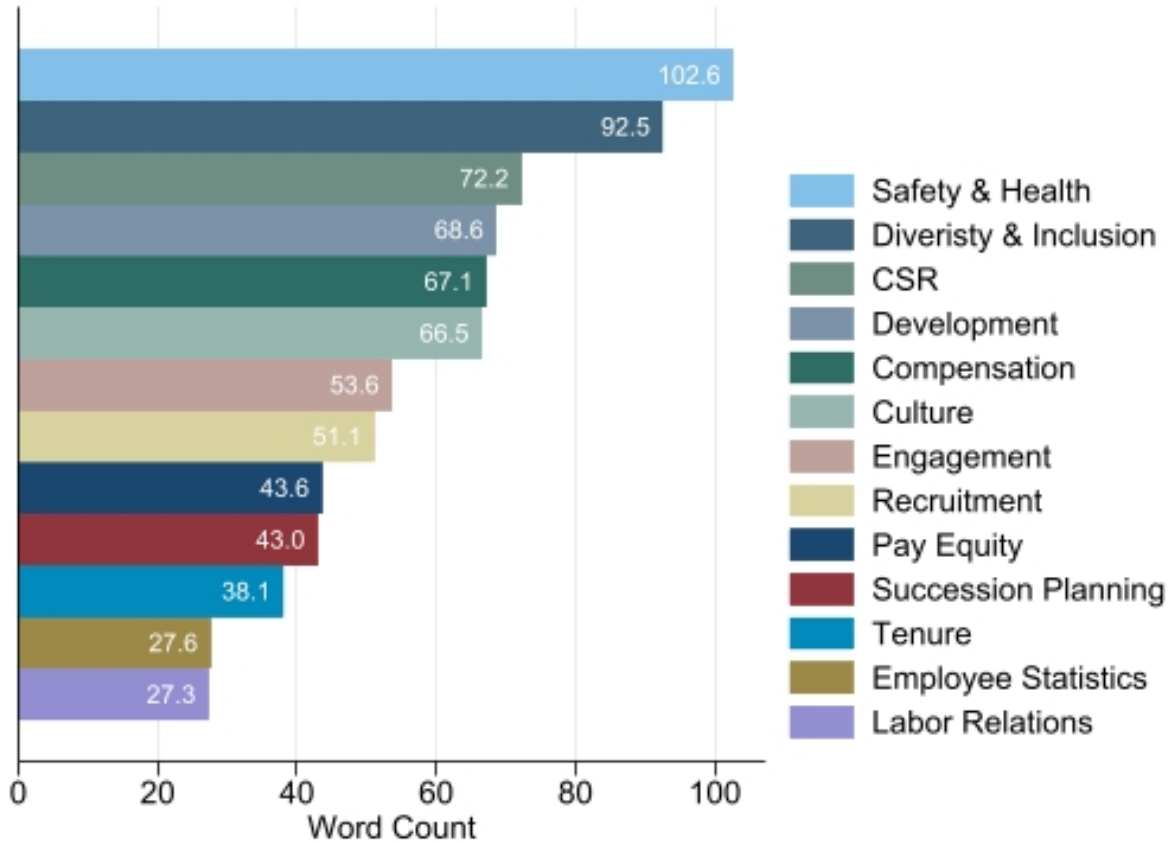
FIGURE 3
The Number of Subcategories Disclosed

Figure 3 reports how many sample firms disclose the number of subcategories. It shows that about 77.2% of sample firms disclose between four and seven subcategories in their human capital disclosures.
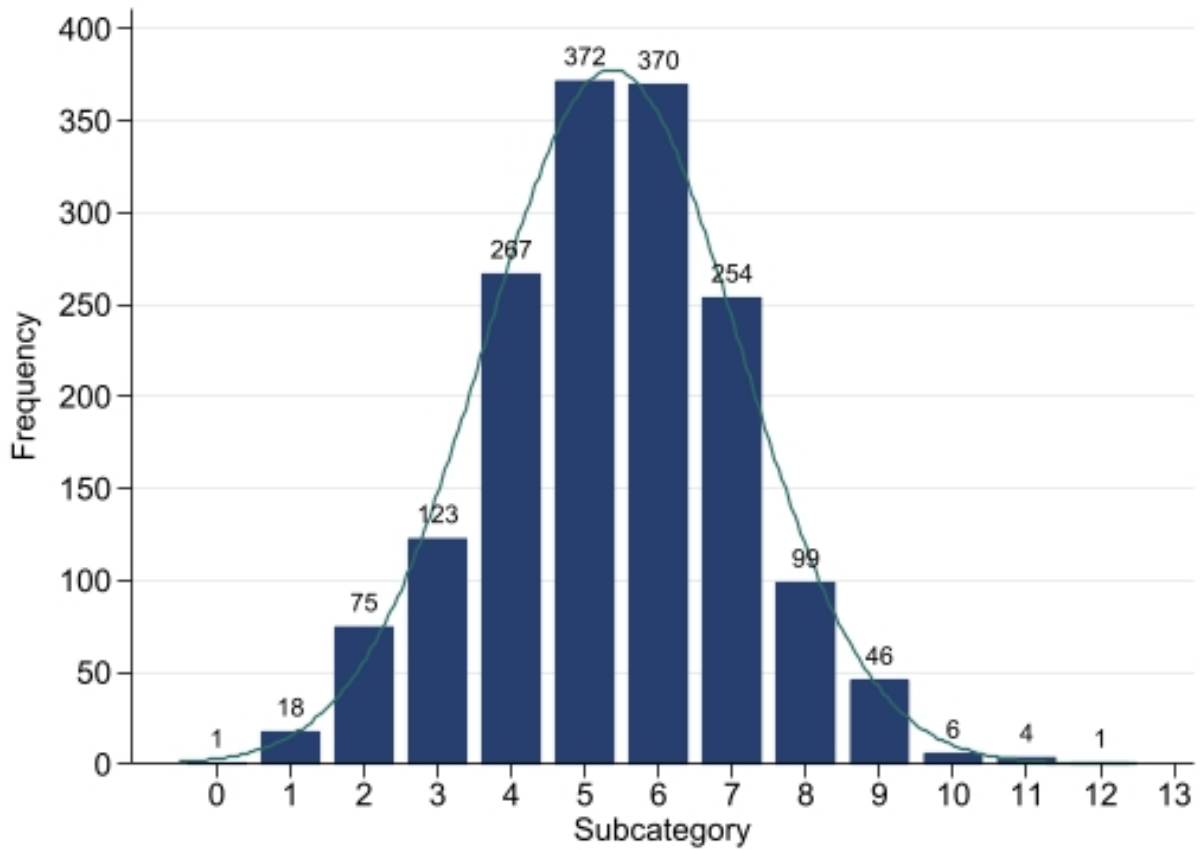
FIGURE 4
Equity Market Reactions to HCDs

