To Woke or Not: Corporate Woke Engagement and Financial Outcomes*

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Abstract

This paper develops a novel approach to capture corporate woke engagement (CWE) by measuring its disclosure in 10-K filings of public firms in the United States from 2008 to 2023. CWE disclosure has surged significantly since 2020 and is more prevalent among firms that emphasize integrity, respect, teamwork and innovation as cultural values. We find that firms with a high frequency of CWE disclosure experience an immediate boost in labor investment efficiency; however, this effect fades after one year. We also find evidence for an inverted U-shaped relationship between CWE disclosure and Tobin's Q indicating that excessive woke engagement is detrimental to firm value. This detrimental impact is further reflected in the underperformance of CWE stocks, which is most pronounced during Republican presidencies. These findings underscore the growing significance of CWE in contemporary corporate America.

JEL codes: G11, G12, G30, G32, M40, P00

Keywords: corporate disclosure; corporate social initiatives; ESG; firm value; labor investment efficiency; stock returns; woke engagement

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In recent years, "woke" has become a symbol of political division in the United States (Lyon and Maxwell, 2023). Originally rooted in the African American community, the term "*woke*" refers to the awareness of social injustices, particularly those related to race, gender, and inequality. Nevertheless, a significant portion of the American public remains divided on the meaning of "*woke*". While 56% view it positively as being informed about social injustices, 39% associate it with being overly politically correct, according to the 2023 USA Today (Ipsos) survey.[1] This division is also increasingly observed in US public firms where the woke movement exerts its influence on corporate policies and public announcements (Foss and Klein, 2023). In 2008, there were only 13.35% of US public firms described themselves using woke-related statements in 10-K filings.[2] This figure increased steadily to 27.48% in 2019 before surging alongside the woke movements during the COVID-19 pandemic, reaching 64.88% in 2023. This finding means that, on average, approximately two out of three US public firms lean toward the woke movement.

Firms can engage in embracing woke ideologies and causes through both internal and external practices, including branding, marketing strategies, Diversity, Equity and Inclusion (DEI) practices in hiring, promoting and employee treatment. DEI practices can be regarded as positive efforts, as they focus on creating inclusive, equal environments that support diverse identities without excluding any group of individuals including those with privilege. However, corporate woke engagement (CWE) extends beyond DEI to encompass other progressive practices and CWE is often labeled as politically driven and perceived as inconsistent with the business's purposes (Warren, 2022). In other words, CWE is multifaceted and perceived in different ways.

There are two competing motives for firms to engage in the woke movement: instrumental and normative motives. Instrumental motives for firms using the woke movement as a corporate social responsibility (CSR) channel include expanding the firm's influence or status (Foss and Klein, 2023), or to improve financial performance (Henisz et al., 2014). In contrast, normative motives represent a genuine commitment to the progressive ideology (for example, employee

[1] Surveyed Democrats generally react more positively to the question "If someone described you as woke, would you consider it…" with 42% consider it as a compliment, while this number is only 14% for Republicans. In response to the same question, 25% of Democrats find offended to be labeled as "woke", while it is much higher in the cases of Republicans with 60%. More details can be found at: https://www.ipsos.com/en-us/americans-divided-whether-woke-compliment-or-insult

[2] The percentages of firms disclosing woke-related statements are based on our textual analysis of 10-K data explained in Section 2.

demographic diversity and employee equality) and not necessarily connected to improving stock performance (Alexander and Buchholz, 1978; Wu et al., 2020; Bae et al., 2021; Foss and Klein, 2023).

The competing points of view are also documented in the corporate finance literature. The normative motives in employee-friendly treatments generally enhance labor investment efficiency (Cao and Rees, 2020) and corporate fundamental performance, especially in firms with low agency costs (Fauver et al., 2018). These findings demonstrate the positive normative aspects of CWE and are well supported by the Stakeholder Theory. Alternatively, the Agency Theory suggests that corporate social initiatives are generally associated with higher agency costs (Jensen and Meckling, 1976; Atanassov and Kim, 2009) and thus reduce firm value. This perspective critiques social initiatives, arguing that they can divert resources away from profit-maximizing activities and lead to inefficiencies. The clash of the two theoretical perspectives introduces the puzzle of value maximization in the context of growing prominence of corporate wokeism in the contemporary economy.

As recent studies attempt to solve this puzzle from different indirect approaches, it remains ambiguous without a comprehensive measure of CWE. Previous empirical studies in this line of literature focus on the impact of employee demographic diversity in its relation to stock performance (Edmans, 2023; Frijns et al., 2024). Focusing on management-level diversity, Bernile et al. (2018) find that board diversity reduces return volatility and enhances stock performance, with the latter being supported by previous findings of Gul et al. (2011). From a different perspective, Mkrtchyan et al. (2024) show that market reacts positively to CEO activism (i.e., CEOs taking public stances on socio-political issues). Therefore, shareholders appear to respond to activities aligned with CWE, particularly at the top-management level.

In this study, we propose a novel measure of firm-level woke engagement using the textual description of business in 10-K filings. The measure is constructed via the bag-of-words approach in three steps. First, we design a targeted word list to capture corporate disclosure in woke engagement using a generative artificial intelligence, more specifically ChatGPT, and manual screening following the bag of words approach in textual analysis. We do not construct an extended dictionary with a large number of bigrams and unigrams to avoid decreasing relevance in word meanings that might make our measure inadvertently capture factors other than CWE. This

approach both reduces the size of our targeted word lists and decreases the exposure of our measurement to Type I errors in classifying firms regarding CWE. Second, we download the 10-K filings of US public firms from Stock Exchange Commission's EDGAR database and count the number of sentences that mention at least one bigram or unigram from the targeted word list. The counting only involves the text data in the Business Description section (i.e., Part I) of the 10-K filings where firms define themselves in terms of operations, products or services, and other general information. Third, we calculate the relative frequency of CWE by counting sentences that contain at least one word from our word list. We then normalize the count by the total number of sentences in the Business Description section to have the CWE disclosure score (CWED) for each firm-year. As a result, we obtain a comprehensive dataset of CWED for 8,708 US public firms from 2008 to 2023, which consists of 76,342 firm-year observations covering all economic sectors in the U.S, including financial firms.[3] We also construct an indicator variable to identify firms that disclose CWE information (CWED > 0) and those that do not (CWED = 0) for empirical analysis. Our approach allows the measures to capture the instrumental motive of CWE as firms disclose their social stances in the 10-K's Business Description Section to communicate with shareholders. The measures are correlated with a wide range of corporate social performance, DEI and human right protection proxies at firm-level and state-level collected from databases such as KLD, Refinitiv Eikon, Bloomberg, Corporate Equality Index Reports, Bureau of Labor Statistics, and other sources.

We next investigate how CWED influences three financial outcomes of interest: labor investment efficiency, firm value, and stock returns. We find a positive relationship between CWE and labor investment efficiency, as proxied by the abnormal level of net hiring after considering relevant fundamental factors (Jung et al., 2014). Interestingly, the relationship weakens and becomes statistically insignificant after one year. The dynamic impact pattern hints that CWE can immediately enhance labor efficiency in the short term by boosting employee engagement, as suggested in the existing literature (Opoku-Dakwa et al., 2018). Previous literature suggests that despite corporate communications about their social initiatives can boost employee engagement, later misalignments between corporate communications about their social initiatives and the actual corporate social performance may lead to disengagement (Hahn et al., 2023). This interpretation

[3] If excluding financial firms, our dataset of CWED consist of 62,838 firm-year observations of 7,256 US public firms from 2008 to 2023.

is supported by our intriguing finding regarding the opportunistic cross-sectional pattern of woke engagement disclosure in comparison to actual corporate social performance.[4]

While the analysis from the labor investment efficiency perspective does not lend support to the normative motive of CWE, our analysis on the response of firm value to disclosure on CWE continue to indicate its instrumental aspect. We find an inversed U-shaped relationship between CWE and Tobin's Q, suggesting a non-linear function of Tobin's Q in relation to corporate engagement in the woke movements. Consistent with the short-term positive impact of CWE on labor investment efficiency, the findings indicate the reversal in Tobin's Q when the management overly emphasizes CWE. The results can be explained by shareholders considering too extensive engagement in woke initiatives as an agency issue that manifests in resource misallocation, ultimately affecting firm value (Jensen and Meckling, 1976).

Our stock return analysis lends further support to the instrumental CWE argument. To test the relevance of CWED for stock performance, we construct stock portfolios based on our CWED score and compute alpha from Fama and French (2015)'s five factor model. We find that stocks of firms disclosing CWE tend to underperform by 9.924% per annum. Further, the performance of portfolios based on CWED varies significantly under different political regimes, with the poor stock performance associated CWE appearing predominantly during a Republican presidency.

Our study makes three important contributions to the existing literature. First, we propose novel measures of corporate America's social activism via the disclosure of woke engagement, which is different from previous direct measures of employee demographic diversity (Edmans et al., 2023; Frijns et al., 2024), board diversity (Bernile et al., 2018; Dodd et al., 2024), and the measures of diversity disclosure using textual analysis (Baker et al., 2024). Our measures indirectly capture the variations in multiple aspects of corporate woke engagement, including the normative CWE aspects (e.g., employee diversity, corporate diversity policies, and corporate social performance). It does not only reflect firm-level DEI trends, but adherently correlates with the recent developments in social movements in the US, including the Black Lives Matter and Pride Month movements, and the increasing trends in state-level equality and diversity. This adds to the current literature, which is divided into competing viewpoints and mixed findings regarding

[4] The findings are presented and discussed in Section 4.1.

the impact of DEI factors, by expanding to a broader perspective: corporate disclosure of woke engagement in mandatory disclosures (i.e., 10-K filings). Our study therefore is related to the literature on corporate disclosure and textual analysis, such as firm-level political risk disclosure (Hassan et al., 2019) and climate change exposure disclosure (Sautner et al., 2023; Li, Shan, Tang and Yao, 2024) in earnings conference calls, corporate culture (Li et al., 2021) and corporate risk disclosure (Kravet and Muslu, 2013; Yang et al., 2017) using text data from 10-K filings, and diversity disclosure in multiple corporate reports and its mismatching with actual hiring practices (Baker et al., 2024). This study extends the literature on corporate disclosure and provides a large dataset for future empirical studies to explore how CWED can influence corporate policies and outcomes.

Second, this study advances the understanding of corporate ESG disclosures by focusing specifically on the social, S, dimension of ESG. We explore the role of CWE by addressing its impacts on corporate financial outcomes in two key dimensions: labor investment efficiency and firm value. Our large-sample evidence reveals that while stakeholders may initially respond positively to CWE information, these reactions tend to reverse over time—particularly in the case of labor investment efficiency—and when CWED surpasses a critical threshold, as reflected in Tobin's Q. Our findings highlight the dynamic in the relationship between CWED and firm value and suggest the opportunistic CWED behavior of US public firms. The findings are related to the line of research in management and organizational behavior literature that employees' work engagement is positively associated with their perceptions of their employers' social performance (Gond et al., 2017; Opoku-Dakwa et al., 2018; Hahn et al., 2023), and opportunistic patterns of corporate disclosures regarding their sustainability practices (Kim and Lyon, 2014; Baker et al., 2024). In this sense, our findings are related to those of Cai et al. (2024) that the timing of diversity targets disclosure by firms may not always reflect their actual, concurrent progress of workforce diversity. Our findings lean toward the Agency Theory (Jensen and Meckling, 1976) under which the instrumental motive of corporate social initiatives manifests (Chin et al., 2013; Foss and Klein, 2023).

Third, our stock return analysis reveals a differential performance between a stock portfolio of firms that disclose CWE and those that do not. Firms that disclosing CWE underperform compared to non-disclosing ones, particularly during a Republican presidency, suggesting that

political divisions exert effects on the market response to CWE. Building on this insight, it appears that investors may perceive CWE as a potential risk during Republican administrations, possibly due to concerns about regulatory pushback or consumer backlash in a more conservative political climate. This market reaction highlights the complex interplay between corporate social initiatives, political landscape, and stock returns. While previous studies focus on the market responses to workforce diversity (Neiling and Webb, 2009; Edmans et al., 2023; Frijns et al., 2024) and find no significant abnormal stock returns, we extend the analysis to portfolios constructed based on a broader conceptual factor: corporate disclosure of woke engagement. Our findings support the agency problem perspective of CWED, suggesting that investors view CWE as costly and misaligned with their interests.

The rest of the paper proceeds as follows. Section 1 discusses the sources of data used in this study. Section 2 explains the measurements of corporate woke engagement disclosure. Section 3 presents the measures, their properties, and validation tests. Section 4 analyzes the effects of corporate woke engagement disclosure and discussion the results. Section 5 concludes the study.

1. Data

1.1. 10-K Filings of US firms

To measure corporate woke engagement disclosure, we use data from 10-K filings of all US public firms obtained from SEC EDGAR database. Form 10-K is a comprehensive annual report required by the US Securities and Exchange Commission (SEC) that provides a detailed overview of a public firm's financial performance, business operations, risks, and other key information. The form must be filed within 60-90 days after the end of the firm's fiscal year and serves as a crucial tool for investors, analysts, and regulators to evaluate the firm's financial health and make informed decisions. Previous studies in the finance literature (Hoberg and Maksimovic, 2015; Buehlmaier and Whited, 2018; Florackis et al., 2023) use text data from the Management's Discussion and Analysis (MD&A) of 10-K filings to construct text-based variables at firm-level. The MD&A provides a narrative explanation of financial statements and business operations from management's perspective. It aims to give investors insight into the firm's changes in financial conditions, and results of operations. This section typically includes discussions on the company's liquidity, capital resources, results of operations, off-balance sheet arrangements, and other known

trends or uncertainties that could materially affect the firm's performance. The choice of using text data from which sub-section in the MD&A for textual analysis is heterogeneous depending on the research topic and study design. For example, Hoberg and Maksimovic (2015) use text data from the Liquidity and Capital Resources section in the MD&A to measure financial constraints, however, Buehlmaier and Whited (2018) use the whole MD&A section for measuring the same factor. Florackis et al. (2023) use the texts from the Risk Factor sub-section in the MD&A to capture firm disclosures on cybersecurity risk.

We take a different approach to 10-K filings and use its the Business Description to measure CWED. The business description section of a 10-K filing provides a comprehensive overview of a company's operations, products and services, general employee information, general business strategy, major customers, and market position. This section generally begins with a company overview, including its brief history and primary activities. It then describes detailed descriptions of major products or services, often including revenue breakdowns. The section also provides information on the firm's target markets, geographic regions of operation, and industry trends. A key component is competitive landscape analysis, highlighting the firm's competitive advantages. The business description outlines long-term strategies, growth initiatives, and any significant recent developments. Furthermore, the section contains general human capital management and employee information while the MD&A does not, therefore, its text data is more suitable as the input for measuring CWED relative to the MD&A content. Under Item 101(c) of Regulation S-K, firms have the flexibility to determine which information is material to understanding their business. Therefore, firms can tailor their business description disclosures to their specific circumstances and are not required to disclose their social orientation. This setting enables the identification of firms that voluntarily disclose CWE information, and firms that do not disclose such information.

