To Woke or Not: Woke Engagement and Corporate Outcomes*

Khanh Hoang†, Jarkko Peltomäki‡, Yuqian Zhang§, Cuong Nguyen¶

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 in line with these positive attributes that firms with a high frequency of CWE disclosure demonstrate stronger labor investment efficiency. However, several firms appear to disclose CWE opportunistically and we find that the positive effect on labor investment efficiency is weaker for firms that we identify as woke washers. Our results also show that the positive effects of woke engagement does not translate to broader improvement in firm performance in terms Tobin's Q and stock returns. Our 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; firm value; labor investment efficiency; stock returns; woke engagement

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† Lincoln University, New Zealand. Email: khanh.hoang@lincoln.ac.nz (correspondence)
‡ Stockholm University, Sweden. Email: jarkko.peltomaki@sbs.su.se
§ Lincoln University, New Zealand. Email: yuqian.zhang@lincoln.ac.nz
¶ Lincoln University, New Zealand. Email: cuong.nguyen@lincoln.ac.nz

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. 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, promotion 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. This raises an important question: what do firms gain by disclosing CWE?

There are competing viewpoints documented in the corporate finance literature with regard to this question. From the stakeholder perspective, woke engagement could advocate employee-friendly treatments that generally enhance labor investment efficiency (Cao and Rees, 2020) and corporate fundamental performance, especially in firms with low agency costs (Fauver et al., 2018). 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 indirect approaches, such as the effects of employee and management-level diversity on stock performance (Frijns et al., 2024; Bernile et al. 2018), it remains ambiguous without a comprehensive measure of CWE.

In this study, we propose a novel measure of firm-level CWE 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 CWE disclosure using a large language model, more specifically ChatGPT, and manual screening to reduce potential biases in our bag-of-words. 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 corporate policies, 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 for each firm-year. As a result, we obtain a comprehensive dataset of CWE disclosure intensity 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.[1]

We find there were only 13.35% of US public firms described themselves using woke-related statements in 10-K filings in 2008. 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. Our 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.

Previous literature suggests that social initiatives and the actual corporate social performance may be disconnected, even though corporate communication about their social initiatives can boost employee engagement (Gond et al., 2017; Hahn et al., 2023). We address this possibility by exploring opportunistic cross-sectional pattern of CWE disclosure in comparison to actual corporate social performance.[2] Our analysis suggests firms disclose CWE opportunistically, in line with the evidence of opportunistic patterns in corporate disclosures related to their sustainability and DEI practices (see Kim and Lyon, 2014; Baker et al., 2024). Therefore, we also identify firms that opportunistically disclose CWE as wokewashers in our analysis.

[1] If excluding financial firms, our dataset of CWE disclosure consist of 62,838 firm-year observations of 7,256 US public firms from 2008 to 2023.
[2] The findings are presented and discussed in Section 4.1.

We next examine whether CWE disclosure explains labor investment efficiency as proxied by the abnormal level of net hiring, following Jung et al. (2014). We find a positive relationship between CWE disclosure and labor investment efficiency, but our results also demonstrate that labor investment efficiency is less sensitive to CWE disclosure in firms identified as wokewashers. Thus, woke engagement is associated with stronger labor investment efficiency, especially for firms that do not disclose it opportunistically. When we turn to the analysis of CWE from the shareholder's perspective, we find an inverted U-shaped relationship between CWE and Tobin's Q after controlling for firm-level wokewashing. The findings indicate a value-detrimental effect from both overly emphasizing and lacking CWE.

We next analyse the stock performance of firms that disclose CWE and find that they underperform by 4.524% per annum compared to other firms. However, this pattern is only documented during Republican presidency, when the political environment can be assumed to be less supportive of woke initiatives. Firms identified as wokewashers do not experience significant abnormal returns, regardless of political context. Collectively, our results suggest that CWE does not lead to better outcomes for shareholders despite stronger labor investment efficiency in firms that engage more in woke initiatives.

Our study makes three important contributions to existing literature. Firstly, we propose novel measures of corporate America's social activism via the CWE disclosure, 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 CWE, 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, as Baker et al. (2024) do, but adherently correlates with the recent developments in social movements in the U.S., including the Black Lives Matter and the Pride Month movements. Our findings therefore add 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 corporate reports and other documentations.

Secondly, we examine the link between corporate social activism and labor investment efficiency. Prior research (Cao & Rees, 2020) shows that employee-friendly firms invest more efficiently in labor, but the role of woke engagement, social performance, or DEI policies in this context remains underexplored. Since woke initiatives aim to promote social good, their impact should first be observable in labor outcomes. This contribution lies in bridging literature on corporate social policies (e.g., Baker et al., 2024) with that on labor investment efficiency (Jung et al., 2014; Cao & Rees, 2020). We further refine our approach by distinguish between genuine and opportunistic CWE disclosures (Akyildirim et al., 2023; He et al., 2024). Using a novel classification method, we identify "wokewashers" by comparing CWE disclosures with actual social performance. Our large-sample analysis reveals that CWE is positively associated with labor investment efficiency, but this effect weakens for firms engaging in wokewashing. These findings align with management research suggesting that employees' engagement improves when they perceive their firm's social efforts as authentic (Gond et al., 2017; Opoku-Dakwa et al., 2018; Green et al., 2019; Hahn et al., 2023; Briscoe-Tran, 2024).