Figure 4 reports the equity market response coefficients to HCD (α_1 in Model 3) for different event windows *[-1,t]*, where *t* refers to *t* days after the 10-K filing date. The vertical lines denote 90% of the confidence interval.
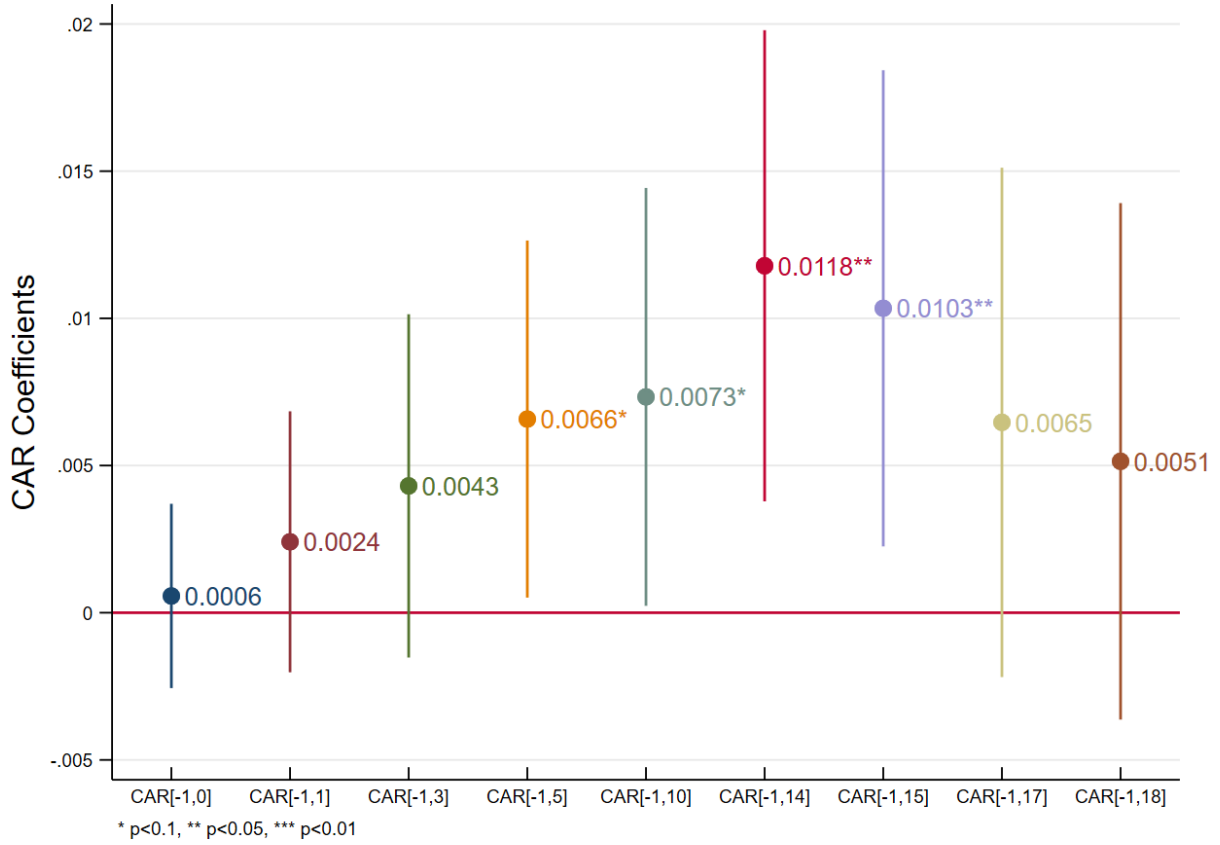
Amazon's 10-K Human Capital Disclosure

Human Capital

Our employees are critical to our mission of being Earth's most customer-centric company.