We use the Python toolkit developed by Loukas et al. (2021) to download 10-K filings from the SEC's EDGAR database. There is a total of 123,492 10-K filings of US public firms from the years 2008 to 2023 used in this study. Appendix A.1 reports the number of 10-K filings per year.

1.2. Firm-level data

We collect stock return data from CRSP and financial data from COMPUSTAT North America. We include all available US public firms from all sectors for the initial sample. To validate our measure, we leverage the use of relevant firm-level data from different data vendors, including the corporate governance and ESG data from Refinitiv Eikon and MSCI KLD ESG database, the Corporate Equality Index (CEI) from Human Right Campaign's Corporate Equality Index Report series from 2002 to 2023 (https://www.hrc.org/). CEI is the annual rating system developed by the Human Rights Campaign (HRC) to assess how equitably large US companies treat their LGBTQ+ employees. It serves as a benchmarking tool that evaluates corporate policies and practices related to LGBTQ+ workplace equality via four main key criteria: non-discrimination policies, equitable benefits for LGBTQ+ employees and their families, supporting an inclusive culture and corporate social responsibility, and responsible citizenship. CEI ranges from 0 to 100, where firms scoring from 85 to 100 are recognized in the "Best places to work for LGBTQ+ Equality" list.

From Refinitiv Eikon, we obtain the ESG performance score, the social pillar performance score, the governance pillar performance score, board cultural diversity, and CSR & sustainability committee data. MSCI KLD ESG database provides us corporate diversity data, with variables that start with DIV_ prefix, however, some variables are only available up to 2011, including corporate LGBT+-support policy. For further validation tests and analysis, we consider corporate culture dimensions (e.g., integrity, respect, innovation, and teamwork) from Li et al. (2021) for the 2001-2021 period. Variable lists and descriptions are presented in Appendix A.2.

1.3. Other data

We utilize a variety of datasets at the state-level and industry-level for correlation analysis and further regression analysis. Firstly, we use the State Equality Index from Human Right Campaign as the proxy for the state institutions regarding gender equality and LGBTQ+ rights. The State Equality Index rates all US states on their LGBTQ+ equality policies and regulations across six key areas: (i) hate crime and criminal justice laws; (ii) health and safety laws and policies; (iii) non-discrimination laws and policies; (iv) parenting laws and policies; (v) religious refusal and relationship recognition laws; and (vi) youth-related laws and policies. It assigns states to one of

four categories based on their level of LGBTQ+ protections and equality measures, ranging from states with basic equality efforts (value of one) to those with innovative, comprehensive protections (value of four). The index is constructed by analyzing statewide laws, policies, and court decisions that affect LGBTQ+ equality, using data from public sources and input from state-based equality organizations. Second, we collect the employment rates of citizens in the U.S by gender, origins, state and year from Bureau of Labor Statistics (BLS) website. This data enables the exploration of potential disparities in employment rates among different population subgroups and how they may vary geographically and temporally. The data is used to test the correlation between our proposed measured and the demographic of employment in the US states. Third, we leverage the data in the National Registry of Exonerations to construct a metric that presents the exoneration rate of non-white convicted defendants in the state-year. This variable is calculated by dividing the number of non-white exonerees in a given state and year by the total number of non-white individuals convicted of crimes in that same state-year. This metric offers insights into the racial disparities within the criminal justice system, highlighting how the US court system is working to reduce racial bias in the legal system. We also use the industry-level unionization rate data from Hirsch and Macpherson (2003)'s updated database of Union Membership and Coverage for our later analysis.

2. Measuring corporate woke engagement disclosure

2.1. Constructing the targeted word list

We follow the bag-of-words approach to construct the measures of corporate woke engagement disclosure from the text data in the Business Description section of 10-K filings. A word list of woke engagement are generated using targeted phrases, which is one of the simplest and the most powerful approaches to textual analysis (Loughran and McDonald, 2016). As corporate woke engagement is the concept that we want to measure, we start with the "woke" bigram. The first step is to search the standard English dictionaries for woke-related bigrams and unigrams. In the online Oxford English Dictionary[5], the word *woke* is defined as "*aware of social and political issues and concerned that some groups in society are treated less fairly than others*". In the same

[5] Our first access to the online Oxford English Dictionary for this study was on 15 February 2024

dictionary, the closest synonym for "woke" is "wokeism" and it is defined as "*progressive or left-wing attitudes or practices, especially those opposing social injustice or discrimination*…". As the original meaning of *woke* is the past tense of *wake*, we do not rely on the bigram to construct our word list. Therefore, we use the *wokeism* bigram and its definition to find close-meaning bigrams and unigrams that represent woke engagement.

Following the recent literature that involve the use of Large Language Models (LLMs) in textual analysis in accounting and finance (Jha et al., 2024; Li, Mai, Shen and Yan, 2024; Baker et al., 2024; Kim et al., 2024), we use ChatGPT 4.0 to generate a list of bigrams and unigrams that are synonymous with wokeism. ChatGPT is a generative AI model introduced in November 2022 by OpenAI, which is considered to be a major technological advancement in natural language processing. The architecture of ChatGPT is based on deep learning models designed to handle natural language text data, or in other name - transformers. Transformers employ a sophisticated architecture comprising multiple stacked layers of self-attention mechanisms. These mechanisms enable the model to dynamically assess and weigh the relevance of each word in relation to every other word within a given input sequence. This approach allows the transformer to effectively capture both short-range and long-range contextual dependencies, thereby understanding the nuanced relationships between words in a sentence. The self-attention process essentially creates a rich, contextual representation of each word, taking into account its surrounding linguistic environment, which is crucial for accurate language understanding and generation.

In ChatGPT 4.0, we use one simple prompt: "List 100 words which are explicitly related to "*wokeism*"". We first set the number of words to 100 then repeat the prompt with different numbers, for instance, 200, 300, and 500 to expand the vocabulary. However, we notice that the generated word lists decrease in meaning relevance to "*wokeism*" with the number of words in the prompts. This is attributable to the fact that *wokeism* is a new word in the Oxford English Dictionary, it represents a new societal concept and does not have many synonyms. Therefore, we do not entirely rely on generative AI to construct our word list as we share the same caution that no computer algorithm can read and understand human communications better than human beings (Loughran and McDonald, 2016). We manually compare each of the bigrams and unigrams in the generated word lists and strictly limit them to be relevant to the definitions of "*woke*" and "*wokeism*" in the Oxford English Dictionary. We exclude the bigrams and unigrams that have

multiple meanings that can be frequently used in the filings, such as *color*, *black*, *representation*, *equity*, or bigrams and unigrams that are of low relevancy to *wokeism*, for examples, *allyship*, *oppression*, *decolonization*, *solidarity*, *critical thinking*, *safe space*, *systemic bias, etc*.

Other than using generative AI, we draw on the literature on human rights violation in economics, management and finance to find relevant word lists and concepts to include in our dictionary. We find the short word list of Kappel et al. (2009) that include a set of keywords describing particular types of human right abuse: *child labor*, *race (racial) discrimination*, *religious discrimination*, *sex (gender) discrimination*. We borrow the idea and include *child labor* and *discrimination* in our word list. We choose to include the bigram *discrimination* instead of the unigrams specifying abovementioned types of discrimination to increase our coverage of human rights misconducts via any possible type of discrimination. Further investigation into the literature show the significant impacts of the Black Lives Matter (BML) and Pride Month movements on firm value (Bhagwat et al., 2020; Mkrtchyan et al., 2024). Since those progressive social movements are well supported by a large number of businesses in the US, we include the unigrams *Black Lives Matter* and *Pride Month* in our word lists. Finally, we add the non-binary genders and their group identities into our word lists, including the bigrams: *gay*, *lesbian*, *transgender*, *LGBT*, *LGBTQ+*, *LGBTQIA+*, *LGBTQQIAAP*, *GLBT*, *GLBTQ*.

Our final targeted word list, based on the selection criteria described above, includes 35 keywords covering bigrams and unigrams closely related to "woke" and "wokeism". Our word list is non-sentimental and undirectional, therefore our CWED measures are not multi-dimensional in terms of sentiment and direction of expression.[6] It focuses on the frequency of disclosure of corporate woke engagement, not the corporate social performance, DEI, sentiment toward diversity nor social injustice. By covering a wider range of topics in social justice rather than just focusing on DEI-related vocabulary, we are able to record the corporate engagement in the woke movements, deliberately or not. It is important to note that woke comes with DEI, while DEI does not necessarily come with woke. This design enables the measure to capture instrumental CWE disclosure, while being correlated with normative CWE. Our measures generated from this

[6] Firms may choose to disclose their CWE information or not. In case a firm choose to use CWE-related information, it is very unlikely that the firm management would disclose negative CWE information. For instances, no firms would disclose that they support discrimination practices, nor they would not hire LGBT+ employees. Therefore, the bigrams and unigrams in our word list are undirectional in the context of US firms having the flexibility to determine which information is material enough to disclose in the Business Description.

targeted word list therefore differ from other measures of employee demographic diversity (Edmans et al., 2023; Frijns et al., 2024; Baker et al., 2024).

2.2. Measuring corporate woke engagement disclosure

After constructing the word list, we use R to conduct the textual analysis on a sentence-by-sentence basis and count sentences containing at least one of the CWE-related terms, following an approach similar to that of Giglio et al. (2023). We do not use the raw count of CWE-related words but use the CWE-related sentence count to better represent the portion of the discussion is related CWE-related contents. For example, a company may mention the CWE-related words five times in the Business Description section, but those counts can be from a single sentence or from five different sentences, which may lead a different interpretation of the text. Before counting, we neutralize the plural form of the words in our list. We count the number of sentences that contain at least one CWE-related word, then normalize the count of CWE-related sentences with the total count of sentences in the same Business Description section. This process creates a firm-level, time-varying numerical measure of CWED. Because it is generated from the Business Description section, we name it *CWED_DES*. A higher value of *CWED_DES* corresponds to a greater propensity toward CWE, while a *CWED_DES* of zero indicate the firm does not have any woke-related statement in their business description. We do not normalize *CWED_DES* because normalizing the score would significantly change its economic meaning. Table 1 presents examples of sentences captured using our word list.

[Insert Table 1 about here]

Figure 1 demonstrates the word cloud of the highest-frequency words in our sample. The words with highest frequencies include *diversity*, *inclusion*, *inclusive*, *discrimination*, *race*, *gender*, *activism*, *human rights*, *equality*, *child labor*, *anti-discrimination*, *racial*, *gay*, *inclusivity*, *lgbtq+*, *transgender*, *inequality*, *social justice*, *social change*, and more. We notice that US public firms mention the major social movements, BLM and Pride Month, in their Business Description, as the two unigrams are noticeably presented in the word cloud.

[Insert Figure 1 about here]

For further analysis and comparison, we also apply the same design on the data extracted from the MD&A section of the 10-K filings to construct an alternative CWED score, *CWED_MDA*. Another attempt for robustness check is that we create another alternative CWED score, *ALT_CWED_DES*, with a restriction that the counted sentences must contain at least two terms from our word list. This is to prevent possible misleading in the texts in the Business Description that may arise. The downside of using *ALT_CWED_DES* is that it may not capture sentences that only contain one word from the word list. In addition, we also constructed binary (dummy) variables, D_CWED_DES and D_CWED_MDA, corresponding to CWED_DES and CWED_MDA. We assign a value of one when a firm's CWE score (e.g., CWED_DES) is positive. This indicates the presence of woke engagement disclosures. A score of zero was assigned otherwise.

After constructing the scores, we merge the new dataset to COMPUSTAT North America using *cik* as the firm identifier. After merging and excluding firm-year observations with missing financial data, we document a reduction in sample size, from 123,492 to 76,342, meaning a 38.18% reduction. Our dataset covers US public firms from all sectors, including financial and utilities firms. Following analysis exclude those firms where applicable. Our next step involves exploratory data analyses, including sectoral and time-series variations, variance decomposition, correlation analysis, and examining corporate woke engagement by business sector and cultural dimensions. These analyses are intended to assess the overall validity of the data.

3. Properties of the measures of corporate woke engagement disclosure

3.1. Variations across dimensions

3.1.1. Variations across sectors

Table 2 reports the descriptive statistics for corporate woke engagement disclosure (CWED) scores across different sectors, specifically focusing on the variables CWED_DES and D_CWED_DES. As shown in Panel A, the mean scores for CWED_DES are relatively low across all sectors, with Consumer Discretionary and Financials showing slightly higher mean values than other sectors. However, skewness and kurtosis values reveal substantial variability and asymmetry, particularly

in sectors like Financials (skewness: 26.032, kurtosis: 1064.568) and Health Care (skewness: 13.182, kurtosis: 533.480). This may suggest significant sectoral differences in woke engagement disclosures, and 'outlier' firms with notably higher levels of woke-related disclosure. Panel B provides a consistent summary, with Financials, Real Estate, Consumer Discretionary and Health Care displaying the highest mean values (0.581, 0.567, 0.553 and 0.523 respectively). This indicates that over half of the firms in these sectors engage in woke-related disclosures.

[Insert Table 2 about here]

To further examine whether sectoral differences exist in woke engagement disclosure, we compared sectors using three additional scores: ESG Score, Social Performance Score, and Governance Performance Score. As illustrated in Figure 2, the scatter plots reveal that Social Performance Score shows the strongest positive alignment with woke engagement disclosure, while Governance Performance Score exhibits a weaker and more inconsistent relationship. Consumer Discretionary consistently stands out across all three comparisons, with high levels of woke engagement disclosure. Collectively, these plots indicate that sectoral differences in woke engagement disclosure may be influenced by broader ESG, social, and governance performance metrics.

[Insert Figure 2 about here]

3.1.2. Time-series variations

We conduct an exploratory time-series analysis to examine the trends in woke engagement disclosure over time. Figure 3 presents the yearly trends of the mean CWED scores. It compares the Business Description (CWED_DES) and MD&A (CWED_MDA) sections from 2008 to 2023. The period from 2019 to 2020 is shaded in grey to highlight the sharp increase in CWED_DES scores. As shown in Figure 3, after 2020, CWED_DES scores accelerate sharply, which indicates a substantial rise in woke engagement disclosures within the Business Description section of firms' reports. In contrast, CWED_MDA scores remain comparatively flat throughout the period, with no significant upward trend.

[Insert Figure 3 about here]

3.1.3. Variance decomposition

Following Li, Shan, Tang and Yao (2024), we use a variance decomposition analysis to examine how much variation in *CWED_DES* is attributable to which of the dimensions: industry-level, state-level, and firm-level. To achieve this, we regress *CWED_DES* on alternative fixed effect combinations and report the adjusted R-sq value of each of the model specifications.

[Insert Table 3 about here]

Table 3 reports the adjusted R-sq values and their deviation to our benchmark specification – the regression that includes only the year-fixed effect. While the benchmark R-sq is 0.096, we find that the adjusted R-squared value of the *Year+Industry* fixed effect combination is 0.181 and the *Year+State* fixed effect combination is only 0.101. This suggests that industry-level characteristics explain the variations of our CWED score better than state-level characteristics. We document similar findings when adding interaction between the fixed effects. The explanatory power of the model increases significantly when we add the firm-fixed effects, with an increase from the benchmark R-sq of 0.096 to 0.530. The results suggest that about 43.4% of the variation of *CWED_DES* is attributable to firm-level factors.