Thirdly, this study advances the understanding of the effects of corporate social strategy on financial outcomes from the shareholder perspective as we complement our analysis with firm valuation.. We document an inverted U-shaped relationship between CWE disclosure and Tobin's Q suggesting that excessive woke engagement is detrimental to firm value. Additionally, firms that disclose CWE underperform compared to non-disclosing ones, particularly during a Republican presidency, suggesting that political environment can drive the market responses to CWE. This differential stock performance of firms that disclose CWE depending political regime is a novel addition to the previous literature that focus on the market responses to corporate socio-political policies and DEI practices (Neiling and Webb, 2009; Edmans et al., 2023; Frijns et al., 2024; Lins et al., 2024) and social movements (Billings et al., 2022; Brownen-Trinh & Orujov, 2023). In this regard, our findings are in line with Briscoe-Tran and Siegel (2024), who show evidence that DEI initiatives are associated with lower firm value.

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 introduces the

identification strategy for potential wokewashers. Section 5 analyzes the effects of corporate woke engagement disclosure and discusses the results. Section 6 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 U.S. 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 filled within 60-90 days following 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 operation outcomes. 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 may 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 the Business Description to measure CWE disclosure. 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 MD&A section does not, therefore, its text data are more suitable as the input for measuring CWE disclosure 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 understand 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 measurement approach, 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 and Bloomberg databases, we obtain the ESG performance score, the social pillar performance score, the governance pillar performance score, board cultural diversity, employee demographic data, 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) constructed from machine learning using corporate 10-K reports 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 data sets at 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, origin, state and year from the Bureau of Labor Statistics (BLS) website. These data enable the exploration of potential disparities in employment rates among different population subgroups and how they may vary geographically and temporally. The data are used to test the correlation between our proposed measured and the demographic of employment in the U.S.'s 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 U.S. 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[3], 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 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 *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

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

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 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*" as we increase 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 several 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 bigram *discrimination* instead of the unigrams specifying abovementioned types of discrimination to increase our coverage of human rights misconduct 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 many businesses in the U.S., 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, therefore our CWE disclosure measures are not multi-dimensional in terms of sentiment and direction of expression.[4] It focuses on the intensity of CWE disclosure, not the corporate social performance, DEI, nor management's sentiment. By covering a wider range of topics in social justice rather than just focusing on DEI-related vocabulary, we are able to capture the degree to which a firm engages in the woke movements, deliberately or not. Our measures generated from this targeted word list therefore differ from other measures of employee demographic diversity as discussed by Edmans et al. (2023), Frijns et al. (2024), and Baker et al. (2024).

2.2. Measuring corporate woke engagement disclosure

After constructing the word list, we use R to conduct 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-

[4] 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.

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 to 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 CWE disclosure score, *CWED_MDA*. Another attempt for robustness check is that we create another alternative CWE disclosure 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 variables, *D_CWED_DES* and *D_CWED_MDA*, corresponding to *CWED_DES* and *CWED_MDA*. We assign the value of one for *D_CWED_DES* when a firm's *CWED_DES* is

positive. This indicates the presence of woke engagement disclosures. A score of zero is assigned otherwise. The same setting is applied to construct *D_CWED_MDA* from *CWED_MDA*.

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 notice 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. The 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 CWE disclosure 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. Comparing CWE score values across different business sectors, Consumer Discretionary exhibits the highest level of CWE. 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. 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 CWE disclosure 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 CWE disclosure 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 CWE disclosure scores constructed from the texts of the Business description and the CWE disclosure 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 CWE disclosure, indicated by the correlation analysis of CWE disclosure scores.

Nevertheless, we test the correlations of the different types of CWE disclosure 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 presents the Pearson correlations between our CWE disclosure 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 CWE scores to real corresponding corporate practices.

[Insert Table 5 about here]

Panel B of Table 5 reports the correlation coefficients of CWE disclosure 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 CWE 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 CWE disclosure that is related to the existing measures of DEI and HRP, compared to *CWED_MDA* and *D_CWED_MDA*.[5]

As observed from Table 5, the Business Description's CWE disclosure 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's CWE scores are less consistent. These patterns suggest that US firms disclose their woke engagement more in the Business Description section compared to that in the MD&A section of the 10-K filings. Hereafter, we only focus on *CWED_DES* and *D_CWED_DES* for our analysis.

3.3. 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 CWE 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 CWE disclosure 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 4 presents the confidence interval plots of the results.

[Insert Figure 4 about here]

[5] Similar results are documented when we use ALT_CWED_DES instead of CWED_DES for correlation analysis, as demonstrated in Appendix A.3.

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).

3.4. Opportunistic woke engagement

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 CWE scores and their actual social performance scores and find that the CWE disclosure 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 6 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 6 about here]

As observed from Panel B of Table 6, 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 6. In the lowest quintile (Q1) of *SOCIAL_SCORE*, the average CWE 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 reaches 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 6 suggest that CWE 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 CWE disclosure in US public firms, which is observable by simple descriptive statistics.

4. Identification of firm-level wokewashing

The cross-sectional statistics discussed in Section 3.5 suggest opportunistic disclosure of CWE, however, they do not provide an identification of firm-level opportunistic CWE disclosure (i.e., wokewashing). Identification of wokewashers is important to disentangle the impact of CWE cheap talks on firm financial outcomes in comparison to that of normative, genuine commitments to CWE. We propose a three-steps identification strategy to identify wokewashers as follows.