As of December 31, 2020, we employed approximately 1,298,000 full-time and part-time employees. Additionally, we utilize independent contractors and temporary personnel to supplement our workforce. Competition for qualified personnel has historically been intense, particularly for software engineers, computer scientists, and other technical staff.

We focus on investment and innovation, inclusion and diversity, safety, and engagement to hire and develop the best talent. We rely on numerous and evolving initiatives to implement these objectives and invent mechanisms for talent development, including industry-leading pay and benefits, skills training programs such as Amazon Career Choice and the Amazon Technical Academy, mentorship and support resources, and programs that advance engagement, communication, and feedback.

Sanderson Farms Inc's 10-K Human Capital Disclosure

Human Capital Resources

As of October 31, 2020, the Registrant had 17,445 employees. Of these, 1,980 employees were salaried and 15,465 were hourly. A collective bargaining agreement with the United Food and Commercial Workers International Union (UFCWIU) covers 625 hourly employees at our processing plant in Hammond, Louisiana and expires on November 30, 2022. A collective bargaining agreement with UFCWIU covers 1,540 production, maintenance and clean-up employees at our Bryan, Texas processing facility and expires on December 31, 2023. We believe our overall relations with our workforce are very good.

Our Culture and Values. Our company culture is the cornerstone of all our human capital programs. We believe our culture, which is based upon our core value of respect for the inherent dignity, equality and worth of every human being, is a key reason for our success. It is enshrined in our corporate Statement of Philosophy, first drafted in 1969, and in our Company Vision, Statement on Human Rights and Corporate Code of Conduct. In particular, our Company Vision calls upon our team to treat all persons with absolute respect and integrity and to be devoted to the success of everyone in our organization in fulfilling their potential in all aspects of life.

Safety and Health. The safety, health and welfare of our employees are paramount to our company. Our occupational health and safety programs are overseen by our President's safety committee, which meets quarterly to set specific goals for workplace safety and measure attainment of those

goals. Even though we have built more poultry complexes than any other company in the U.S. since 1993 and hired an additional 13,000 employees, our OSHA injury rates have declined by 67% during that time. For fiscal year 2019, we set a goal to reduce our OSHA injury rates by 10% compared to 2018, and we exceeded that goal, with rates declining by over 21%. In fiscal 2020, our OSHA injury rates declined another 6.3% compared to 2019. Cumulatively for the five years ended October 31, 2020, we had the fewest OSHA citations per 1,000 employees of any company in our industry having more than 5,000 employees.

We work closely with ergonomists to continuously monitor our employees' working conditions and implement measures to ensure their wellness. For example, we have set our processing line speeds at the lowest rate of any company in our industry to reduce employee stress and injuries. This also contributes to favorable yields and product quality. We have numerous programs to promote the overall good health and wellness of our workforce. In response to the coronavirus pandemic, we implemented extensive safety measures throughout our company during fiscal 2020 to protect our employees from COVID-19. These are described in detail in this report in "Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations."

Diversity, Equity and Inclusion ("DEI"). We strive to foster a work environment that includes and embraces racial, ethnic and gender diversity and other individual differences. As of the end of fiscal year 2020, 48% of our total workforce were women and 87% were minorities. Additionally, 22% of our management team were women and 48% were minorities. During fiscal year 2020, 45% of our new hires were women and 88% of our new hires were minorities. Our management diversity committee, which was established in 2011, oversees and strategically plans for diversity and inclusion within our company. For example, the committee has expanded our long-standing recruitment program targeted at Historically Black Colleges and Universities ("HBCUs"), and in fiscal 2019, 23% of the company's summer interns were recruited from HBCUs. In fiscal 2020, the committee formed a new steering committee as a grassroots, action-oriented team to champion positive change. Additionally, our board of directors formed a special board committee on DEI, whose initial task is to engage an independent DEI consultant to perform a top to bottom review of our goals, strategy, policies, practices and messaging on DEI. We have a zero-tolerance policy on discrimination and harassment and have several systems under which employees can report incidents confidentially or anonymously and without fear of reprisal.

Recruitment, Retention and Development. The primary way we recruit and retain employees is by ensuring that our compensation and benefits are the most competitive in our industry. In fiscal 2019 and fiscal 2020, we awarded our hourly workforce across-the-board pay increases that place them at the top of the wage scale in the poultry industry. Our progressive pay scale begins at $15.45 per hour after the first 90 days of employment. After one year of employment, employees participate in our employee stock ownership plan at no cost to them and we match 100% of their contributions to our 401(k) plan for the first 3% of salary contributed and 50% for the next 2% of salary contributed. We pay 75% of the premium cost of our health insurance plan for employees and their families. We also have an extensive training program that provides both hourly and management training and other opportunities for professional and personal development and mentorship. Our training program is a critical part of our focus on employee safety, operational

efficiency, employee wellness and welfare and our corporate culture. We invested $3.3 million in our employee training and development programs in fiscal 2020.

APPENDIX B
Tagging Process to Classify Human Capital Disclosures into Subcategories

This appendix provides the detailed tagging process to classify human capital disclosures into each subcategory. Most of the sample firms provided titles for each category, so we generally followed their classification. We read and classified each sentence into subcategories for disclosures with no titles. Specifically, we placed each tagging manually before and after the subcategories' information. The following example is AT&T's human capital disclosure in its 10-K filing, which was filed on February 25, 2021.