3.2. Correlation analysis

We compare the CWED scores constructed from the texts of the Business description and the CWED scores constructed from the Management Discussion and Analysis (MD&A) section's text data in the 10-K reports. As some studies in the finance and business literature analyze the texts from the MD&A section of 10-Ks to construct text-based measures of management tone or uncertainty (Loughran and McDonald, 2011, 2016; Feldman et al., 2010; Florackis et al., 2023), we focus on the Business Description of 10-K filings to capture information on the firm's operations, products and/or services, and business model rather than the financial performance-related factors. The Business Description contains text data that are more relevant to CWED, indicated by the correlation analysis of CWED scores.

Nevertheless, we test the correlations of the different types of CWED measures with a wide range of measures of diversity, equity and inclusion (DEI) and human rights protection (HRP). At

the firm-level, we test our scores' correlations with the HRC's Corporate Equality Index, MSCI KLD ESG's variables such as board culture and gender diversity, women and minority contracting, gay and lesbian policies, and total number of diversity strengths, Thomson Reuters Refinitiv Eikon's board culture diversity score, Bloomberg's data on the percentage of female directors in the board of directors, percentage of women in the middle and other management, percentage of women in non-managerial positions, percentage of women in new hires, percentage of minorities in all employees, and the Bloomberg's quantitative disclosure score about their labor and employment practices, CSR sustainability committee indicator, ESG score, Social performance score, and Governance performance score. At the state-level, we use the State Equality Index, the rates of employment of black people, Asia-origin people, and Hispanic-origin people in the state-year, and the exoneration rate of non-white defendants in the state-year. The use of state-level variables for correlation analysis is backed by the argument from Foss and Klein (2023) that corporate woke engagement are reinforced by broader social and cultural trends. Table 4 reports the summarized statistics of variables used in the correlation analysis. Definition of variables are presented in Appendix A2.

[Insert Table 4 about here]

Table 5 reports the Pearson correlations between our CWED scores and those variables. Panel A of Table 5 presents the correlation coefficients of variables generated from the Business Description section (i.e., *CWED_DES* and *D_CWED_DES*) and the 21 DEI and HRP proxies. In general, the correlation coefficients are positive and significant in most of the tests in Panel A, except for the correlations of the women's employment rate (WEMPLOY_BLS) and gay and lesbian policies (DIV_STR_G) with *CWED_DES*. However, the correlation coefficients for gay and lesbian policies and women's employment rate are statistically significant and positive when we use *D_CWED_DES* instead of *CWED_DES*. Overall, these results provide support for the relevance of our proposed CWED scores to real corresponding corporate practices.

[Insert Table 5 about here]

Panel B of Table 5 reports the correlation coefficients of CWED scores generated from the MD&A section (i.e., *CWED_MDA* and *D_CWED_MDA*) and the 21 DEI and HRP proxies. Interestingly, the results turn out to be more inconsistent. At the firm-level, *CWED_MDA* and

D_CWED_MDA are positively correlated with Corporate Equality Index, Diversity in the Board of Directors, CSR Sustainability Committee indicator, ESG score, and Social Performance core, while it remains uncorrelated or negative to the other ten firm-level proxies of DEI and HRP. Although the four different CWED scores are all positively correlated with each other (see Panel C of Table 5), *CWED_DES* and *D_CWED_DES* seem to capture more variation in CWED that is related to the existing measures of DEI and HRP, compared to *CWED_MDA* and *D_CWED_MDA*.

As observed from Table 5, the Business Description CWE scores are consistently correlated with firm-level and state-level variables that represent the progressive social movement while the correlation patterns of the MD&A CWE scores are less consistent. These patterns suggest that US firms disclose their woke engagement more in the Business Description section relative to that in the MD&A section of the 10-K filings.

3.3. Corporate woke engagement disclosure by business sector

Figure 4 further demonstrates the differences by GICS sector between the CWED scores generated by the text data from the two sections of the report. Panel A of Figure 4 shows the average values of *CWED_DES* and *CWED_MDA* for each of the eleven GICS sectors, and a pattern that the average *D_CWED_DES* is higher than *D_CWED_MDA* for each sector is observable for all sector except for Materials. Panel B of Figure 4 illustrates the average values of *D_CWED_DES* and *D_CWED_MDA* by sector and document a similar pattern applied to all sectors. Comparing CWED values across different business sectors, Consumer Discretionary exhibits the highest level of corporate woke engagement based on the CWED score. This finding may be explained by the need for firms in this sector to respond more aggressively to broad societal trends due to the nature of their customer-facing product markets. Hereafter, we only focus on *CWED_DES* and *D_CWED_DES* for our analysis.

[Insert Figure 4 about here]

3.4. Corporate woke engagement and corporate cultural dimensions

In this section, we use the text-based measures of corporate culture derived from earnings conference calls' transcripts as proposed by Li et al. (2021) to evaluate whether our CWED measure can differentiate firms with different cultural traits. Li et al. (2021) propose five dimensional scores of corporate culture: integrity, respect, teamwork, innovation, and quality. We focus on the first four dimensions of corporate culture as they are more relevant to corporate social activism. To test whether our CWED score is related to corporate cultural values, we do a simple mean-comparison test of relevant corporate culture scores (i.e., integrity, teamwork, respect, innovation) of Li et al. (2021) by the CWE disclosure group (*D_CWED_DES* = 1) and the CWE non-disclosure group (*D_CWED_DES* = 0). Figure 5 presents the confidence interval plots of the results.

[Insert Figure 5 about here]

Overall, the plots clearly show significant differences at 95% confidence intervals that firms that disclose CWE have higher frequencies of disclosure about corporate integrity (*s_integrity*), respect (*s_respect*), teamwork (*s_teamwork*), and innovation (*s_innovation*) scores compared to firms which do not disclose such information. These results indicate that on average, firms which disclose CWE demonstrate cultural traits that are more employee friendly, innovative, and generally have better teamwork culture. This is in line with previous studies in the literature that pro-LGBT firms are generally more innovative than their counterparts (Gao and Zhang, 2017) and corporate social initiatives enhance team performance (Kluijtmans et al., 2024).

4. The effects of corporate woke engagement disclosure

4.1. The effect on labor investment efficiency

Corporate woke policies, which often emphasize diversity, equity, and inclusion (DEI), can enhance labor investment efficiency by aligning their labor policy with broader societal expectations and values. This alignment can stimulate employee satisfaction and reduce agency costs, leading to improved labor investment outcomes. Therefore, one could expect engaging in

social initiatives to improve corporate outcomes through more efficient labor investments. Consistent with this idea, Cao and Rees (2020) document that employee-friendly firms have had higher labor investment efficiency following the 2008 financial crisis. By disclosing their woke policies, companies can attract and retain a diverse workforce, which is crucial for innovation and competition. Furthermore, firms that actively engage in DEI initiatives may benefit from an enhanced reputation and increased customer loyalty, further driving efficient labor investment.

We follow Jung et al. (2014) to measure labor investment efficiency as the absolute value of the residuals from the following regression:

$$\begin{aligned} NET\_HIRING_{i,t} = \alpha_0 + \alpha_1 SALES\_GR_{i,t-1} + \alpha_2 SALES\_GR_{i,t} + \alpha_3 \Delta ROA_{i,t-1} + \\ \alpha_4 \Delta ROA_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 SRET_{i,t} + \alpha_7 \text{PLOG}\,(MVE)_{i,t-1} + \\ \alpha_8 QUICK_{i,t-1} + \alpha_9 \Delta QUICK_{i,t-1} + \alpha_{10} \Delta QUICK_{i,t} + \alpha_{11} LEV_{i,t-1} + \\ \alpha_{12} LOSSBIN1_{i,t-1} + \alpha_{13} LOSSBIN2_{i,t-1} + \alpha_{14} LOSSBIN3_{i,t-1} + \\ \alpha_{15} LOSSBIN4_{i,t-1} + \alpha_{16} LOSSBIN5_{i,t-1} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

where NET_HIRING is the percentage change in employees; SALES_GR is the percentage change in sales revenue; ROA is net income scaled by beginning of the year total assets; SRET is the annual stock return of the firm during the year; PLOG(MVE) is logarithm of the market value of equity at the beginning of the year, ranked into percentiles; QUICK is the ratio of cash and short-term investments plus receivables to current liabilities; LEV is the ratio of long-term debt to total assets at the beginning of the year; and the LOSSBIN variables are indicators for each 0.5% interval of prior year ROA from 0% to −2.5% (i.e., LOSSBIN1 equals 1 if prior-year ROA is from −0.5% to 0%, LOSSBIN2 equals one if the previous year's ROA falls within the range between −1% and −0.5%, and so on). We name the absolute value of the residual as LABOR_INVEFF. The lower the value of LABOR_INVEFF, the higher the labor investment efficiency of the firm.

We then use the following model to examine the impact of CWE on labor investment efficiency:

$$\begin{aligned} LABOR\_INVEFF_{i,t} = \beta_0 + \beta_1 CWE_{i,t-1} + \beta_2 MB_{i,t-1} + \beta_3 SIZE_{i,t-1} + \beta_4 QUICK_{i,t-1} + \\ \beta_5 LEV_{i,t-1} + \beta_6 DIVDUM_{i,t-1} + \beta_7 OCF\_SD_{i,t-1} + \beta_8 SALES\_SD_{i,t-1} + \end{aligned}$$

$$\beta_9 LOSS_{i,t-1} + \beta_{10} NET\_HIRING\_SD_{i,t} + \beta_{11} LABOR\_INTENSITY_{i,t-1} + \beta_{12} UNION_{i,t-1} + \beta_{13} AB\_INVEST\_OTHER_{i,t-1} + \gamma_i + \theta_t + \varepsilon_{i,t} \quad (3)$$

where CWE is the proxy of corporate woke engagement (i.e., *CWED_DES*); MB is market-to-book ratio of the firm; SIZE is the natural logarithm of total assets; DIVDUM is a dummy variable that equals one of the firm pays dividends, zero otherwise; OCF_SD is the 5-years rolling standard deviation of net cash flows from operating activities; SALES_SD is the 5-years rolling standard deviation of sales; LOSS is a dummy variable that equals one if the firm experience negative net earnings during the year, zero otherwise; NET_HIRING_SD is the 5-years rolling standard deviation of NET_HIRING; LABOR_INTENSITY is the ratio of the number of employee scaled by lagged total assets; UNION is the unionization rate of the state-year; AB_INVEST_OTHER is the absolute value of the residuals from the regression of other investment on lagged sales, controlled by industry fixed effect. Following Jung et al., we use the industry fixed effect (γ_i) and year fixed effect (θ_t) to control for unobserved confounding factors at the industry-level and in the time dimension. Following the common practice in labor investment efficiency literature, we restrict the sample to non-financial firms only.

Table 6 reports the regression results. We expect a negative and significant coefficient of *CWED_DES* in the regression, meaning more CWE enhances labor investment efficiency. The regression results in Column 1 of Table 6 support our preposition. More specifically, the results show that a standard deviation increase in *CWED_DES* is associated with a 0.011 standard deviation increase in labor investment efficiency. As a robustness check, we use Principal Component Analysis to construct an alternative CWE score (*PCA_CWED*) by estimating the first component of CWE from the *CWED_DES* and *CWED_MDA* and use it as the alternative explanatory variable. Besides, we employ Entropy Balancing to balance the covariates (i.e., all control variables) by *CWED_DES*. As *CWED_DES* is a continuous variable, we use estimate the entropy balancing weight for continuous treatment following Tübbicke (2022) and re-regress Model (3) with the weight. The results remain qualitatively unchanged.

[Insert Table 6 about here]

Panels B and C of Table 6 report the instrumental variable (IV) estimation results for causal inference of the CWE-labor investment efficiency relationship. We employ two instrumental variable approaches: the traditional IV/2SLS estimation and the internal instrument approach (Lewbel, 2012). In the spirit of Laeven and Levine (2009), Lin et al. (2011), and Ferrel et al. (2016), industry peers' average policies can be used as the IVs for firm-level policies. We employ this approach for the IV/2SLS approach using the change in the cross-sectional mean of CWE score of industry peers in the preceding year (LD.PEERSCWE) as the IV for focal firm's CWE score. This use can be justified by two reasons. First, industry peers' policies can influence focal firm's policies via the peer effects as identified in the literature (Foucault & Fresard, 2014; Hoberg et al., 2014). Second, there is no ground nor anecdotal evidence to support the notion that industry peers' CWE exert direct impacts on the focal firm's labor investment efficiency. Therefore, the inclusion restrictions are not likely to be violated and support the application of the IV/2SLS estimation.

The latter IV estimation approach leverages heteroskedasticity in the data to construct instruments from the model's existing variables. By assuming that the regressors are uncorrelated with the product of heteroskedastic errors, Lewbel's (2012) method creates instruments as simple functions of the data, allowing for identification even in the absence of external instruments. This technique can be applied to improve the efficiency of instrumental variable estimations and is particularly useful in models where error correlations are due to an unobserved common factor.

In general, the IV regression results support the causal inference of the positive relationship between CWE and labor investment efficiency. The finding is consistent with the stakeholder theory, which posits that employee-friendly and socially responsible policies enjoy enhanced performance, lower agency cost (Ferrell et al., 2016), and lower cost of input capital (Bae et al., 2011; Simintzi et al., 2015).

To further examine how long this positive impact of CWE lasts, we re-estimate the Model 3 using further lags of CWED_DES from two years to five years, then plotting the coefficients to illustrate the time variations of the impact. Figure 6 presents the coefficient plots. The plots show that the coefficient of CWED_DES is only significant in the short-term ($t+1$), then turning statistically insignificant in the longer term from $t+2$ to $t+5$. We do not plot further lags as they are too far to necessarily relate to labor investment efficiency in the concurrent period. The

intriguing time-varying pattern of the impact suggests CWE can immediately boost labor efficiency, which is consistent with corporate social initiatives initially stimulate employee engagement (Opoku-Dakwa et al., 2018), but then turning to disengagement when there are mismatching between employees' perception of actual corporate social performance and their expectation of corporate social initiatives (Hahn et al., 2023). Our finding is also related to that of Guiso et al. (2008) that trust plays an important role in value creation of firms with high social capital. As CWED can form employees' expectations in corporate social initiatives, our findings support the instrumental motive of CWE via corporate disclosure.

[Insert Figure 6 about here]

An important consideration should be made in this case to support the finding is that whether one can detect the mismatching between corporate disclosure of woke engagement and their actual social performance. Following the approach discussed in detecting diversity washing (Baker et al., 2024), we compare CWED scores and their actual social performance scores and find that the CWED is highly correlated with corporate social performance score. We adopt the bivariate sorting method used by Baker et al. (2024) to generate a 5×5 matrix of bins that represent quintiles of CWED_DES and SOCIAL_SCORE from low (Q1) to high (Q5). Table 7 presents the sample composition (Panel A), average value of SOCIAL_SCORE across bins (Panel B), and average value of CWED_DES across bins (Panel C). In Panel C, we scale up CWED_DES by 100 times for better result presentation. We use a simple t-test to test the differences between Q5 and Q1 of each column and row in panels B and C to identify any potential mismatching patterns of corporate social performance and their disclosure of woke engagement.