Step 1. We regress CWE disclosure score (*CWED_DES*) on corporate social performance using a simple OLS estimator, considering only firms with *CWED_DES* score greater than zero. In this regression, we add firm size quintile dummies and Tobin's Q quintile dummies to account for potential confounding effects of firm size and market valuation on disclosure practices. Industry and year fixed effects are included to better isolate industry traits and time heterogeneity from the relationship between corproate social performance and CWE disclosure. The residual of this regression is considered as the degree of abnormal CWE disclosure relative to the firm's social performance. This step's model is as follows:

$$CWED\_DES_{i,t} = \varphi_0 + \varphi_1 SOCIAL\_SCORE_{i,t} + \sum s\_q_{m,i,t} + \sum t\_q_{n,i,t} + \gamma_i + \theta_t + \vartheta_t \quad (1)$$

where $\sum s\_q_{j,i,t}$ consist of all five firm size quintile dummies sorted for each year, m stands for the order of the quintile from low to high, i.e., the m^{th} quintile with $m \in \{1, 2, 3, 4, 5\}$; $\sum t\_q_{j,i,t}$ consist of all five Tobin's Q quintile dummies sorted for each year, n stands for the order of the quintile from low to high. Similarly, $m \in \{1, 2, 3, 4, 5\}$; γ_i and γ_i are the industry- and year-fixed effects.

Step 2. We create a dummy variable, *DWW*, that equals zero if CWED_DES equals zero or if the residual from the regression of Model (1), , i.e., ϑ_t, is negative. Intuitively, the first condition is based on the feasible assumption that if a firm does not use CWE-related wordings in their disclosure, it means they are not engaging in wokewashing via corporate disclosure. The second condition is based on the main idea that if a firm's degree of CWE disclosure is relatively less than the degree of their underlying social performance, it suggests that their CWE disclosure is not opportunistic, therefore not considered as wokewashing.

Step 3. For all value of ϑ_t greater than zero, meaning the degree of CWE disclosure is abnormally higher than the underlying social performance of the firm, we identify this as an opportunistic pattern of CWE disclosure. Taking into consideration that there might be certain measurement errors in our methodology, we sort the residual from the regression of Model (1) by quintile each year and only consider firms in the second to the fifth quintile as potential wokewashers. We set the *DWW* dummy equal zero if the firm belongs to the first quintile (i.e., the lowest quintile), and equals one if it belongs to other quintiles.

Following this identification strategy, we arrive at a sample of 54,502 firm-year observations of 6,858 US listed firms from 2008 to 2023, in which 5,252 firm-year observations of 1,259 firms are identified as wokewashers, i.e., *DWW* = 1, accounting for 9.64% of this sample's size. The GICS sector exhibiting the highest average *DWW* is Real Estates, closely followed by Financial, Communication services, and Consumer Discretionary sectors. By constrast, the sector that has the lowest average *DWW* is Energy, followed by Information Technology and Utilities. Figure 5 illustrates the 95% confidence interval of DWW by GICS sector.

[Insert Figure 5 about here]

The time variations of DWW demonstrates an intriguing pattern. As we plot the cross-sectional means of DWW and its confidence interval in Figure 6, we find an uptrend in DWW from 2008 to 2023. The cross-sectional mean value of *DWW* increased from 0.017 in 2008 to 0.034 in 2014, meaning a twofold increase during the seven-years period before a fivefold surge during the 2015-2023 period. This pattern fits well in the socio-political developments in the U.S. started in 2015. More specifically, the increased public and corporate attention to issues of radical justice and police violence on black Americans following the high-profile incidents such as the deaths of Sandra Bland, Freddie Gray, Meagan Hockaday, and Walter Scott that led to the nationwide Black Live Matter activism; marriage equality regulation formerly had effect in June 2015 in the U.S., and the Dive In Festival 2015, one of the largest events promoting diversity, equality and inclusion.

[Insert Figure 6 about here]

Notably, the cross-sectional confidence interval of *DWW* gradually widened over time during the full sample period, reflecting greater variation in the proportion of firms identified as wokewashers across different years. Since *DWW* is a binary variable, this widening interval indicates that, over time, not only did more firms being classified as wokewashers, but the distribution of such firms became less uniform across the sample. This trend suggests increasing polarization, with some firms consistently classified as *DWW* while others remained unaffected, highlighting divergent adoption of corporate disclosure practices in relation to their underlying social performance.[6]

5. The effects of corporate woke engagement disclosure

5.1. The effect on labor investment efficiency

Corporate woke policies, which often emphasize diversity, equity, and inclusion, can enhance labor investment efficiency by aligning their labor policy with broader societal expectations and values.

[6] Appendix A4 presents the variation decomposition of *DWW* and shows that combination of fixed effects only explain up to 37% of the variation in *DWW*. This suggests that variations in *DWW* is attributable to time-variant firm-level factors. Appendix A.5. shows the two-way scatter plot of *DWW* and *CWED_DES* by GICS sector, indicating that frims in Consumer Discretionary sector have the higest average *DWW* and *CWED_DES* scores, suggesting those firms have the highest CWE disclosure intensity and most likely to engage in wokewashing.