HUMAN CAPITAL

(11)employee_stat
Number of Employees As of January 31, 2021, we employed approximately 230,000 persons.
(11)employee_stat

(2)employee_development
Employee Development We believe our success depends on our employees' success and that all employees must have the skills they need to thrive. We offer training and elective courses that give employees the opportunity to enhance their skills. We also intend to help cultivate the next generation of talent that will lead our company into the future by providing employees with educational opportunities through our award-winning internal training organization, AT&T University.
(2)employee_development

(12)labor_relations
Labor Contracts Approximately 37% of our employees are represented by the Communications Workers of America (CWA), the International Brotherhood of Electrical Workers (IBEW) or other unions. After expiration of the collective bargaining agreements, work stoppages or labor disruptions may occur in the absence of new contracts or other agreements being reached. There are no significant contracts expiring in 2021. A contract covering approximately 14,000 Mobility employees in 36 states and the District of Columbia that was set to expire in February 2021 was extended until February 2022. A contract covering approximately 10,000 Mobility employees in nine Southeast states that was set to expire in February 2022 was extended until February 2023.
(12)labor_relations

(4)compensation
Compensation and Benefits In addition to salaries, we provide a variety of benefit programs to help meet the needs of our employees. These programs cover active and former employees and may vary by subsidiary and region. These programs include 401(k) plans, pension benefits, and health and welfare benefits, among many others. In addition to our active employee base, at December 31, 2020, we had approximately 517,000 retirees and dependents that were eligible to receive retiree benefits.
(4)compensation
(9)pay_equity

We review our benefit plans to maintain competitive packages that reflect the needs of our workforce. We also adapt our compensation model to provide fair and inclusive pay practices across our business. We are committed to pay equity for employees who hold the same jobs, work in the same geographic area, and have the same levels of experience and performance.

(9)pay_equity

(3)safety_health

Employee Safety We provide our employees access to flexible and convenient health and welfare programs and workplace accommodations. In response to the COVID-19 pandemic, we consulted with medical professionals to institute policies that best protected our employees and their families. We have prioritized self-care and emphasized a focus on wellness, providing personal protective equipment, flexible scheduling or time-off options and implementing technologies to enhance the necessary remote-work environment. As we look to life and operations beyond the pandemic, we are revising our business models to support flexible office space and at-home productivity for many employees on a permanent basis.

(3)safety_health

(1)diversity_inclusion

Diversity and Inclusion We believe that championing diversity and fostering inclusion do more than just make us a better company, they contribute to a world where people are empowered to be their very best. That is why one of our core values is to stand for equality and why our mission is to inspire human progress through the power of communication and entertainment.

To have a diverse and inclusive workforce, we have put an emphasis on attracting and hiring talented people who represent a mix of genders, races, abilities, and experiences. Across the AT&T family of companies, we have employee groups that reflect our diverse workforce. These groups are not only organized around women, people of color, LGBTQ+ individuals, people with disabilities and veterans, but also around professionals who are experienced or interested in cybersecurity, engineering, innovation, project management and media and entertainment technology. When everyone's unique story is celebrated, we are able to connect, create and innovate in real and meaningful ways. It is important that our employees feel valued, have a sense of belonging and are fully engaged in our success.

(1)diversity_inclusion

Variable	Definition
Dis All	Log(1 + the number of human capital disclosure word count).
Unexp Dis	An unexpected amount of human capital disclosure is a residual value from the disclosure determinant Model 1.
Dis Diversity	Log(1 + the number of human capital disclosure Diversity & Inclusion subcategory word count).
Dis Development	Log(1 + the number of human capital disclosure Employee Development subcategory word count).
Dis Safety	Log(1 + the number of human capital disclosure Safety & Health subcategory word count).
Dis Compensation	Log(1 + the number of human capital disclosure Compensation subcategory word count).
Dis Engagement	Log(1 + the number of human capital disclosure Engagement subcategory word count).
Dis Tenure	Log(1 + the number of human capital disclosure Tenure subcategory word count).
Dis Culture	Log(1 + the number of human capital disclosure Culture subcategory word count).
Dis Recruit	Log(1 + the number of human capital disclosure Recruitment subcategory word count).
Dis Payequity	Log(1 + the number of human capital disclosure Pay Equity subcategory word count).
Dis Succession	Log(1 + the number of human capital disclosure Succession Planning subcategory word count).
Dis Employeestats	Log(1 + the number of human capital disclosure Employee Statistics subcategory word count).
Dis Labor	Log(1 + the number of human capital disclosure Labor Relations subcategory word count).
Dis CSR	Log(1 + the number of human capital disclosure CSR subcategory word count).
Subcategory#	The sum of the number of subcategories in the human capital disclosure.
Factor1–5	The linear combinations of factor loadings presented in Table 6 Panel A.
Prior HCI	The previous year's human capital information from Refinitiv. It is a firm's previous year's average rating of Diversity and Opportunity, Training and Development, Health and Safety, Compensation Policy, Vision and Strategy, Employment Quality, and Society and Community scores.