[Insert Table 7 about here]

As observed from Panel B of Table 7, we see that SOCIAL_SCORE increases as we move from the top bins to the bottom bins, or if we move from the left side to the right side of the matrix. The Q5-Q1 differences are statistically significant with very high t-statistics in all rows and columns in Panel B. The Q5's SOCIAL_SCORE is from 7.78 percent to 46.76 percent higher than their Q1's in the same row. The patterns suggest the strong correlation between SOCIAL_SCORE and CWED_DES.

The patterns of CWED_DES turn out to be intriguing in Panel C of Table 7. In the lowest quintile (Q1) of SOCIAL_SCORE, the average CWED score increases by more than 364 times when moving from the first bin (i.e., CWED_DES's Q1, at 0.003) to the fifth bin (i.e., CWED_DES's Q5, at 1.023). The difference gradually increases when we move the CWE down the rows and reach to 858 times in the last row of the matrix (i.e., SOCIAL_SCORE's Q5). Interestingly, CWED_DES does not seem to vary systematically when comparing its bins in the columns of Panel C. The patterns in panels B and C of Table 7 suggest that woke disclosure frequency's magnitude is drastically larger than the actual corporate social performance in the upside. This pattern can be referred to as evidence of opportunistic CWED in US public firms, which is observable by simple descriptive statistics.

To conclude, our empirical evidence demonstrates two competing views about CWE. While looking at the short-term positive impact of CWED on labor investment efficiency may be misleading, a longer-horizon assessment of the impact reveals the intriguing pattern of instrumental CWE and suggest the agency problems inhibited in corporate social initiatives. The findings also give a hint to identifying abnormal disclosure of CWE in US public firms.

4.2. The impact on firm value

Following Foss and Klein (2022) and Warren (2022), the impact of corporate woke strategies on firm value may be multifaceted. Certain studies suggest a positive impact of firms engaging in diversity, equality and inclusion practices on firm's long-term value. Using survey data used to compile the 'Best Companies to Work For' List, Edmans et al. (2023) suggest that firms engaging in DEI practices generally have higher future accounting performance, earnings surprises and Tobin's Q.

Engaging in CWE can have a negative impact on firm value. According to Warren (2022), woke firms may get backlashed by stakeholders due to the criticism of woke-washing. Investors may view woke engagement as a signal of a firm's diverting resources away from value-maximizing objectives toward risky activities with uncertain outcomes. Aligning with this preposition, the evidence of Bhagwat et al. (2020) suggest that corporate sociopolitical activism elicits a negative response from investors. Brownen-Trinh and Orujov (2023), in turn, study the

effects of corporate socio-political activism on investor activity and firm value by focusing on the effects of companies support for the Black Lives Matter (BLM) campaign. They find that while corporate support for the campaign attracts retail investors' attention, it does not significantly affect firm value.

Following this line of argument, it is possible that there is a non-linear pattern of how CWE affect firm value. To test this conjecture, we use the following simple empirical model:

$$TOBINSQ_{i,t} = \delta_0 + \delta_1 CWS_{i,t-1}^2 + \delta_2 CWS_{i,t-1} + \delta_3 SIZE_{i,t-1} + \delta_4 LEV_{i,t-1} + \delta_5 OCF_{i,t-1} + \gamma_i + \theta_t + \varepsilon_{i,t} \quad (4)$$

where TOBINSQ is Tobin's Q of the firm; γ_i is the industry fixed effect, and θ_t is year fixed effect. The industry and year fixed effects control for unobserved confounding factors at the industry-level and in the time dimension. The control variables include firm size (SIZE), financial leverage (LEV), and operating cash flows to total assets ratio (OCF). We report these results in Table 8.

[Insert Table 8 about here]

The coefficient for $(CWED\_DES)^2$ in Table 8 is negative and significant at 1% level, suggesting an inverted U-shaped relationship between CWE and firm value. We compare the two model specifications using the likelihood ratio test and find that the non-linear model fits the data better than the linear one (Chi-sq = 7.07, p-value = 0.008). The empirical findings support the argument that CWE may enhance firm value at a modest level of CWE, however, it deteriorates firm value if firms overly emphasize on such strategies. These findings further reinforce the instrumental CWE view of corporate finance in which shareholders consider CWE as an agency problem and a waste of firm resources, resulting in lower firm valuation. The finding is in line with investors reacting negatively to corporate philanthropy (Masulis and Reza, 2015), corporate socio-political activism (Bhagwat et al., 2020) and corporate social initiatives that are perceived as inconsistent with the firm's core values (Warren, 2022).

4.3. The performance of stock portfolios formed on woke engagement

CWE should also be relevant in determining stock performance since engaging in woke, for example through DEI activities, can have either positive or negative impact on firm value in the

long term (see, Edmans et al., 2023). As we found in the previous section that CWE is associated with labor investment efficiency, it is interesting to see whether this positive effect on firm performance translates into better stock performance. We address this aspect from the perspective of CWE by forming portfolios on CWE disclosure using the following model:

$$STR_{i,t} = \alpha + MktRF_t + SMB_t + HMT_t + RMW_t + CMA_t + \varepsilon_t \quad (4)$$

where $STR_{i,t}$ is the excess return over the risk-free rate for a portfolio on CWE disclosure *i* in month t and $MktRF_t$, SMB_t, HML_t, RMW_t, and CMA_t are the factors of the Fama and French (2015) five factor model in month t. The CWE portfolios are formed based on the business descriptions of the firms' 10-K reports from the previous year. We describe the CWE disclosure portfolios in Table 9. These portfolios are based on the firm's CWE disclosure and social performance scores.

We present the results of the portfolio performance analysis for the full sample period in Panel A of Table 9. The regression estimates show that the only statistically significant alpha is obtained for a portfolio of firms that disclose woke engagement (CWED_DES > 0), with a single-factor specification in column 4. The coefficient is negative, indicating that firms that disclose CWE are likely to underperform compared to the market benchmark. However, the alpha for the same portfolio estimated with a multifactor specification in column 3 are not statistically significant. Thus, the statistically significant negative underperformance in column 4 can be attributed to the factor exposures of firms with CWE. These results are fairly consistent with Edmans et al. (2023), who find that diversity, equity, and inclusion (DEI) in firms is not linked to future stock returns.

[Insert Table 9 about here]

Nevertheless, the performance of firms that disclose woke engagement may depend on the political climate, influenced by factors such as government policies and investor clientele. Therefore, we perform a portfolio performance analysis for two subsamples: one during the tenure of Democratic presidents (January 2009 to December 2016 and January 2021 to December 2023) and another during the tenure of a Republican president (January 2017 to December 2020).

The results from these subsample periods reveal two noteworthy findings. First, the negative and statistically constant terms in the case of firms with CWED (CWED_DES > 0)

suggest that these firms significantly underperform relative to the underlying benchmarks during the Republican presidency. Specifically, the constant term in column 3 is -0.827, indicating that the portfolio of firms with CWE disclosure underperforms the market benchmark by 9.924% on an annual basis. The constant term for Q5 is statistically significant and negative in column 6 of Panel B, indicating that the portfolio of firms in the top quantile of the CWED score underperformed the market benchmark during the Republican presidency. This finding aligns with the argument from Foss and Klein (2023) that corporate woke strategies can have a detrimental effect on stock performance.

[Insert Table 10 about here]

Table 10 presents the results of the portfolio performance analysis using long-short portfolios based on our CWED measure. The results in Panel B, for Republican presidential tenure, show that the *CWED1Minus0* portfolio generates a statistically significant and negative alpha in both single and multifactor models. However, in Panel C, the alphas for this portfolio are statistically insignificant during Democratic presidential tenure. Additionally, the *Q5MinusQ1* portfolio generates significant and positive alpha during Democratic presidential tenure and significant and negative alpha during Republican presidential tenure. Overall, these results suggest that firms with woke disclosures tend to perform worse when the political climate, as measured by Republican versus Democratic presidential tenures, is unfavorable. Different from studies that focus on the market responses to corporate DEI (Edmans et al., 2023; Frijns et al., 2024), our analysis on CWED indicates that stock performance is related to corporate disclosure of woke engagement and is influenced by the political regime in the US.

5. Conclusion

In this study, we propose an approach to measure corporate woke engagement disclosure and examine its role in shaping corporate outcomes from a stakeholder perspective. Using measures derived from Business Description text data in 10-K reports, we find a consistent correlation between these disclosures and actual corporate DEI and human right protection practices. Our sectoral comparison shows that corporate woke engagement disclosure is most prevalent in firms within the Consumer Discretionary sector, likely due to their more customer-facing markets. In

addition, firms with higher levels of woke engagement disclosure also emphasize cultural values such as integrity, respect, teamwork, and innovation, as reflected in the corporate culture scores of Li et al. (2021).

Our results show that the disclosure of woke engagement is associated with an immediate increase in labor investment efficiency, suggesting a positive link between woke engagement and corporate outcomes from a stakeholders' perspective. However, this effect fades after one year year, which could be attributed to employee disengagement due to the misalignment between corporate woke statements and actual social performance. The finding is supported by a descriptive pattern of opportunistic woke disclosure of which the upside CWED's magnitude is drastically larger than that of the underlying social performance.

From the firm value perspective, the relationship between corporate CWED and firm valuation is concave, meaning that while moderate levels of CWED may be associated with higher firm valuations, excessive levels are linked to lower valuations. Additionally, we find that firms disclosing woke engagement tend to experience poorer stock performance. The empirical results support the instrumental motives of corporate engaging in the woke movements and demonstrate its consequences.

Despite the exponential expansion in the ESG research, the majority of new studies in the literature mainly place their focus on the E and G dimensions of ESG, leaving research gaps in the literature. Our approach to measure corporate disclosure of woke engagement offers a new set of measurements that encourage future research in the S dimension of the ESG literature. Our measures are different from the traditional CSR measures and ESG measures as it represents a broader concept of how firms engage with social issues, providing a more comprehensive understanding of corporate social initiatives. In the final note, our findings point out that corporate disclosure in the Business Description section of 10-K filings is economically meaningful and can be explored in separation from the MD&A section.

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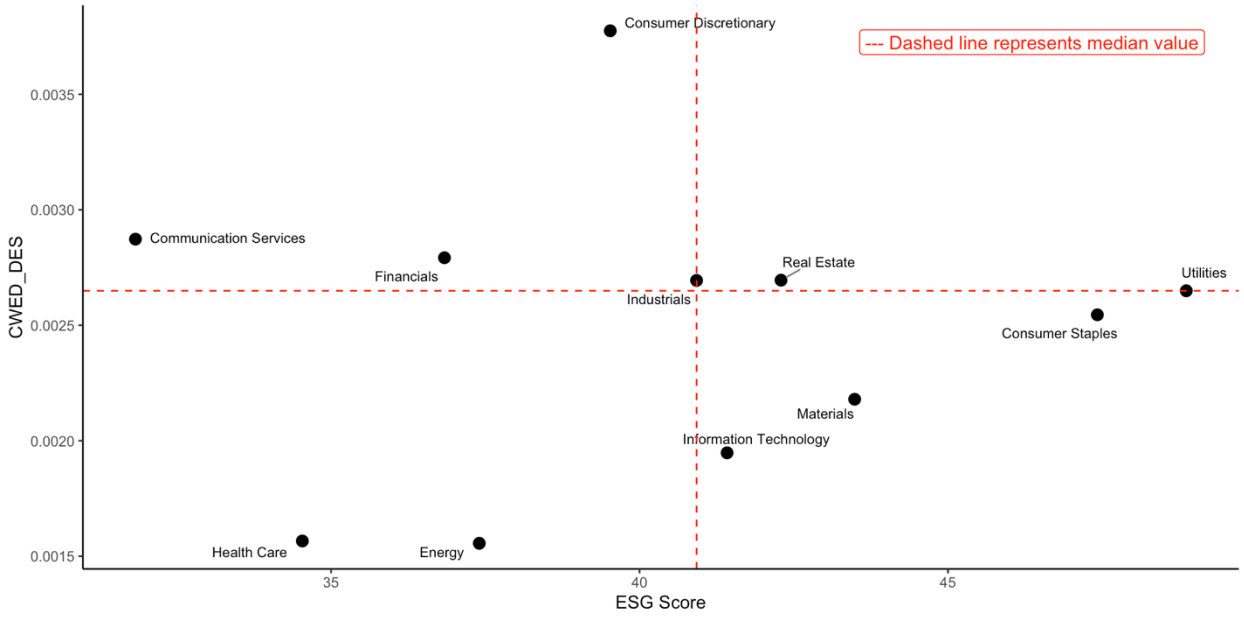
Figure 1. World cloud for selected CWED sentences

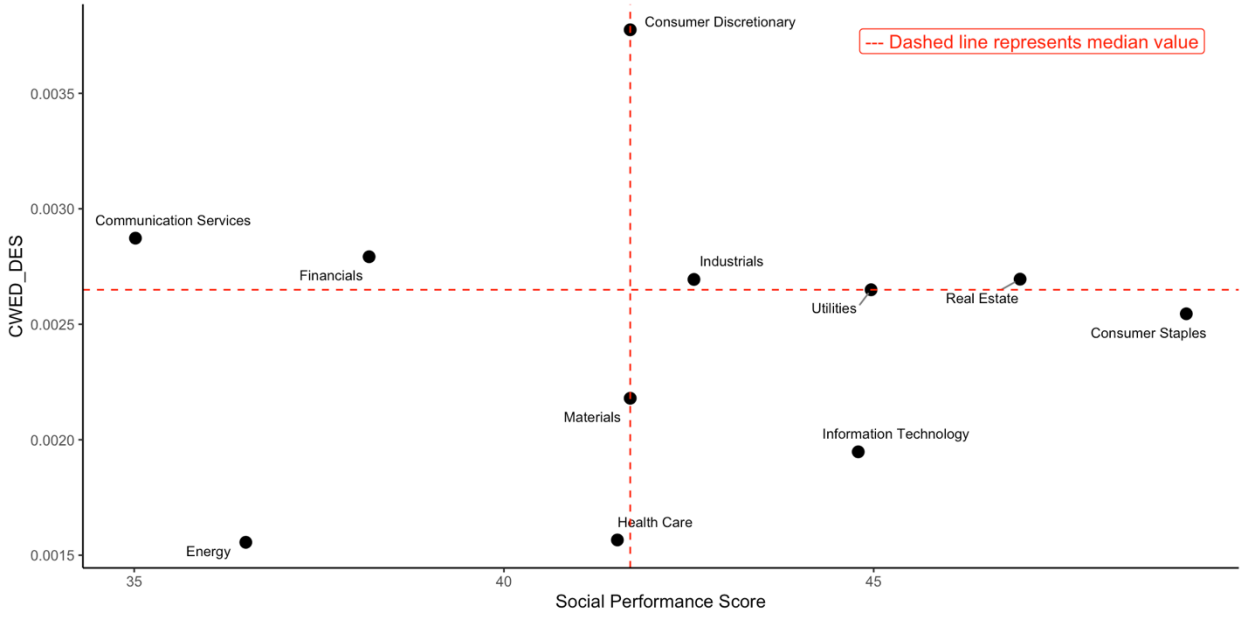
This figure presents a word cloud summarising the vocabulary in the corpus of approximately 154,183 sentences containing CWED terms in Part I. Business Description of 10-K reports from 2008 to 2023, which contributed to our main measure. The 15 most frequently occurring terms are: “diversity,” “inclusion,” “inclusive,” “discrimination,” “race,” “gender,” “activism,” “human rights,” “equality,” “racial,” “lgbtq+,” “anti-discrimination,” “child labor,” “inclusivity,” and “gay.”