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:

$$\begin{aligned} NET\_HIRING_{i,t} = \beta_0 + \beta_1 SALES\_GR_{i,t-1} + \beta_2 SALES\_GR_{i,t} + \beta_3 \Delta ROA_{i,t-1} + \\ \beta_4 \Delta ROA_{i,t} + \beta_5 ROA_{i,t} + \beta_6 SRET_{i,t} + \beta_7 \text{PLOG}\,(MVE)_{i,t-1} + \\ \beta_8 QUICK_{i,t-1} + \beta_9 \Delta QUICK_{i,t-1} + \beta_{10} \Delta QUICK_{i,t} + \beta_{11} LEV_{i,t-1} + \\ \beta_{12} LOSSBIN1_{i,t-1} + \beta_{13} LOSSBIN2_{i,t-1} + \beta_{14} LOSSBIN3_{i,t-1} + \\ \beta_{15} LOSSBIN4_{i,t-1} + \beta_{16} LOSSBIN5_{i,t-1} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

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:

$$LABOR\_INVEFF_{i,t} = \beta_0 + \beta_1 CWE_{i,t-1} + \beta_2 DWW_{i,t-1} + \beta_3 CWE \times DWW_{i,t-1} + \beta_4 MB_{i,t-1} + \beta_5 SIZE_{i,t-1} + \beta_6 QUICK_{i,t-1} + \beta_7 LEV_{i,t-1} + \beta_8 DIVDUM_{i,t-1} + \beta_9 OCF\_SD_{i,t-1} + \beta_{10} SALES\_SD_{i,t-1} + \beta_{11} LOSS_{i,t-1} + \beta_{12} NET\_HIRING\_SD_{i,t} + \beta_{13} LABOR\_INTENSITY_{i,t-1} + \beta_{14} UNION_{i,t-1} + \beta_{15} AB\_INVEST\_OTHER_{i,t-1} + \phi_i + \theta_t + \varepsilon_{i,t} \quad (3)$$

where *CWE* is the proxy of corporate woke engagement (i.e., *CWED_DES*); *DWW* is the woke washer indicator; *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 (ϕ_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.

[Insert Table 7 about here]

Table 7 reports the regression results. We expect a negative and significant coefficient of *CWED_DES* in the regression (i.e., -6.330, p-value = 0.020), meaning more CWE enhances labor investment efficiency. The regression results in Column 1 of Table 7 support our preposition. More specifically, the results show that a standard deviation increase in *CWED_DES* is associated with a 0.034 standard deviation increase in labor investment efficiency. The finding of the standalone impact of CWE on labor investment efficiency 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).

Furthermore, despite the coefficient of *DWW* is not statistically significant, the coefficient of the interaction *DWW*×*CWED_DES* is 4.215 (p-value = 0.069), suggesting that the impact of CWE on labor investment efficiency is weakened by approximately 66.59% in firms identified as woke washers. The firms identified as woke washers do not demonstrate social performance that would be in line with their disclosed woke engagement. Employees in these firms may be less engaged, thus lower labor investment efficiency. This interpretation is supported by the finding that employee disengagement is driven by the mismatchings between cheap talks and actual performance of social initiatives by the firm (Hahn et al., 2023).

5.2. 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 wokewashing. 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 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:

$$TOBINSQ_{i,t} = \delta_0 + \delta_1 CWE^2_{i,t-1} + \delta_2 CWE_{i,t-1} + \delta_2 DWW_{i,t-1} + \delta_4 SIZE_{i,t-1} + \delta_5 LEV_{i,t-1} + \delta_6 OCF_{i,t-1} + \phi_i + \theta_t + \varepsilon_{i,t} \quad (4)$$

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 woke washer dummy (*DWW*), 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 the 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 such contents in their disclosure. These findings further reinforce the view of excessive CWE as an agency problem, 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).

The coefficient of *DWW* in both regressions remain negative and significant, suggesting that wokewashing is is associated with firm value. One possible interpretation of this result is that firms conducting wokewashing are generally valued lower than their counterparts because investors can differentiate between genuine social initiatives and cheap talks. On the other hand, firms that are valued lower may engage in wokewashing to make them more attractive to socially conscious investors. One more interpretation is that firms that overly disclose CWE information face customer backlashes, thus resulting in lower expected growth opportunities and therefore lower valuation. Thisinterpretation is supported by a negative correlation coefficient between *CWED_DES* and future sales growth (i.e., r = -0.021, p-value < 0.01).In the following section, we test the stock returns of stock portfolios formed based on our CWE scores to further explore whether investors price CWE and opportunistic CWE disclosure.

5.3. The performance of stock portfolios formed on CWE scores

To test the stock returns of portfolios formed based on CWE scores and DWW dummy, we adopt the Fama-French five-factor model (Fama and French, 2015) as follows:

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

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 previous-year *CWED_DES* score generated from the Business descriptions of the firms' 10-Ks. We construct nine portfolios for testing abnormal returns: (i) firms with *CWED_DES* of zero, meaning non-CWE disclosing firms; (ii) firms with *CWED_DES* greater than zero, i.e., CWE-disclosing firms; (iii) firms belonged to the first quintile of *CWED_DES* score (*Q1*) when we cross-sectionally sort *CWED_DES* by quintile from low to high; (iv) firms in the top cross-sectional quintile (*Q5*) of *CWED_DES* score; (v) 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; (vi) portfolio which takes a long position in *Q5* and a short position in *Q1*; (vii) firms with *DWW* scores of zero, meaning non-wokewashing firms; (viii) firms with *DWW* scores of one, or in other words, firms being identified as potential woke washers by our identification strategy in Section 4; and (ix) portfolio which takes a long position in stocks with *DWW* of one and a short position in stocks with *DWW* of zero (*DWW1Minus0*).

We test the stock returns of the first four portfolios using the full sample period in Panel A of Table 9. The regression estimates show no statistically significant alpha (α) in all portfolios, suggesting that in general, investors do not price the degree of CWE disclosure. While being not exactly similar to, these results are in line with the findings of Edmans et al. (2023), who find that diversity, equity, and inclusion (DEI) in firms is not linked to future stock returns. Nevertheless, the performance of firms that disclose CWE may depend on the political climate, influenced by factors such as the dominant 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 for Republican presidency period analysis are reported in Panel B, while those for the Democratic presidency period are reported in Panel C.