Variable	Definition
Inst Own	Sum of shares owned by institutional investors scaled by total shares outstanding.
Inst Social Pref	We first calculate the value-weighted average of Refinitiv's workforce score for each institutional investor's portfolio firm using the portfolio weights at the end of 2020. For each firm in our sample, we then average across all institutional investors revealed human capital preference using the institutional investor's ownership as the weight. This variable measures the institutional investors revealed social preference related to human capitals.
Turnover	The number of employees quit during a firm fiscal year divided by the number of employees at the end of the previous fiscal year end. Data from Revelio Labs.
Ln(Mktcap)	Log (market value of equity).
BTM	Book-to-Market Ratio.
EA	An indicator variable of one whether firms' 10-K filing date is the same as the earnings announcement date; otherwise, zero.
SUE	The most recent standardized earnings surprises using a rolling seasonal random walk model.
Big4	An indicator variable of one for firms with a Big4 auditor; otherwise, zero.
Leverage	The firm's book value of debt divided by total assets (following Campbell et al. 2014).
ETR	The total tax expense divided by pre-tax income (following Campbell et al. 2014).
DNI	The net income before extraordinary items divided by the lagged market value of equity (following Campbell et al. 2014).
NUM Est	Log (the number of analysts following the firm as reported by I/B/E/S) ((following Campbell et al. 2014).
Labor Intensity	Log (the number of employees scaled by total assets).
XRD	R&D expense. Replace missing values with zero.

APPENDIX C (CONTINUED)
Variable Definitions

Variable	Definition
CAR[-1,+5]	Cumulative abnormal return between event days -1 and +5, in which an abnormal return represents the difference between a firm's daily return and the value-weighted CRSP market return, in which both returns exclude dividends. Day 0 in event time is the 10-K filing date (following Pan et al. 2022).
Bond Ret	Mean-adjusted abnormal bond return during the 7-day window [-1, 5] surrounding 10-K filing dates. If no trading activity is observed either before or after the 10-K filing dates within the 7-day window, the event window is expanded to [-3, 7]. Following Bessembinder et al. (2009). The bond abnormal return is defined as the difference between premium holding period return (PBR) and mean expected excess return (EBR). PBR is calculated as the bond's return minus the return on a matched Treasury security. EBR is equal to the average PBR for the previous six months. Abnormal bond return is calculated as a weighted average if a firm has more than one bond.
Numeric Intensity	A percentage of numbers in the human capital disclosures. To count the numbers, we use the Stanza NER ([Named Entity Recognition - Stanza (stanfordnlp.github.io)](stanfordnlp.github.io)). The Stanza NER provides the NLP technique to provide 18 entity name annotations. For numerator, we sum the number of *DATE, TIME, PERCENT, MONEY, QUANTITY, ORDINAL, and CARDINAL* and divide by human capital disclosure word count + the number of *DATE, TIME, PERCENT, MONEY, QUANTITY, ORDINAL, and CARDINAL*.
Ln(10K)	Log (the firm's 10-K filing word count).
Ln(Mda)	Log (the firm's 10-K filing MD&A section word count).
Ln(Risk)	Log (the firm's 10-K filing Risk Factor section word count).

TABLE 1
Sample Selection

Descriptions	Number of observations
Initial sample of 10-Ks filings in the fiscal year 2020	5,728
10-K file on and after 11/09/2020	5,303
Merge with Intelligize search 2,751 observations • Search Criteria: Include "Human Capital" in Item 1; filed between 11/09/2020 and 06/30/2021; Screen out Small Reporting Companies	2,701
Requiring Compustat data	2,169
Requiring IBES data	2,048
Requiring Refinitiv data	1,938
Requiring cumulative abnormal returns (Requiring all 7 days of return data)	1,727
Requiring MD&A and Risk Factor wordcount data from python	1,636

TABLE 2
Summary Statistics of Variable Distributions

This table presents descriptive statistics of the main variables used in our analysis. Please refer to Appendix C for their definitions.

	N	Mean	p25	Median	p75	SD
Dis All	1636	5.697	5.313	5.808	6.186	0.688
Unexp Dis	1636	0.003	-0.367	0.066	0.412	0.623
Dis Diversity	1636	3.276	2.441	4.094	4.691	1.948
Dis Development	1636	2.446	0	3.332	4.19	2.028
Dis Safety	1636	3.272	0	4.174	4.736	2.033
Dis Compensation	1636	2.658	0	3.584	4.234	1.967
Dis Engagement	1636	1.142	0	0	3.157	1.773
Dis Tenure	1636	0.292	0	0	0	0.983
Dis Culture	1636	1.392	0	0	3.526	1.925
Dis Recruit	1636	0.517	0	0	0	1.31
Dis Payequity	1636	0.214	0	0	0	0.865
Dis Succession	1636	0.169	0	0	0	0.773
Dis Employeestats	1636	2.919	2.398	3.045	3.555	0.962
Dis Labor	1636	1.51	0	0.805	2.89	1.599
Dis CSR	1636	0.567	0	0	0	1.429
Subcategory#	1636	5.37	4.000	5	7	1.728
Factor1	1636	7.987	5.591	8.471	10.668	3.594
Factor2	1636	2.33	1.254	2.013	2.95	1.601
Factor3	1636	1.306	-0.303	1.293	2.874	2.186
Factor4	1636	-0.272	-1.218	-0.464	0.486	1.339
Factor5	1636	2.765	1.971	2.861	3.616	1.238
Prior HCI	1636	0.46	0.324	0.428	0.593	0.169
Inst Own	1636	0.788	0.697	0.854	0.948	0.211
Inst Social Pref	1636	0.678	0.654	0.687	0.713	0.051
Turnover	1521	0.219	0.153	0.199	0.265	0.106
Ln(Mktcap)	1636	7.814	6.556	7.724	8.925	1.714
BTM	1636	0.484	0.148	0.344	0.699	0.512
EA	1636	0.301	0	0	1	0.459
SUE	1636	0.004	-0.006	0.001	0.01	0.063
Big4	1636	0.18	0	0	0	0.385
Leverage	1636	0.305	0.089	0.28	0.435	0.262
ETR	1636	0.166	0	0.17	0.241	1.461
DNI	1636	-0.056	-0.070	0.021	0.053	0.348
NUM Est	1636	9.124	4.000	6.958	12.917	6.902
Labor Intensity	1636	-6.903	-7.890	-6.692	-5.936	1.408
XRD	1636	174.576	0	0	61.706	1438.158
CAR[-1,+5]	1636	0.01	-0.043	0.009	0.06	0.1
Bond Ret	330	-0.008	-0.013	-.008	-0.003	0.01
Numeric Intensity	1636	0.042	0.027	0.038	0.052	0.021
Ln(10K)	1636	10.409	10.196	10.406	10.626	0.313
Ln(Mda)	1636	8.328	8.063	8.475	8.811	0.787
Ln(Risk)	1636	8.639	8.315	8.671	9.111	0.782