Figure 2. Two-way scatter plot of *CWED_DES* and ESG performance scores by sector

(A) *CWED_DES* and ESG score



(B) *CWED_DES* and Social performance score



(C) *CWED_DES* and Governance performance score

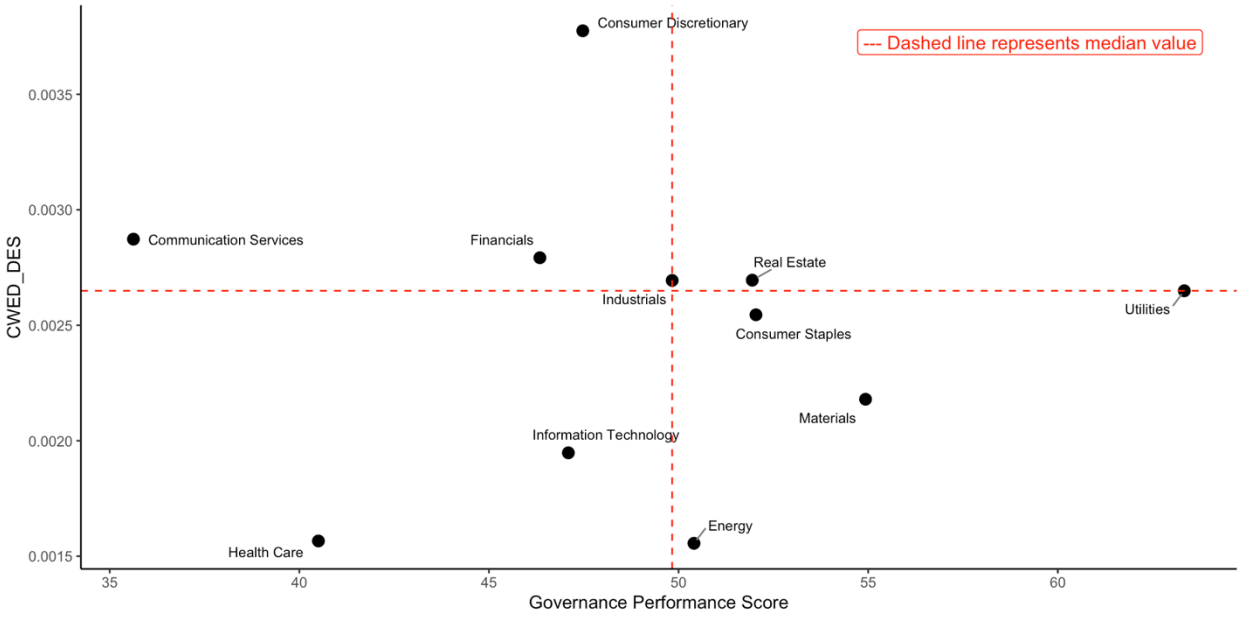


Figure 3. CWED measures by year

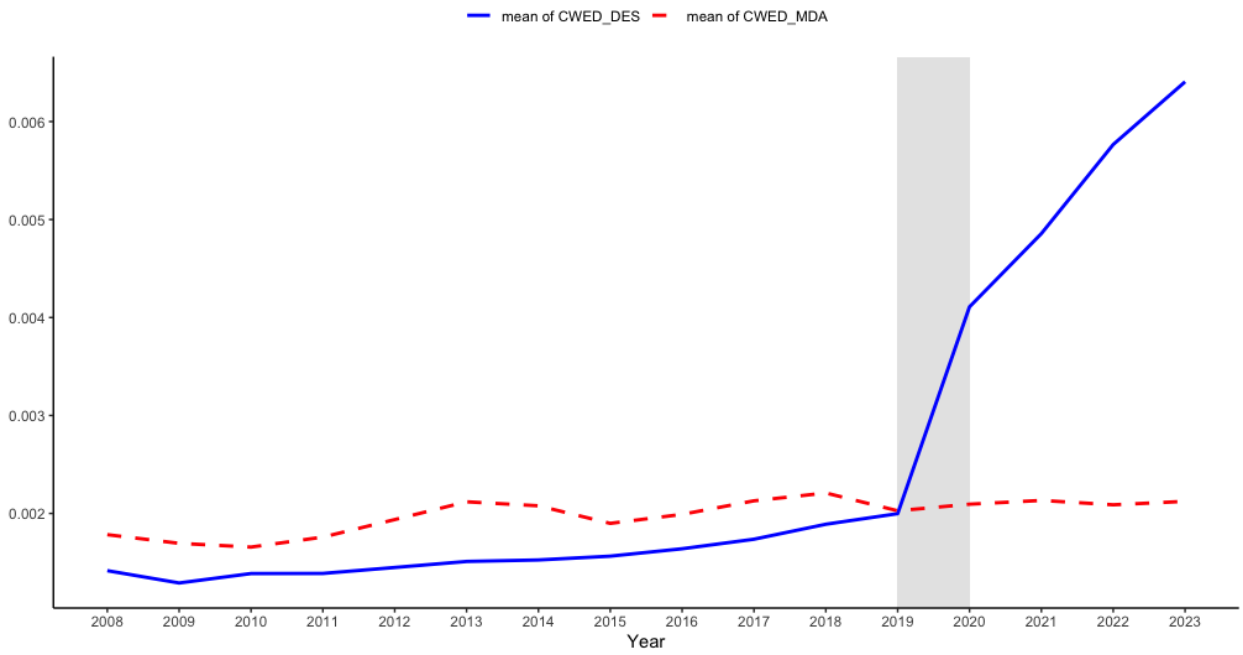
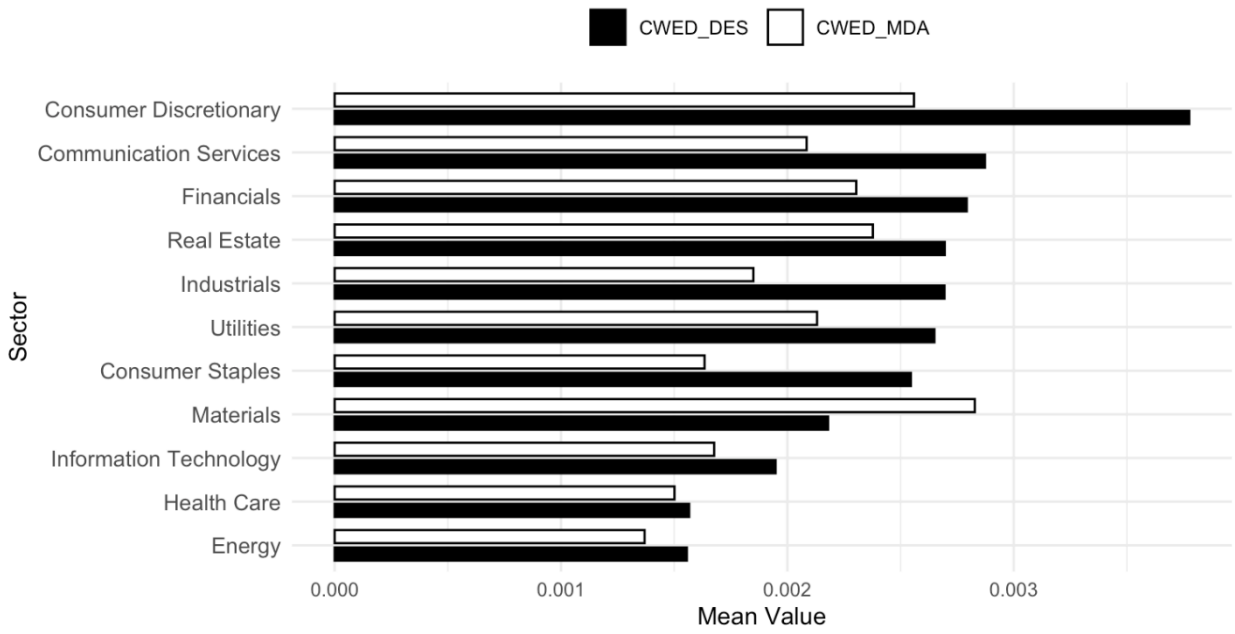


Figure 4. Means of *CWED_DES* and CWED_MDA by sector

(A) Mean of CWED_DES and CWED_MDA by sector



(B) Mean of CWED dummies by sector

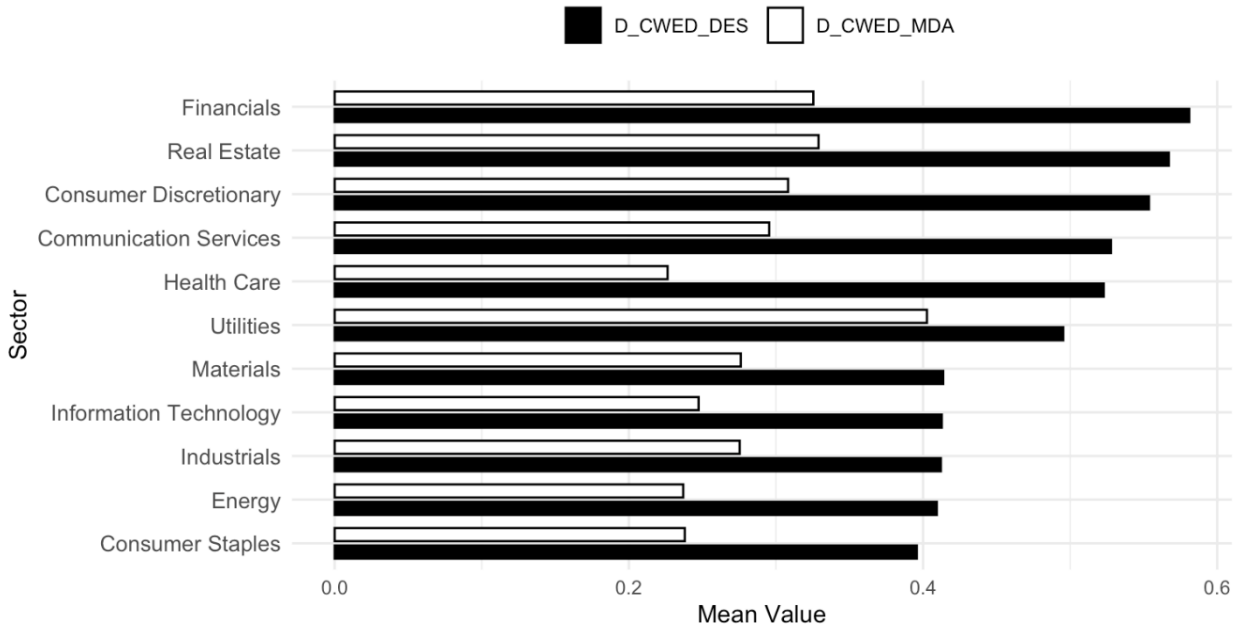
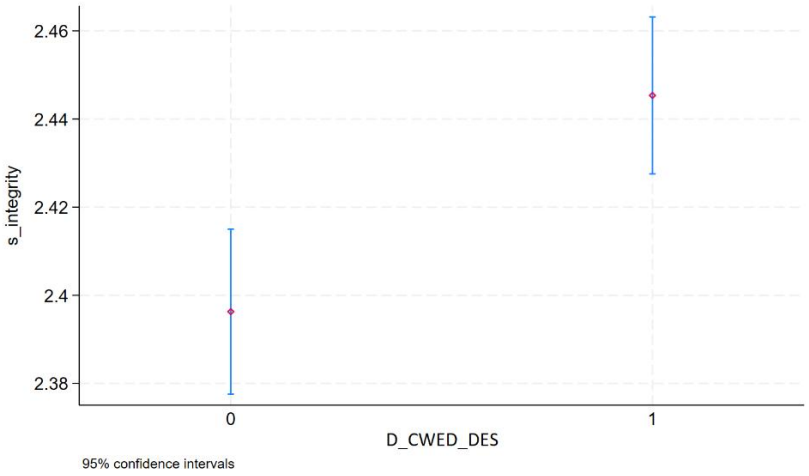
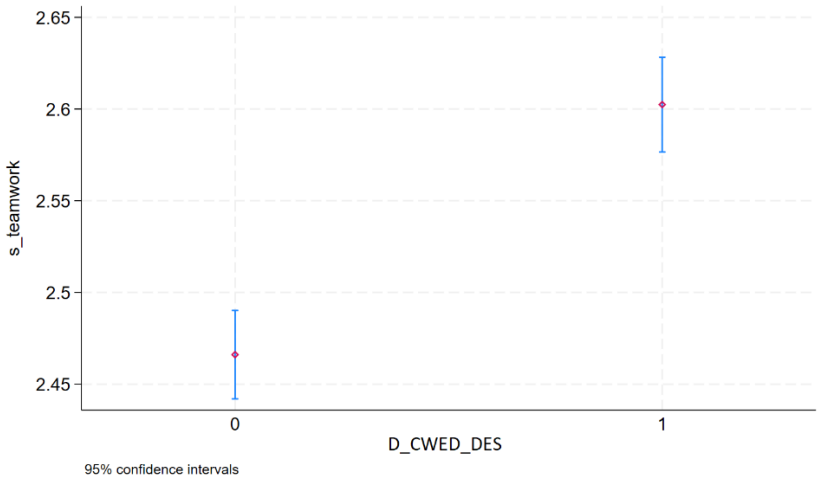


Figure 5. Confidence interval plots of corporate culture scores (Li et al., 2021) and CWED dummy

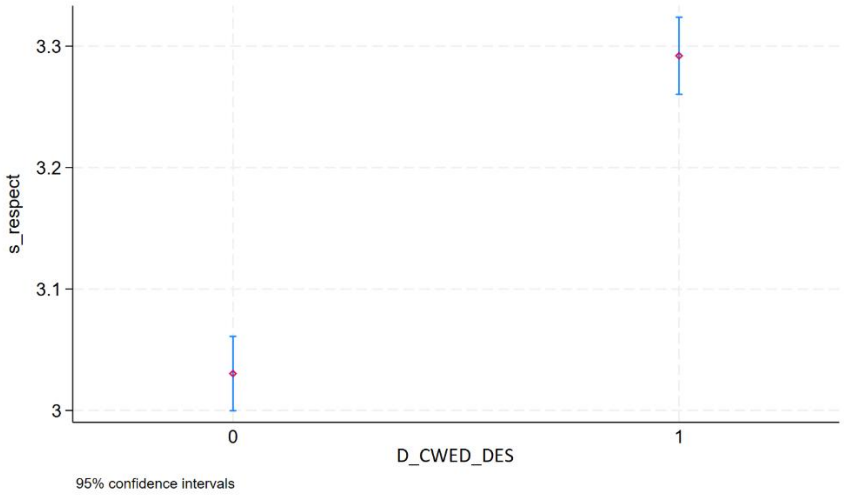
(A) Corporate integrity (*s_integrity*) and *D_CWED_DES*