[Insert Table 9 about here]

The results from these subsample periods reveal two noteworthy findings. First, the negative and statistically alpha in the case of firms disclosing CWE information (*CWED_DES* > 0), i.e., portfolio (ii), suggest that these firms significantly underperform relative to the underlying benchmarks during the Republican presidency. Specifically, the alpha coefficient in column 2 is -0.351, indicating that the portfolio of firms with CWE disclosure underperforms the market benchmark by 4.212% on an annual basis. This finding aligns with the argument from Foss and Klein (2023) that corporate woke strategies can have a detrimental effect on stock performance. In addition, the alphas of the portfolios (i), (iii) and (iv) are not statistically significant in Panel B, suggesting that the portfolio's returns are not systematically different from what would be expected based on the risk factors included in the five-factor model.

In Panel C of Table 9, we see that all the alphas of the four portfolios are statistically insignificant when analyzing stock returns under Democratic presidency, suggesting that the market does not react strongly to differences in CWE disclosure. Whether firms engage in CWE disclosure or not, their stock returns do not significantly deviate from expected benchmarks after adjusting for risk factors. This suggests that under a Democratic administration, where social and environmental themes are more politically mainstream, investors may view such strategies as normative rather than controversial or value-relevant. As a result, the market response to CWE appears neutral in this political context, in contrast to the negative reactions observed during Republican presidency.

[Insert Table 10 about here]

Table 10 presents the results of the portfolio performance analysis using long-short portfolios (v) and (vi) using the full sampling period (Panel A), the Republican presidency period (Panel B), and the Democratic presidency period (Panel C). We first document insignicant alphas in Panel A, thus reinforcing the findings from Table 9 that overall, market does not price CWE information. The results in Panel B, for Republican presidential tenure, show that the portfolio (v),

CWED1Minus0, generates a statistically significant and negative alpha in Column 1. The value of alpha is -0.377 (p-value < 0.01), indicating a negative annual abnormal return of 4.524%. However, in Column 2, alpha of portfolio (vi), *Q5MinusQ1*, is negative but insignificant, suggesting that investors react primarily to the presence of CWE disclosure itself, rather than the depth or variation in disclosure degrees. The significant negative alpha in portfolio (v) indicates that simply disclosing CWE information during Republican presidencies can lead to market underperformance, regardless of how extensive or limited the disclosure is.

Again, we find that in Panel C, the alphas of long-short portfolios (v) and (vi) are statistically insignificant during Democratic 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 practices (Edmans et al., 2023; Frijns et al., 2024), our analysis on CWE disclosure indicates that stock performance is partially related to CWE disclosure and is influenced by the political regime in the U.S.

We next analyze the performance of three portfolios (vii), (viii) and (ix), which are constructed based on the wokewashing dummy (*DWW*), using Fama-French five-factor model and report the results in Table 11. In Table 11, Panel A presents the results of the full sample analysis, Panel B and Panel C report the results of sub-sample analysis using the Republican presidency period and the Democratic presidency period, respectively. Interestingly, none of the alphas of the three portfolios is statistically significant regardless of sampling period choices. These results indicate that the market does not systematically price the presence or absence of wokewashing behavior in any political context. These findings are consistent with earlier results in Tables 9 and 10, where significant negative alphas are only observed for firms with CWE disclosure during the Republican presidency, not for those flagged as potentially wokewashers. This pattern suggests that investors react negatively to the act of disclosing CWE information under Republican presidency, but do not distinguish whether such disclosure is perceived as genuine or opportunistic. In short, the market appears to penalize CWE disclosure itself in politically CWE-unfavorable climates, while generally ignoring wokewashing behavior. Consequently, wokewashing does not appear to be a meaningful factor influencing stock returns in the eyes of investors.

6. Conclusion

In this study, we propose an approach to measure corporate woke engagement disclosure and examine its role in shaping labor investment efficiency and corporate financial outcomes. Our measures derived from Business Description text data in 10-K filings are different from the traditional CSR, ESG, and DEI measures as they represent a broader concept of how firms engage to confront social injustice, providing a more comprehensive understanding of corporate social initiatives. Firms with higher levels of CWE disclosure demonstrate better social performance and they also also emphasize cultural values such as integrity, respect, teamwork, and innovation. However, we find that firms also disclose CWE opportunistically. These findings point out that corporate disclosure in the Business Description section of 10-K filings is economically meaningful.

Our results show that the disclosure of CWE 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, such impact is weakened dramatically in firms identified as opportunistic wokewashers. From the firm value perspective, the relationship between corporate CWE disclosure and firm valuation is concave, meaning that while moderate levels of CWE disclosure may be associated with higher firm valuations, excessive levels are linked to lower valuations. Additionally, we find that firms disclosing CWE tend to experience poorer stock performance only during Republican presidency. Thus, our findings indicate that shareholders derive no benefit from corporate woke engagement, despite potential improvements in labor investment efficiency. Our approach to measure corporate disclosure of woke engagement offers a new set of measurements that encourage future research in the literature of textual analysis, corporate disclosure and social performance.