TABLE 3
Correlation Matrix of Selected Variables

Please refer to Appendix C for detailed variable definitions. ***, **, and * indicate statistical significance at $p<0.10$, $p<0.05$, and $p<0.01$, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dis All	1.00										
Subcategory#	0.71***	1.00									
Prior HCI	0.35***	0.18***	1.00								
Inst Own	0.20***	0.17***	0.16***	1.00							
Inst Social Pref	0.26***	0.17***	0.49***	0.15***	1.00						
Turnover	-0.17***	-0.12***	-0.29***	0.01	-0.17***	1.00					
CAR[-1,+5]	0.10***	0.08***	0.15***	-0.03	0.08***	-0.11***	1.00				
Bond Ret	-0.08	-0.01	-0.06	-0.09*	-0.18***	0.10*	0.10*	1.00			
Ln(Mktcap)	0.31***	0.20***	0.52***	0.34***	0.64***	-0.10***	-0.03	-0.08	1.00		
BTM	0.02	0.00	0.05*	-0.18***	-0.08***	-0.17***	0.22***	-0.04	-0.31***	1.00	
Ln(10K)	0.09***	0.09***	0.00	0.02	0.07***	0.12***	-0.02	-0.10*	0.13***	0.09***	1.00

TABLE 4
Human Capital Disclosure Determinant Model

This table reports a determinant model by regressing the human capital disclosures on Refinitiv's prior human capital information, institutional holdings, institutional investors' social preferences, and Revelio Lab's employees' turnover information and other firm characteristics are measured before a firm's 10-K filing date. *Dis All* is log(1 + the number of human capital disclosure word count). *Subcategory#* is the number of subcategories disclosed in human capital disclosures. Standard errors are clustered by the 10-K filing dates. Please refer to Appendix C for variable definitions. Robust p-value in parentheses. All continuous variables are winsorized at the 1% and 99% levels. * Two-tailed *p*<0.10, ** *p*<0.05, *** *p*<0.01.

	(1) Dis All	(2) Subcategory#	(3) Dis All	(4) Subcategory#
Turnover			-0.3271**	-0.7190
			(0.0308)	(0.1092)
Prior HCI	0.6538***	0.6190*	0.6951***	0.7060**
	(0.0000)	(0.0696)	(0.0000)	(0.0408)
Inst Own	0.4195***	1.2017***	0.4153***	1.2313***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Inst Social Pref	0.7037	1.5754	0.6088	1.2960
	(0.1523)	(0.1886)	(0.2002)	(0.2884)
Ln(Mktcap)	0.0745***	0.1457***	0.0687***	0.1302***
	(0.0000)	(0.0010)	(0.0000)	(0.0051)
BTM	0.1189**	0.0676	0.1075*	0.0907
	(0.0415)	(0.6122)	(0.0881)	(0.5120)
Big4	0.1006**	-0.0020	0.1138***	0.0590
	(0.0128)	(0.9851)	(0.0022)	(0.6263)
Leverage	0.1499**	0.2574*	0.1536**	0.2340
	(0.0390)	(0.0658)	(0.0349)	(0.1128)
ETR	0.0055	0.0175	0.0068	0.0242
	(0.3833)	(0.2983)	(0.3305)	(0.1256)
DNI	-0.0078	0.0020	-0.0010	0.0215
	(0.7734)	(0.9833)	(0.9782)	(0.8527)
Num Est	-0.0158	-0.0776	-0.0032	-0.0387
	(0.5551)	(0.3857)	(0.9199)	(0.6750)
XRD	-0.0000	-0.0000	-0.0000	-0.0000
	(0.7405)	(0.3415)	(0.6818)	(0.3665)
Labor Intensity	0.0598***	0.0794**	0.0601***	0.0783**
	(0.0000)	(0.0325)	(0.0002)	(0.0432)
Observations	1,636	1,636	1,521	1,521
Adj R-squared	0.2302	0.0916	0.2345	0.0951
Industry FE (SIC2)	YES	YES	YES	YES
Cluster by announcement date	YES	YES	YES	YES