(B) Corporate teamwork (*s_teamwork*) and *D_CWED_DES*



(C) Corporate respect *(s respect*) and *D CWED DES*



(D) Corporate innovation culture (*s innovation*) and *D CWED DES*

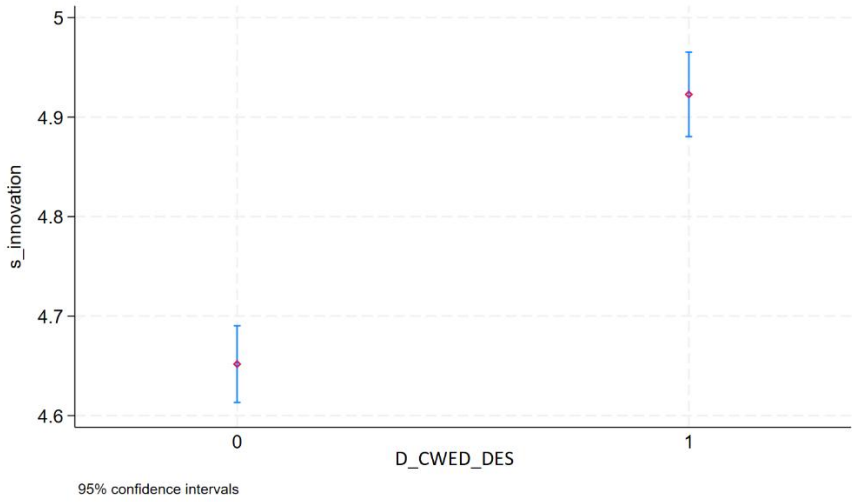


Figure 6. The time-varying effect of CWE on labor investment efficiency

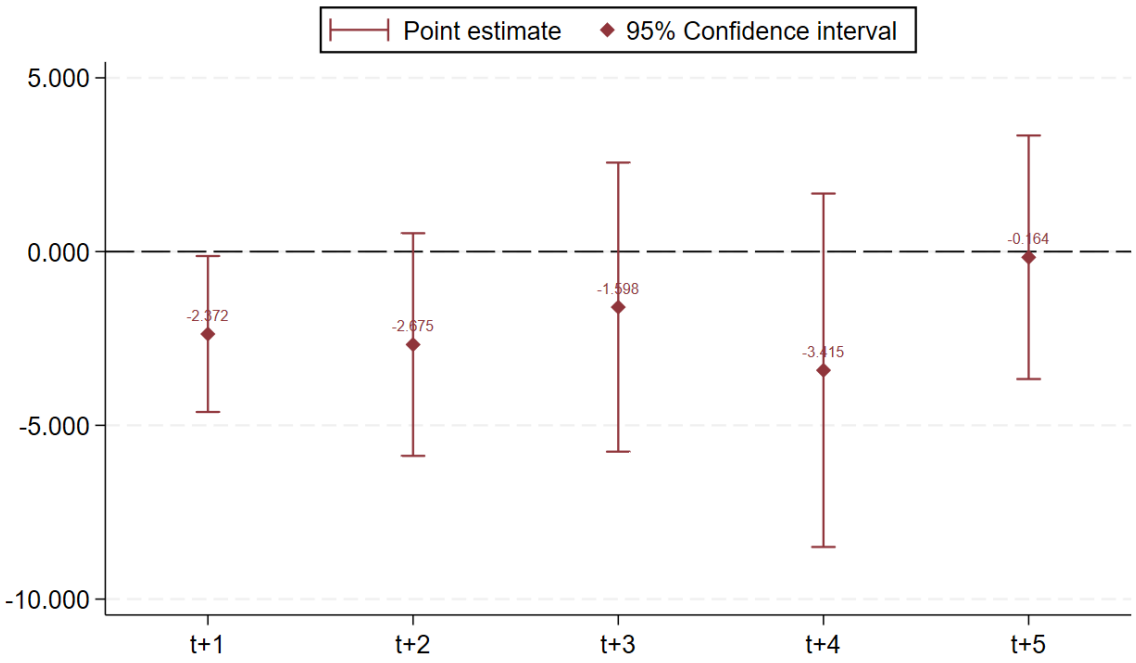


Table 1. Examples of CWED excerpts in 10-K fillings

The table presents examples of wokeness-related sentences associated with specific years and sectors. It includes 11 firms from 11 different sectors. Details regarding the selection of companies can be found in the supporting document.

CIK	*Company name*	*Year*	*GICS Sector*	*cwed sentence count*	*Sentences with woke terms (Example)*
1546296	PROFESSIONAL DIVERSITY NETWK	2017	Industrials	70	• The Company is a dynamic operator of professional networks with a focus on **diversity.** We use the term **diversity** (or "diverse") to describe communities, or "affinities," that are distinct based on a wide array of criteria which may change from time to time, including ethnic, national, cultural, **racial,** religious or **gender** classification. • For example, our hiring solutions customers may find that certain members misidentify their ethnic, national, cultural, **racial,** religious or **gender** classification, which could result in mismatches that erode customer confidence in our solutions.
1692412	PLAYA HOTELS & RESORTS N.V	2018	Consumer Discretionary	134	• Panama Jack Resorts has received Green Globe certification in 2018, a third-party validation which certifies the resort is working toward positive social change. • This **diversity** helps to foster loyalty among our guests and to drive repeat business.
1510247	LGBTQ LOYALTY HOLDINGS INC	2018	Financials	113	• In addition, we are developing a business model designed for businesses to promote and showcase their support for the **LGBTQ** community. • We believe that we are creating the first **LGBTQ** Loyalty Preference Index. We have identified Pride Performance & Holdings ("Pride"), an entity which gives individuals an opportunity to invest in companies that support **equality** in the workplace for their lesbian, **gay,** bisexual and **transgender** employees as a competitor.
21076	CLOROX CO/DE	2022	Consumer Staples	39	• The Company devotes significant time and resources to training programs, relating to, among other things, ethics, compliance and product safety and quality, as well as sustainability goals, and has published ESG goals, including relating to environmental impact and sustainability and **inclusion** and **diversity,** as part of its IGNITE Strategy. • Increased focus and **activism** related to ESG may hinder the Company's access to capital, as investors may reconsider their capital investment as a result of their assessment of the Company's ESG practices.
885725	BOSTON SCIENTIFIC CORP	2022	Health Care	39	• Our approach to supplier selection involves building **diversity,** equity and **inclusion** throughout the Boston Scientific supplier network. • We are proud to be a globally recognized leader for workplace **inclusion,** achieving top marks on Disability: IN's 2021 Disability **Equality** Index (DEI), the Human Rights Campaign's Corporate **Equality** Index (CEI) for Lesbian, **Gay,** Bisexual, **Transgender** and Queer **(LGBTQ)+ Equality,** the JUST Capital Top 100 list of Companies Supporting Healthy Families and Communities, the Forbes Best Employer for Women 2021 list, as well as ranked in the top 10 of Forbes's list of America's Best Employers for **Diversity.**

877212	ZEBRA TECHNOLOGIES CP -CL A	2022	Information Technology	41	• The Company is committed to attracting, developing, and retaining talent to enable our strategic vision. This commitment directly shapes our approach to fostering a culture of **inclusion** and **diversity** and ensuring employees can reach their potential. • The Company is also fostering **inclusion** and **diversity** through the following mechanisms: **Inclusion** Networks: We have a number of employee-led **inclusion** groups including the Women's **Inclusion** Network (WIN), the **LGBTQ+** group called ZEAL (Zebra **Equality** Alliance), the Veterans group called VETZ, the Hispanic **Inclusion** Network called UNIDOZ, Zebras of African Descent (ZAD), a group advocating for **inclusion.**
1820144	GRINDR INC	2023	Communication Services	188	• We are the world's largest social network focused on the **LGBTQ** community with approximately 12.2 million monthly active users ("MAUs") and approximately 788 thousand Paying Users (as defined below) in 2022. • **LGBTQ inclusion** and economic development are mutually reinforcing, and **LGBTQ** legal rights have a continued positive and statistically significant association with real GDP per capita after controlling for **gender equality.**
93410	CHEVRON CORP	2023	Energy	25	• Chevron hires, develops, and strives to retain a diverse workforce of high-performing talent, and fosters a culture that values **diversity, inclusion** and employee engagement. • Chevron strives to build an **inclusive** environment through innovative programs such as the company's MARC (Men Advocating Real Change) program launched in 2017, in partnership with the non-profit organization Catalyst, to facilitate discussions on **gender** equity in the workplace.
1164727	NEWMONT CORP	2023	Materials	41	• In addition to our focus on reducing carbon emissions, we believe that access to clean, safe water is a human right, and reliable water supplies are vital for hygiene, sanitation, livelihoods and the health of the environment. • The strategy's focus areas include enhancing the employee experience and evolving for future workforce needs; building our bench strength and leadership capabilities; developing effective labor relations that align stakeholders with a shared future; and improving **inclusion,** including reaching **gender** parity.
1037976	JONES LANG LASALLE INC	2023	Real Estate	39	• Cities continue to provide the concentrations of culture, **diversity,** opportunity, facilities and creative expression to attract strong inflows of ambitious and aspirational people. • Our commitment to promoting and achieving true **diversity** and **inclusion** is exemplified by achieving 25% female representation amongst our top 100 leaders.
1410636	AMERICAN WATER WORKS CO INC	2023	Utilities	64	• Two new people-related goals in the 2022 Annual Performance Plan ("APP") meant to increase representation of women and increase ethnic and **racial diversity** among employees at American Water, adding to existing APP sustainability goals. • In 2022, the Company included in its APP new workforce **diversity** performance goals designed to increase the representation of women and ethnic and **racial diversity** in the Company's workplace.

Table 2. Descriptive statistics of corporate woke engagement disclosure scores

Panel A. Descriptive statistics of *CWED_DES* by sector

GICS Sector	N	Mean	SD	P25	P50	P75	Skewness	Kurtosis
Energy	5,303	0.002	0.003	0.000	0.000	0.002	3.351	20.733
Materials	3,484	0.002	0.005	0.000	0.000	0.003	12.180	347.852
Industrials	9,704	0.003	0.006	0.000	0.000	0.003	5.345	53.607
Consumer Discretionary	8,153	0.004	0.008	0.000	0.002	0.005	6.487	73.137
Consumer Staples	3.155	0.003	0.005	0.000	0.000	0.003	3.425	18.425
Health Care	13,382	0.002	0.003	0.000	0.001	0.002	13.182	533.480
Financials	13,504	0.003	0.007	0.000	0.001	0.004	26.032	1064.568
Information Technology	9,891	0.002	0.004	0.000	0.000	0.003	8.594	236.179
Communication Services	2,763	0.003	0.005	0.000	0.001	0.004	5.264	56.898
Utilities	3,098	0.003	0.005	0.000	0.000	0.003	2.827	12.282
Real Estate	3,506	0.003	0.004	0.000	0.001	0.004	2.988	15.610
All sectors	76,342	0.002	0.005	0.000	0.000	0.003	14.502	578.780

Panel B. Descriptive statistics of *D_CWED_DES* by sector

GICS Sector	N	Mean	SD	P25	P50	P75	Skewness	Kurtosis
Energy	5,303	0.409	0.492	0.000	0.000	1.000	0.369	1.136
Materials	3,484	0.414	0.493	0.000	0.000	1.000	0.351	1.123
Industrials	9,704	0.412	0.492	0.000	0.000	1.000	0.356	1.127
Consumer Discretionary	8,153	0.553	0.497	0.000	1.000	1.000	-0.215	1.046
Consumer Staples	3.155	0.395	0.489	0.000	0.000	1.000	0.429	1.184
Health Care	13,382	0.523	0.500	0.000	1.000	1.000	-0.091	1.008
Financials	13,504	0.581	0.493	0.000	1.000	1.000	-0.328	1.108
Information Technology	9,891	0.413	0.492	0.000	0.000	1.000	0.353	1.125
Communication Services	2,763	0.528	0.499	0.000	1.000	1.000	-0.111	1.012
Utilities	3,098	0.495	0.500	0.000	0.000	1.000	0.019	1.000
Real Estate	3,506	0.567	0.496	0.000	1.000	1.000	-0.269	1.073
All sectors	76,342	0.490	0.500	0.000	0.000	1.000	0.040	1.002

Table 3. Variance decomposition

This table presents the results of the adjusted R-sq from the regressions of CWED measures on different sets of fixed effects in different dimensions: year, industry, state, their interactions, and firm. Column 1 reports the adjusted R-sq of regressions using *CWED_DES* as the dependent variable. Column 2 reports the improvements in adjusted R-sq (Δ) of the regressions compared to the benchmark regression (i.e., the regression that only includes year-fixed effect). Column 3 reports the adjusted R-sq of regressions using the CWE dummy, *D_CWED_DES*, as the dependent variable. Column 4 reports the improvements in adjusted R-sq (Δ) of the regressions compared to the benchmark regression in Column 3.

FE model specification	Dependent variable			
	CWED_DES		*D_CWED_DES*	
	Adj. R-sq	Δ	Adj. R-sq	Δ
	(1)	(2)	(3)	(4)
Year	0.096		0.082	
Year + Industry	0.181	0.085	0.154	0.072
Year + State	0.101	0.005	0.088	0.006
Year + State + Industry	0.183	0.082	0.160	0.078
Year × Industry	0.202	0.106	0.136	0.054
Year × Industry + State	0.204	0.108	0.142	0.060
Year × State	0.103	0.007	0.085	0.003
Year × State + Industry	0.185	0.089	0.157	0.075
Firm + Year	0.530	0.434	0.571	0.489
Firm + Year + Year × State	0.531	0.435	0.572	0.490
Firm + Year + Year × Industry	0.573	0.477	0.579	0.497

Table 4. Summary statistics of variables used in correlation analysis

Panel A. Summary statistics of firm-level variables

Variable	N	Mean	SD	Min	Max
CORPORATE EQUALITY INDEX	6,689	73.866	33.199	-25.000	156.000
DIV_STR_C	29,057	0.094	0.292	0.000	1.000
DIV_STR_E	17,350	0.062	0.241	0.000	1.000
DIV_STR_G	16,900	0.172	0.377	0.000	1.000
DIV_STR_NUM	24,173	0.502	0.997	0.000	7.000
BOARD_GENDER_DIV	17,053	11.144	15.792	1.000	73.000
BOARD_CULTURE_DIV	2,805	14.199	11.341	0.000	100.000
CSR_SUS_COMMITTEE	27,250	0.355	0.479	0.000	1.000
WOMEN_MID_MGMT	2,592	32.846	14.389	0.000	90.080
WOMEN_NON_MGMT	700	39.379	15.422	3.000	84.000
WOMEN_NEWHIRE	1,029	39.234	14.754	1.900	94.310
MINORITY_EMP	3,288	35.251	16.066	0.129	99.700
L&E_LEGAL_ISSUE_SCORE	7,376	1.995	2.398	0.000	10.000
ESG_SCORE	27,285	39.235	19.331	0.440	95.160
SOCIAL_SCORE	27,285	41.699	20.997	0.420	98.260
GOVERNANCE_SCORE	27,285	47.523	22.745	0.040	99.450

Panel B. Summary statistics of state-level variables

Variable	N	Mean	SD	Min	Max
STATE_EQUALITY	476	2.441	1.411	1.000	4.000
BEMPLOY_BLS	604	56.322	5.678	40.400	76.000
AEMPLOY_BLS	478	63.712	5.154	47.900	78.600
HEMPLOY_BLS	681	69.862	4.965	52.300	86.500
WEMPLOY_BLS	765	55.543	4.621	44.800	68.100
EXONERATION_NW	540	0.588	0.420	0.000	1.000

Table 5. Correlation analysis

This table reports the correlation coefficients between CWED scores and other diversity, equity, inclusion (DEI) and human right protection (HRP) proxies. ***, **, and * stands for significance level of 1%, 5%, and 10%, respectively. Numbers in square brackets are p-values.