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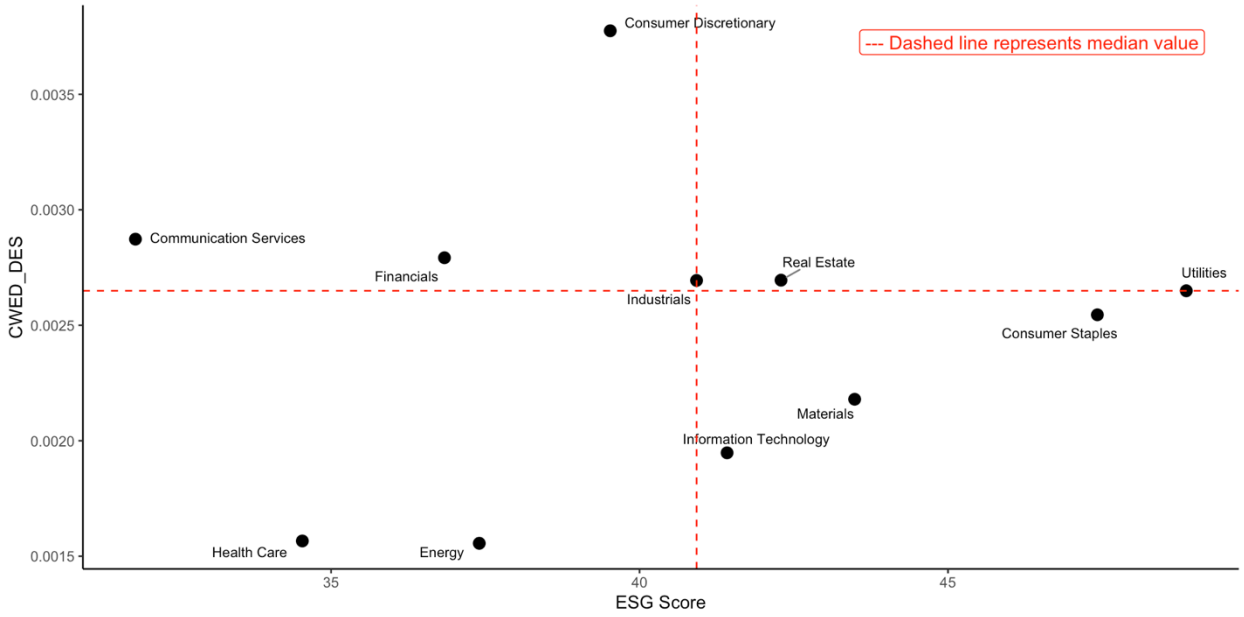
Figure 1. World cloud for selected CWE bigrams

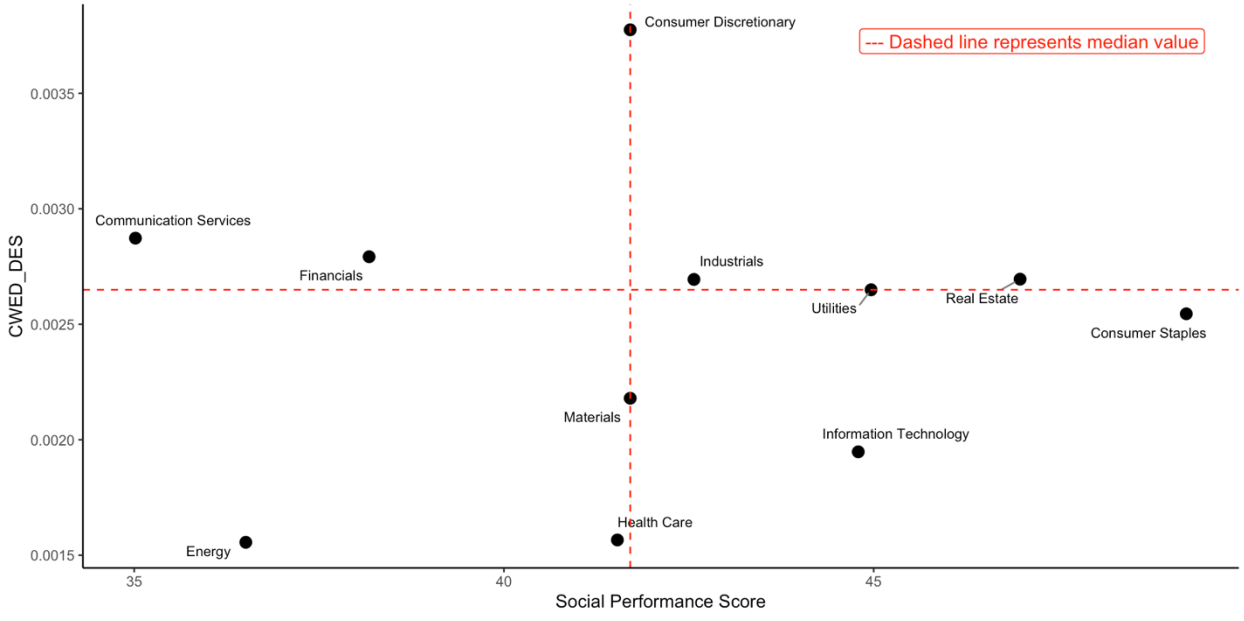
This figure presents a word cloud summarising the vocabulary in the corpus of approximately 154,183 sentences containing CWED terms in Part I. Business Description of 10-K reports from 2008 to 2023, which contributed to our main measure. The 15 most frequently occurring terms are: “diversity,” “inclusion,” “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