TABLE 5
Equity Market Reactions To Human Capital Disclosures

This table reports the relation between cumulative abnormal returns during the release of the Human Capital Disclosures in a firm's 10-K filing and human capital disclosures. The dependent variable is *CAR[-1,+5]*, a cumulative abnormal return between the 10-K filing date -1 and +5. *Dis All* is log(1 + the number of human capital disclosure word count). *Subcategory#* is the number of subcategories disclosed in human capital disclosures. *Unexp Dis* is the unexpected amount of human capital disclosures, a residual value from the disclosure determinant Model 1. *Dis Diversity* is log(1 + the number of Diversity & Inclusion human capital disclosure word count). *Dis Nondiversity* is log(1 + the number of Non-Diversity & Inclusion human capital disclosure word count). *Numeric Intensity* is the percentage of numbers in the text. Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions. Robust p-value in parentheses. All continuous variables are winsorized at the 1% and 99% levels. * Two-tailed $p<0.10$, ** $p<0.05$, *** $p<0.01$.

	(1)	(2)	(3)	(4)	(5)
			CAR[-1,+5]		
Dis All	0.0066*				
	(0.0748)				
Subcategory#		0.0030**			
		(0.0435)			
Unexp Dis			0.0076*		
			(0.0675)		
Dis Diversity				0.0021	
				(0.2185)	
Dis Nondiversity					0.0059*
					(0.0859)
Numeric Intensity	0.1864**	0.1873**	0.2053**	0.1549*	0.1784*
	(0.0489)	(0.0396)	(0.0317)	(0.0883)	(0.0644)
EA	-0.0040	-0.0041	-0.0056	-0.0043	-0.0040
	(0.6520)	(0.6413)	(0.5355)	(0.6277)	(0.6522)
SUE	0.0326	0.0320	0.0463	0.0317	0.0320
	(0.5205)	(0.5253)	(0.3755)	(0.5309)	(0.5294)
Ln(10K)	-0.0041	-0.0039	0.0021	-0.0033	-0.0038
	(0.7061)	(0.7304)	(0.8499)	(0.7687)	(0.7294)
Ln(Mda)	0.0035	0.0035	0.0050	0.0035	0.0036
	(0.4721)	(0.4769)	(0.2965)	(0.4755)	(0.4671)
Ln(Risk)	-0.0073	-0.0075	-0.0112**	-0.0074	-0.0073
	(0.1468)	(0.1390)	(0.0191)	(0.1491)	(0.1477)
Observations	1,636	1,636	1,636	1,636	1,636
Adjusted R-squared	0.1067	0.1075	0.0877	0.1066	0.1065
Industry FE (SIC2)	YES	YES	YES	YES	YES
Cluster by announcement date	YES	YES	YES	YES	YES
Other Variables in Table 4 Included	YES	YES	NO	YES	YES

TABLE 6
Equity Market Reactions and Factors in Human Capital Disclosure Subcategories

This table reports the relation between cumulative abnormal returns during the release of the Human Capital Disclosures in a firm's 10-K filing and factors in human capital disclosure subcategories. The dependent variable is *CAR[-1,+5]*, a cumulative abnormal return between the 10-K filing date -1 and +5. Panel A shows the factor loadings of 13 human capital disclosure subcategories. Panel B shows the equity market reaction for five factors from the factor analysis. *Factors 1-5* are the linear combinations of factor loadings presented in Panel A. Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions. Robust p-value in parentheses. All continuous variables are winsorized at the 1% and 99% levels. * Two-tailed $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Panel A: Factor Loadings

Subcategory	Factor1	Factor2	Factor3	Factor4	Factor5
Diversity	**0.7295**	-0.0216	0.1365	0.1465	0.0202
Safety	**0.7049**	0.0478	-0.1659	-0.0167	0.1336
Development	**0.5918**	0.2005	0.1545	0.0949	0.0186
CSR	**0.4816**	-0.1429	0.0404	-0.1781	-0.1043
Tenure	-0.0236	**0.6956**	-0.1133	-0.0003	0.0615
Recruitment	0.0845	**0.6685**	0.0725	0.0270	-0.0567
Labor Relations	0.0294	0.0817	**-0.7991**	-0.0333	-0.0963
Engagement	0.2333	0.1412	**0.4804**	0.3017	-0.2070
Compensation	0.2076	0.3005	**0.4095**	-0.3787	0.2066
Payequity	0.1158	-0.0744	0.1216	**0.6788**	0.0506
Succession	0.0749	0.3374	-0.0215	**0.5488**	-0.0263
Employeestats	0.0665	0.0137	0.0644	-0.0044	**0.8831**
Culture	0.3200	0.0940	0.2561	-0.2481	-0.3343

TABLE 6 (CONTINUED)
Equity Market Reactions and Factors of Human Capital Disclosure Subcategories