Panel A. Correlation between *CWED_DES*, *D_CWED_DES* and DEI & HRP proxies

Variable	***CWED_DES***	***D_CWED_DES***
CORPORATE EQUALITY INDEX	0.157***	0.107***
	[0.000]	[0.000]
DIV_STR_C	0.030***	0.024***
	[0.000]	[0.002]
DIV_STR_E	0.046***	0.038***
	[0.001]	[0.004]
DIV_STR_G	-0.003	0.035***
	[0.848]	[0.009]
DIV_STR_NUM	0.024***	0.032***
	[0.007]	[0.000]
BOARD_GENDER_DIV	0.090***	0.152***
	[0.000]	[0.000]
BOARD_CULTURE_DIV	0.269***	0.183***
	[0.000]	[0.000]
CSR_SUS_COMMITTEE	0.226***	0.072***
	[0.000]	[0.000]
WOMEN_MID_MGMT	0.138***	0.101***
	[0.000]	[0.000]
WOMEN_NON_MGMT	0.089**	0.062*
	[0.018]	[0.099]
WOMEN_NEWHIRE	0.060*	0.088***
	[0.054]	[0.005]
MINORITY_EMP	0.113***	0.067***
	[0.000]	[0.000]
L&E_LEGAL_ISSUE_SCORE	0.251***	0.084***
	[0.000]	[0.000]
ESG_SCORE	0.221***	0.027***
	[0.000]	[0.000]
SOCIAL_SCORE	0.206***	0.057***
	[0.000]	[0.000]
GOVERNANCE_SCORE	0.136***	-0.006
	[0.000]	[0.332]
STATE_EQUALITY	0.010***	0.036***
	[0.004]	[0.000]
BEMPLOY_BLS	0.069***	0.086***
	[0.000]	[0.000]
AEMPLOY_BLS	0.035***	0.010***
	[0.000]	[0.009]
HEMPLOY_BLS	0.037***	0.028***
	[0.000]	[0.000]
WEMPLOY_BLS	0.005	0.012***
	[0.166]	[0.002]
EXONERATION_NW	0.047***	0.038***
	[0.000]	[0.000]

Panel B. Correlation between *CWED_MDA*, *D_CWED_MDA* and DEI & HRP proxies

Variable	**CWED_MDA**	**D_CWED_MDA**
CORPORATE EQUALITY INDEX	0.054***	0.062***
	[0.000]	[0.000]
DIV_STR_C	0.018**	0.016**
	[0.017]	[0.036]
DIV_STR_E	-0.024*	0.003
	[0.072]	[0.817]
DIV_STR_G	-0.027**	-0.008
	[0.046]	[0.575]
DIV_STR_NUM	-0.029***	-0.001
	[0.001]	[0.960]
BOARD_GENDER_DIV	0.022**	0.085***
	[0.010]	[0.000]
BOARD_CULTURE_DIV	-0.026	-0.002
	[0.179]	[0.921]
CSR_SUS_COMMITTEE	0.020***	0.060***
	[0.002]	[0.000]
WOMEN_MID_MGMT	0.035*	0.067***
	[0.075]	[0.001]
WOMEN_NON_MGMT	-0.053	-0.004
	[0.162]	[0.927]
WOMEN_NEWHIRE	0.046	0.075**
	[0.141]	[0.016]
MINORITY_EMP	0.015	-0.028
	[0.384]	[0.105]
L&E_LEGAL_ISSUE_SCORE	0.020*	0.067***
	[0.091]	[0.000]
ESG_SCORE	0.013**	0.073***
	[0.034]	[0.000]
SOCIAL_SCORE	0.018***	0.064***
	[0.004]	[0.000]
GOVERNANCE_SCORE	-0.003	0.044***
	[0.606]	[0.000]
STATE_EQUALITY	-0.006*	0.007*
	[0.075]	[0.062]
BEMPLOY_BLS	-0.006*	0.022***
	[0.096]	[0.000]
AEMPLOY_BLS	0.002	0.019***
	[0.574]	[0.000]
HEMPLOY_BLS	0.007*	0.019***
	[0.084]	[0.000]
WEMPLOY_BLS	0.012***	0.018***
	[0.001]	[0.000]
EXONERATION_NW	-0.002	0.012***
	[0.699]	[0.003]

Panel C. Correlation between CWED variables

Variables	(1)	(2)	(3)	(4)
(1) *CWED_DES*	1.000			
(2) *D_CWED_DES*	0.470***	1.000		
	[0.000]			
(3) CWED_MDA	0.073***	0.034***	1.000	
	[0.000]	[0.000]		
(4) D_CWED_MDA	0.122***	0.136***	0.244***	1.000
	[0.000]	[0.000]	[0.000]	

Table 6. Labor Investment Efficiency and Corporate woke engagement Disclosure

Panel A. Fixed-effect estimation

This table reports the regression results of labor investment efficiency variable (LABOR_INVEFF) on CWE score (*CWED_DES*) and control variables. Numbers in parentheses are t-statistics. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively.

VARIABLES	(1) LABOR_INVEFF	(2) LABOR_INVEFF	(3) LABOR_INVEFF
L.*CWED_DES*	**-1.716****		**-1.577*****
	(-2.151)		**(-3.555)**
L.*PCA_CWED*		**-0.010****	
		(-2.248)	
L.MB	-0.001	-0.001	-0.000
	(-1.373)	(-1.372)	(-0.485)
L.SIZE	-0.024***	-0.024***	-0.021***
	(-6.660)	(-6.669)	(-6.951)
L.QUICK	0.009*	0.009*	0.010*
	(1.704)	(1.690)	(1.794)
L.LEV	-0.017	-0.017	-0.009
	(-0.545)	(-0.545)	(-0.354)
L.DIVDUM	0.039	0.039	0.028
	(1.427)	(1.429)	(1.491)
L.OCF_SD	-0.000	-0.000	0.000
	(-0.192)	(-0.234)	(0.037)
L.SALES_SD	0.000*	0.000*	0.000*
	(1.859)	(1.878)	(1.709)
L.LOSS	0.056***	0.056***	0.052***
	(4.049)	(4.044)	(3.642)
L.NET_HIRING_SD	-0.000	-0.000	-0.000
	(-0.727)	(-0.639)	(-0.895)
L.LABOR_INTENSITY	-0.078	-0.089	0.157
	(-0.371)	(-0.428)	(0.812)
L.UNION	0.240	0.238	0.387
	(0.972)	(0.964)	(1.548)
L.AB_INVEST_OTHER	0.107*	0.107*	0.060**
	(1.948)	(1.953)	(2.162)
Constant	0.269***	0.265***	0.236***
	(8.026)	(7.863)	(7.349)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Entropy balancing	No	No	Yes
Observations	26,485	26,485	24,293
Adjusted R-sq	0.025	0.025	0.039

Panel B. IV/2SLS estimation

This table reports the IV/2SLS regression results. Numbers in parentheses are t-statistics. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively.

VARIABLES	(1) First stage L.*CWED_DES*	(2) Second stage LABOR_INVEFF
L2D.PEERSCWE	**0.547*** **(-8.069)**	
L.*CWED_DES*		**-7.861*** **(-2.729)**
Constant	0.001*** (0.000)	0.236*** (5.760)
Controls	Yes	Yes
Kleibergen-Paap rk LM statistic		171.714***
Kleibergen-Paap rk Wald F-statistic		65.128***
Anderson-Rubin 95% confidence interval		[-13.448, -2.273]
Observations		21,999
R-sq		0.005

Panel C. Lewbel's (2012) internal IV estimation

This table reports the internal IV regression results. Numbers in parentheses are t-statistics. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively.

VARIABLES	(1) LABOR_INVEFF
L.*CWED_DES*	**-6.089** **(-2.340)**
Constant	0.226*** (6.250)
Kleibergen-Paap rk LM statistic	502.647***
Kleibergen-Paap rk Wald F statistic	68.988***
Hansen J statistic	21.467
Controls	Yes
Observations	16,341
R-sq	0.006

Table 7. Abnormal pattern in disclosure of corporate woke engagement

This table presents the mismatching in corporate woke engagement disclosure and their underlying social performance. Panel A shows the structure of the 5×5 quintile matrix by two dimensions: corporate social performance (SOCIAL_SCORE) and corporate woke engagement disclosure (CWED_DES). Panel B presents the average value of SOCIAL_SCORE for each bin of the 5×5 quintile matrix, plus the top-minus-bottom quintile difference for each row and column. Panel C reports the average value of CWED_DES for each bin of the 5×5 quintile matrix, plus the top-minus-bottom (Q5 minus Q1) quintile difference for each row and column. Quintiles are classified for each year of the sample after excluding all missing values of SOCIAL_SCORE and CWED_DES. As CWED_DES has a large number of observations with value of zero, they are all classified into the first quintile (Q1) of CWED_DES. Variable descriptions are in Appendix A2. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively. CWED_DES is scaled 100 times for better result presentation in Panel C.

Panel A. Sample composition

	CWED_DES				
SOCIAL_SCORE	Q1	Q2	Q3	Q4	Q5
Q1	1,904	409	693	994	999
Q2	1,897	410	686	987	989
Q3	1,901	404	690	985	993
Q4	1,896	408	686	988	990
Q5	1,892	405	683	980	986

Panel B. Average SOCIAL_SCORE across bins

	CWED_DES						
SOCIAL_SCORE	Q1	Q2	Q3	Q4	Q5	Q5 - Q1	t-stat
Q1	14.873	14.496	15.732	17.662	21.828	6.955***	28.432
Q2	26.701	25.712	26.841	29.402	35.871	9.170***	44.633
Q3	37.041	35.010	36.870	39.697	47.099	10.057***	42.081
Q4	50.580	47.401	48.780	52.580	60.956	10.376***	39.433
Q5	73.573	68.762	69.098	73.379	79.294	5.721***	15.354
Q5 - Q1	58.700***	54.266***	53.366***	55.718***	57.466***		
t-stat	2.3e+02	95.518	1.2e+02	1.5e+02	1.6e+02		

Panel C. Average CWED_DES across bins

	CWED_DES*100						
SOCIAL_SCORE	Q1	Q2	Q3	Q4	Q5	Q5 - Q1	t-stat
Q1	0.003	0.194	0.310	0.466	1.023	1.020***	59.779
Q2	0.003	0.192	0.315	0.476	1.089	1.086***	60.117
Q3	0.003	0.186	0.316	0.475	1.106	1.103***	56.963
Q4	0.003	0.190	0.316	0.478	1.164	1.161***	59.576
Q5	0.001	0.200	0.316	0.486	1.263	1.261***	54.047
Q5 - Q1	-0.001***	0.006	0.006	0.020	0.240***		
t-stat	-2.727	1.186	0.758	1.499	5.999		

Table 8. Tobin's Q and Corporate woke engagement

This table reports the regression of Tobin's Q on our main CWE score and its square specification. Numbers in parentheses are t-statistics. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively.

VARIABLES	(1) TOBINSQ	(2) TOBINSQ
L.(*CWED_DES*)^2	**-497.839***** **(-3.803)**	
L.*CWED_DES*	35.901 (1.069)	-12.080 (-0.343)
L.SIZE	-1.753*** (-11.592)	-1.745*** (-11.512)
L.LEV	2.623** (2.504)	2.639** (2.520)
L.OCF	-14.744*** (-22.563)	-14.744*** (-22.559)
Constant	13.496*** (13.669)	13.534*** (13.732)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	53,375	53,375
Adjusted R-sq	0.398	0.397
Likelihood-ratio test's Chi-sq	7.07	
Likelihood-ratio test's p-value	0.008	

Table 9. Performance of stock portfolios on woke engagement

This table presents estimates of the ordinary least squares (OLS) regression analysis of the performance of long-short portfolios formed on CWED scores. *t*-statistics are in parenthesis and Newey-West heteroscedasticity robust (lag=3 for full sample, lag=0 for subsamples). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. The number of observations is 180, and the sample period is from January 2009 to December 2023.

Panel A. January 2009 to December 2023 (N = 180)

	(1) CWED=0	(2) CWED=0	(3) CWED>0	(4) CWED>0	(5) Q5	(6) Q5	(7) Q1	(8) Q1
MktRF	0.835***	1.013***	0.888***	1.089***	0.922***	1.083***	0.809***	0.987***
	(22.82)	(20.66)	(16.46)	(16.23)	(24.31)	(17.52)	(21.88)	(20.15)
SMB	0.691***		0.816***		0.603***		0.693***	
	(8.37)		(7.40)		(9.32)		(7.93)	
HML	0.030		0.045		0.169**		0.022	
	(0.40)		(0.50)		(2.20)		(0.28)	
RMW	-0.320***		-0.107		0.067		-0.336***	
	(-4.28)		(-0.73)		(0.86)		(-4.42)	
CMA	-0.003		-0.081		-0.075		0.008	
	(-0.03)		(-0.73)		(-0.77)		(0.07)	
_cons	0.003	-0.265	-0.173	-0.414*	0.098	-0.071	0.069	-0.202
	(0.02)	(-1.12)	(-1.00)	(-1.81)	(0.74)	(-0.34)	(0.37)	(-0.81)
Adj R^2	88.91%	74.14%	87.43%	73.71%	90.00%	80.94%	87.52%	72.10%

Panel B. Republican president (N = 48)

	(1) CWED=0	(2) CWED=0	(3) CWED>0	(4) CWED>0	(5) Q5	(6) Q5	(7) Q1	(8) Q1
MktRF	0.938***	1.126***	1.057***	1.274***	1.012***	1.235***	0.921***	1.096***
	(24.61)	(13.99)	(22.33)	(12.26)	(22.30)	(11.14)	(21.94)	(14.45)
SMB	0.724***		0.799***		0.728***		0.681***	
	(8.94)		(8.54)		(8.06)		(8.40)	
HML	0.009		0.026		0.130		0.006	
	(0.13)		(0.24)		(1.25)		(0.08)	
RMW	-0.129		-0.137		0.075		-0.207	
	(-0.90)		(-0.85)		(0.53)		(-1.42)	
CMA	0.116		0.034		0.159		0.034	
	(1.12)		(0.24)		(1.06)		(0.32)	
_cons	0.026	-0.412	-0.351*	-0.827**	-0.175	-0.828**	-0.004	-0.382
	(0.17)	(-1.20)	(-1.76)	(-2.10)	(-0.88)	(-2.08)	(-0.02)	(-1.14)
Adj R^2	96.02%	85.83%	96.04%	86.33%	95.05%	86.39%	96.25%	86.95%

Panel C. Democratic president (N = 132)

	(1) CWED=0	(2) CWED=0	(3) CWED>0	(4) CWED>0	(5) Q5	(6) Q5	(7) Q1	(8) Q1
MktRF	0.782***	0.961***	0.818***	1.006***	0.885***	1.017***	0.755***	0.937***
	(17.88)	(17.38)	(13.02)	(13.29)	(22.77)	(19.73)	(16.55)	(16.47)
SMB	0.662***		0.785***		0.533***		0.677***	
	(6.45)		(6.21)		(6.13)		(6.20)	
HML	0.030		0.042		0.156*		0.021	
	(0.28)		(0.41)		(1.67)		(0.18)	
RMW	-0.395***		-0.171		0.011		-0.403***	
	(-4.04)		(-1.04)		(0.12)		(-3.89)	
CMA	0.003		-0.078		-0.090		0.027	
	(0.02)		(-0.63)		(-0.82)		(0.15)	
_cons	0.036	-0.212	-0.083	-0.265	0.253	0.201	0.112	-0.136
	(0.19)	(-0.86)	(-0.39)	(-1.10)	(1.45)	(1.02)	(0.56)	(-0.53)
Adj R^2	85.93%	68.00%	83.28%	67.84%	90.32%	75.46%	86.96%	78.80%

Table 10. CWED and the performance of long-short stock portfolios

This table presents estimates of the ordinary least squares (OLS) regression analysis of the performance of long-short portfolios generated based on CWED scores. *t*-statistics are in parenthesis and Newey-West heteroscedasticity robust (lag=3 for full sample, lag=0 for subsamples). *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively. The number of observations is 180, and the sample period is from January 2009 to December 2023.