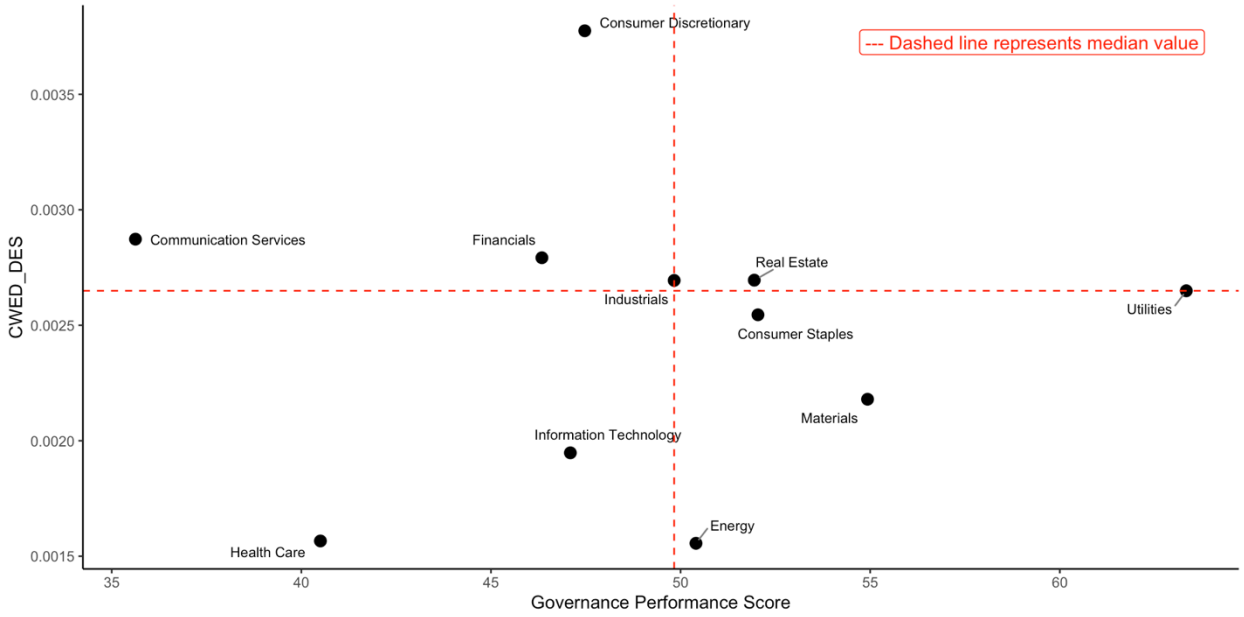


Figure 3. CWE disclosure measures by year

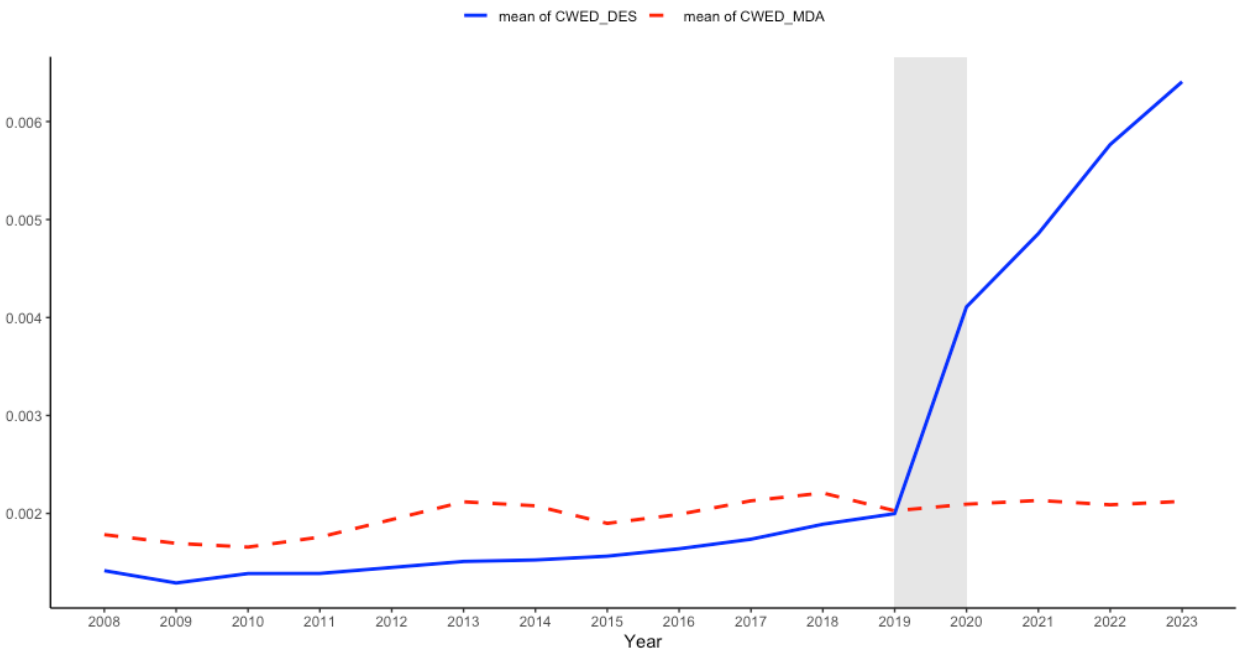
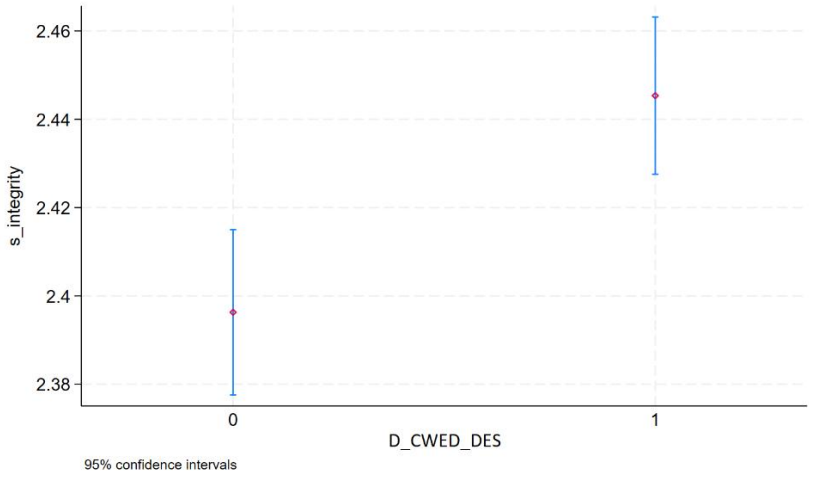
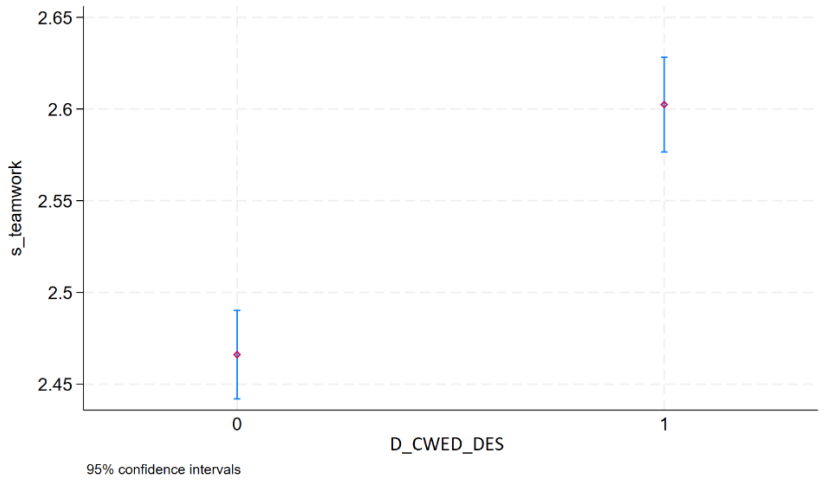