This table reports the relation between cumulative abnormal returns during the release of the Human Capital Disclosures in a firm's 10-K filing and factors in human capital disclosure subcategories. The dependent variable is *CAR[-1,+5]*, a cumulative abnormal return between the 10-K filing date -1 and +5. Panel A shows the factor loadings of 13 human capital disclosure subcategories. Panel B shows the equity market reaction for five factors from the factor analysis. *Factors 1-5* are the linear combinations of factor loadings presented in Panel A. Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions. Robust p-value in parentheses. All continuous variables are winsorized at the 1% and 99% levels. * Two-tailed $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Panel B: Market Reactions for Five Factors

	(1)	(2)	(3)	(4)	
			CAR[-1,+5]		
Factor1	0.0014*				
	(0.0974)				
Factor2		0.0024**			
		(0.0147)			
Factor3			0.0002		
			(0.8510)		
Factor4				0.0005	
				(0.7701)	
Factor5					0.0034*
					(0.0901)
Observations	1,636	1,636	1,636	1,636	1,636
Adj R-squared	0.1073	0.1067	0.1054	0.1054	0.1071
Industry FE (SIC2)	YES	YES	YES	YES	YES
Other Variables in Table 5 Included	YES	YES	YES	YES	YES

TABLE 7
Equity Market Reactions and Human Capital Disclosure Subcategories Factors

This table reports the relation between cumulative abnormal returns during the release of the Human Capital Disclosures in a firm's 10-K filing and each of the 13 human capital disclosure subcategories. The dependent variable is *CAR[-1,+5]*, a cumulative abnormal return between the 10-K filing date -1 and +5. The independent variables are log(1 + number of human capital disclosure subcategory word count). Subcategories are *Diversity & Inclusion, Development*, *Safety & Health*, *Compensation*, *Engagement*, *Tenure*, *Culture*, *Recruitment*, *Pay Equity*, *Succession Planning*, *Employee Stats*, *Labor Relations*, and *CSR*. Standard errors are clustered by 10-K filing dates. We report only the subcategories' coefficients for brevity. Please refer to Appendix C for variable definitions. All continuous variables are winsorized at the 1% and 99% levels. * Two-tailed $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Subcategory:	Dis Diversity	Dis Development	Dis Safety	Dis Compensation	Dis Engagement	Dis Tenure	Dis Culture
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dis Subcategory	0.0021 (0.2185)	0.0016 (0.2039)	0.0019 (0.1022)	0.0015 (0.2002)	-0.0005 (0.7749)	-0.0015 (0.4196)	-0.0000 (0.9908)
Observations	1,636	1,636	1,636	1,636	1,636	1,636	1,636
Adj R-squared	0.1066	0.1062	0.1067	0.1061	0.1054	0.1055	0.1053
Industry FE (SIC2)	YES	YES	YES	YES	YES	YES	YES
Other Variables in Table 5 Included	YES	YES	YES	YES	YES	YES	YES

Subcategory:	Dis Recruit	Dis Payequity	Dis Succession	Dis Employeestats	Dis Labor	Dis CSR
	(8)	(9)	(10)	(11)	(12)	(13)
Dis Subcategory	0.0033*** (0.0037)	0.0027 (0.1787)	0.0008 (0.6829)	0.0038 (0.1455)	0.0010 (0.4736)	-0.0014 (0.2239)
Observations	1,636	1,636	1,636	1,636	1,636	1,636
Adj R-squared	0.1071	0.1059	0.1054	0.1066	0.1056	0.1057
Industry FE (SIC2)	YES	YES	YES	YES	YES	YES
Other Variables in Table 5 Included	YES	YES	YES	YES	YES	YES

TABLE 8
Bond Market Reaction To Human Capital Disclosure

This table reports the relation between bond cumulative abnormal returns during the release of the Human Capital Disclosures in a firm's 10-K filing and human capital disclosures. The dependent variable is *Bond Ret*, the mean-adjusted abnormal bond return during the 7-day window [-1, 5] surrounding 10-K filing dates. *Dis All* is log(1 + the number of human capital disclosure word counts). *Unexp Dis* is the unexpected amount of human capital disclosures, a residual value from the disclosure determinant Model 1. In column (2), the same control variables in Table 5 column (3) are included. *Factors 1–5* are the linear combinations of factor loadings presented in Table 6 Panel A. *Dis Diversity* is log(1 + the number of Diversity & Inclusion human capital disclosure word count). *Dis Nondiversity* is log(1 + the number of Non-Diversity & Inclusion human capital disclosure word count). Standard errors are clustered by 10-K filing dates. Please refer to Appendix C for variable definitions. Robust p-value in parentheses. * Two-tailed *p*<0.10, ** *p*<0.05, *** *p*<0.01.

	Bond Ret								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dis All	-0.0017* (0.0785)								
Unexp Dis		-0.0019** (0.0300)							
Factor1			-0.0005** (0.0239)						
Factor2				-0.0001 (0.8353)					
Factor3					-0.0004* (0.0716)				
Factor4						0.0003 (0.3105)			
Factor5							0.0002 (0.6759)		
Dis Diversity								-0.0007** (0.0272)	
Dis Nondiversity									-0.0011 (0.3171)
Observations	330	330	330	330	330	330	330	330	330
Adj R-squared	0.1267	0.0606	0.1393	0.1188	0.1252	0.1206	0.1196	0.1307	0.1219
Industry FE (SIC2)	YES	YES	YES	YES	YES	YES	YES	YES	YES
Other Variables in Table 5 Included	YES	NO	YES	YES	YES	YES	YES	YES	YES