Panel A. January 2009 to December 2023. (N=180)

	(1) CWED1minus0	(2) CWED1minus0	(3) Q5minusQ1	(4) Q5minusQ1
MktRF	0.052	0.076**	0.112***	0.097***
	(1.39)	(2.05)	(3.50)	(2.64)
SMB	0.126		-0.090	
	(1.53)		(-1.28)	
HML	0.015		0.147***	
	(0.39)		(2.88)	
RMW	0.213*		0.403***	
	(1.87)		(5.22)	
CMA	-0.078		-0.082	
	(-1.25)		(-0.92)	
_cons	-0.177	-0.149*	0.029	0.131
	(-1.64)	(-1.69)	(0.21)	(0.80)
Adj R-squared	10.95%	4.94%	29.74%	5.03%

Panel B. Republican presidency (N = 48)

	(1) CWED1minus0	(2) CWED1minus0	(3) Q5minusQ1	(4) Q5minusQ1
MktRF	0.120***	0.148***	0.091	0.139**
	(3.12)	(4.12)	(1.77)	(2.34)
SMB	0.075		0.047	
	(1.38)		(0.71)	
HML	0.018		0.124*	
	(0.31)		(1.86)	
RMW	-0.008		0.281**	
	(-0.08)		(2.17)	
CMA	-0.081		0.125	
	(-0.93)		(0.92)	
_cons	-0.377***	-0.415***	-0.172	-0.446**
	(-2.64)	(-3.56)	(-0.92)	(-2.27)
Adj R-squared	40.61%	42.26%	43.05%	43.40%

Panel C. Democratic presidency (N = 132)

	(1) CWED1minus0	(2) CWED1minus0	(3) Q5minusQ1	(4) Q5minusQ1
MktRF	0.037	0.045	0.130***	0.080**
	(0.81)	(0.94)	(3.34)	(2.16)
SMB	0.123		-0.144*	
	(1.30)		(-1.66)	
HML	0.013		0.135**	
	(0.25)		(2.01)	
RMW	0.225*		0.414***	
	(1.74)		(4.36)	
CMA	-0.081		-0.117	
	(-0.87)		(-0.85)	

_cons	-0.119	-0.053	0.142	0.338*
	(-0.85)	(-0.49)	(0.95)	(1.93)
Adj R-squared	10.71%	8.75%	5.49%	0.74%

Appendices

Appendix A.1. Number of 10-K filings per year

Year	Number of filings
2008	9,200
2009	9,143
2010	8,741
2011	8,387
2012	8,087
2013	7,959
2014	7,818
2015	7,527
2016	7,257
2017	7,029
2018	6,878
2019	6,699
2020	6,871
2021	6,989
2022	7,659
2023	7,248
Total	**123,492**

Appendix A.2. Variable definitions

Variable	Definition	Data source
CWED_DES	CWE score, proxied as the ratio of the number of sentences mentioning CWE-related bigrams scaled by the number of sentences in the Business Description section of the firm's 10-K report.	SEC EDGAR database
D_*CWED_DES*	CWE disclosure dummy that equals one if *CWED_DES* is positive, zero otherwise.	Authors' calculation
CWED_MDA	CWE score, proxied as the ratio of the number of sentences mentioning woke-related bigrams scaled by the number of sentences in the MD&A section of the firm's 10-K report.	Authors' calculation
D_CWED_MDA	CWE disclosure dummy that equals one if CWED_MDA is positive, zero otherwise.	Authors' calculation
PCA_CWED	CWE score generated from principal component analysis with *CWED_DES* and *CWED_MDA* as the inputs	Author's calculation
ALT_CWED_DES	Alternative CWE score, however each counted sentence must contain at least two CWE-related bigrams. It is calculated as the ratio of the number of sentences mentioning two or more CWE-related bigrams scaled by the number of sentences in the Business Description section of the firm's 10-K report.	Author's calculation
D_ALT_CWED_DES	Alternative CWE disclosure dummy that equals one if ALT_CWED_DES is positive, zero otherwise.	Author's calculation
CORPORATE EQUALTY INDEX	Human Rights Campaign (HRC)'s Corporate Equality Index	Corporate Equality Index Reports of HRC
STATE_EQUALITY	The State Equality Index constructed by Human Rights Campaign (HRC)	State Equality Reports of HRC
DIV_STR_C	Dummy variable that indicates if the board of directors is diverse in term of gender, race, and/or disability. The variable equals one if women, minorities, and/or the disabled hold four seats or more (with no double counting) on the board of directors, or one-third or more of the board seats if the board numbers less than 12, zero otherwise.	KLD STATS
DIV_STR_E	Dummy variable that indicates women and minority contracting. The variable equals one if the firm does at least 5% of its subcontracting, or otherwise has a demonstrably strong record on purchasing or contracting, with women- and/or minority-owned businesses, zero otherwise	KLD STATS
DIV_STR_G	Dummy variable that equals one if the firm implements notably progressive policies toward its gay and lesbian employees, zero otherwise.	KLD STATS
DIV_STR_NUM	Total number of diversity strengths of the firm	KLD STATS
ESG_SCORE	The ESG performance score of the firm	Refinitiv Eikon
SOCIAL_SCORE	The social performance score of the firm	Refinitiv Eikon
GOVERNANCE_SCORE	The governance performance score of the firm	Refinitiv Eikon
BOARD_CULTURE_DIV	The measure of board cultural diversity that equals the percentage of the directors in the board of directors with a cultural background different from the location of the firm's headquarters.	Refinitiv Eikon
CSR_SUS_COMMITTEE	Dummy variable that equals one if the firm has a Corporate Social Responsibility (CSR) and Sustainability, zero otherwise	Refinitiv Eikon
BOARD_GENDER_DIV	The percentage of female directors in the board of directors during the year	Bloomberg
WOMEN_MID_MGMT	Percentage of women in middle and/or other management disclosed by the firm	Bloomberg
WOMEN_NON_MGMT	Percentage of women in non-managerial positions disclosed by the firm	Bloomberg
WOMEN_NEWHIRE	Percentage of women in the new hires disclosed by the firm	Bloomberg

MINORITY_EMP	Percentage of minorities in the total employees disclosed by the firm	Bloomberg
L&E_LEGAL_ISSUE_SCORE	The Bloomberg metric evaluating a company's quantitative disclosure on the Issue Legal and Regulatory Management regarding Labor and Employment Practices. The score ranges from zero to one. The higher means the better labor and employment practices.	Bloomberg
BEMPLOY_BLS	The employment rate of the black population in the state-year (in percentage)	Bureau of Labor Statistics
AEMPLOY_BLS	The employment rate of the Asian-origin population in the state-year (in percentage)	Bureau of Labor Statistics
HEMPLOY_BLS	The employment rate of the Hispanic-origin population in the state-year (in percentage)	Bureau of Labor Statistics
WEMPLOY_BLS	The employment rate of women in the state-year (in percentage)	Bureau of Labor Statistics
EXONERATION_NW	The exoneration rate of non-white convicted defendants in the state-year.	National Registry of Exonerations
S_INTEGRITY	The corporate integrity culture score generated from 10-K reports and machine learning (Li et al., 2021)	Li et al. (2021)
S_RESPECT	The corporate respect culture score generated from 10-K reports and machine learning (Li et al., 2021)	Li et al. (2021)
S_TEAMWORK	The corporate teamwork culture score generated from 10-K reports and machine learning (Li et al., 2021)	Li et al. (2021)
S_INNOVATION	The corporate innovation culture score generated from 10-K reports and machine learning (Li et al., 2021)	Li et al. (2021)
TOBINSQ	Tobin's Q of the firm	WRDS
SIZE	Natural logarithm of total assets	COMPUSTAT
LEV	Long-term debt scaled by total assets	COMPUSTAT
OCF	Net operating cash flow scaled by lagged total assets	COMPUSTAT
EMPLOYEES	The natural logarithm of the number of employees of the firm	COMPUSTAT
UNION	The unionization rate of the industry-year	Hirsch & Macpherson, (2003)'s updated database of Union Membership and Coverage
SALES_GR	Changes in sales scaled by lagged sales	COMPUSTAT
ROA	Net income on average total assets ratio	COMPUSTAT
PLOG(MVE)	The is logarithm of the market value of equity at the beginning of the year, ranked into percentiles	COMPUSTAT
QUICK	The ratio of cash and short-term investments plus receivables to current liabilities	COMPUSTAT
LOSSBIN1	Dummy variable that equals one if ROA of the firm falls within the range from −0.5% to 0%, zero otherwise	COMPUSTAT
LOSSBIN2	Dummy variable that equals one if ROA of the firm falls within the range from −1.0% to 0.5%, zero otherwise	COMPUSTAT
LOSSBIN3	Dummy variable that equals one if ROA of the firm falls within the range from −1.5% to 1.0%, zero otherwise	COMPUSTAT
LOSSBIN4	Dummy variable that equals one if ROA of the firm falls within the range from −2.0% to -1.5%, zero otherwise	COMPUSTAT
LOSSBIN5	Dummy variable that equals one if ROA of the firm falls within the range from −2.5% to 2.0%, zero otherwise	COMPUSTAT
MB	Market-to-book value ratio of the firm	COMPUSTAT
DIVDUM	Dividend dummy that equals one if the firm pays dividend during the year, zero otherwise	COMPUSTAT
OCF_SD	The 5-years rolling standard deviation of net cash flows from operating activities	COMPUSTAT
SALES_SD	The 5-years rolling standard deviation of sales	COMPUSTAT

LOSS	The dummy variable that equals one if the firm experience negative net earnings during the year, zero otherwise	COMPUSTAT
NET_HIRING	The percentage change in employees	COMPUSTAT
NET_HIRING_SD	The 5-years rolling standard deviation of NET_HIRING	COMPUSTAT
LABOR_INTENSITY	The ratio of the number of employees divided by lagged total assets	COMPUSTAT
AB_INVEST_OTHER	The absolute value of the residuals from the regression of other investment on lagged sales, controlled by industry fixed effect	COMPUSTAT
PEERSCWE	The cross-sectional mean of industry peers' CWE score. This mean excluding the focal firm's CWE score.	Authors' calculation
SRET	Annual stock returns of the firm	CRSP
CWED=0	Equally-weighted return of firms with CWED_DES of zero	Authors' calculation
CWED>0	Equally-weighted return of firms with CWED_DES greater than zero	Authors' calculation
Q5	Equally-weighted return of firms in the top quintile of the CWED_DES in the cross-sections	Authors' calculation
Q1	Equally-weighted return of firms in the bottom quintile of the CWED_DES in the cross-sections	Authors' calculation
CWED1Minus0	Return on a portfolio which takes a long position in stocks with CWED_DES greater than zero and a short position in stocks with CWED_DES of zero	Authors' calculation
Q5MinusQ1	Return on a portfolio which takes a long position in Q5 and a short position in Q1	Authors' calculation

Appendix A.3. Correlation between alternative CWED scores and other diversity, equity, inclusion (DEI) and human right protection (HRP) proxies

Variable	*ALT_CWED_DES*	*D_ALT_CWED_DES*
CORPORATE EQUALITY INDEX	0.143***	0.150***
	[0.000]	[0.000]
DIV_STR_C	0.062***	0.062***
	[0.000]	[0.000]
DIV_STR_E	0.022*	0.035***
	[0.096]	[0.007]
DIV_STR_G	0.019	0.034**
	[0.174]	[0.014]
DIV_STR_NUM	0.030***	0.034***
	[0.001]	[0.000]
BOARD_GENDER_DIV	0.124***	0.201***
	[0.000]	[0.000]
BOARD_CULTURE_DIV	-0.012	-0.007
	[0.533]	[0.713]
CSR_SUS_COMMITTEE	0.220***	0.184***
	[0.000]	[0.000]
WOMEN_MID_MGMT	0.124***	0.126***
	[0.000]	[0.000]
WOMEN_NON_MGMT	0.101***	0.076**
	[0.007]	[0.044]
WOMEN_NEWHIRE	0.073**	0.083***
	[0.019]	[0.008]
MINORITY_EMP	0.076***	0.142***
	[0.000]	[0.000]
L&E_LEGAL_ISSUE_SCORE	0.263***	0.230***
	[0.000]	[0.000]
ESG_SCORE	0.215***	0.143***
	[0.000]	[0.000]
SOCIAL_SCORE	0.195***	0.141***
	[0.000]	[0.000]
GOVERNANCE_SCORE	0.142***	0.088***
	[0.000]	[0.000]
STATE_EQUALITY	-0.000	0.008**
	[0.998]	[0.023]
BEMPLOY_BLS	0.042***	0.055***
	[0.000]	[0.000]
AEMPLOY_BLS	0.048***	0.045***
	[0.000]	[0.000]
HEMPLOY_BLS	0.043***	0.053***
	[0.000]	[0.000]
WEMPLOY_BLS	0.000	-0.003
	[0.962]	[0.465]
EXONERATION_NW	0.060***	0.076***
	[0.000]	[0.000]

***, **, and * stands for significance level of 1%, 5%, and 10%, respectively. Numbers in square brackets are p-values.