Figure 4. Confidence interval plots of corporate culture scores (Li et al., 2021) and CWE disclosure dummy

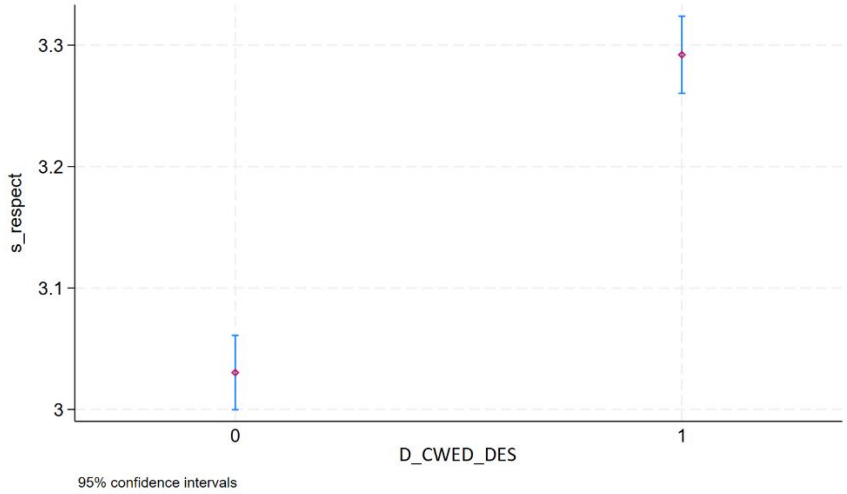
(A) Corporate integrity (*s_integrity*) and *D_CWED_DES*



(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*

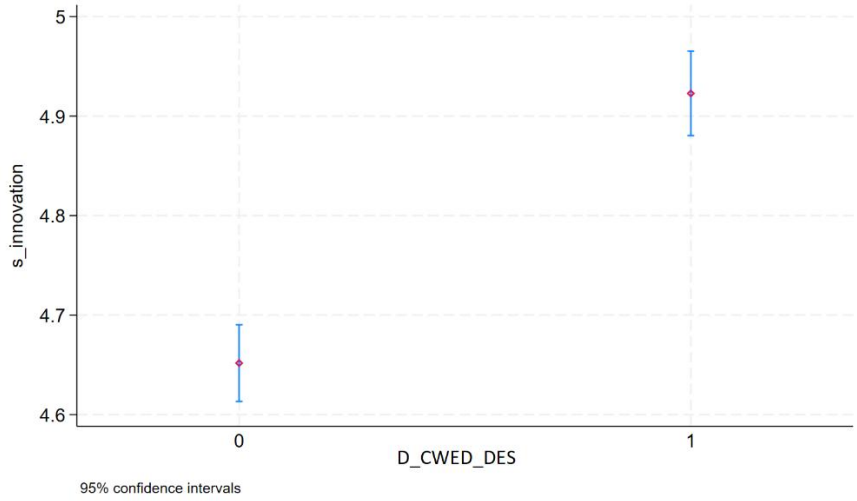


Figure 5. Mean value of DWW by GICS sector

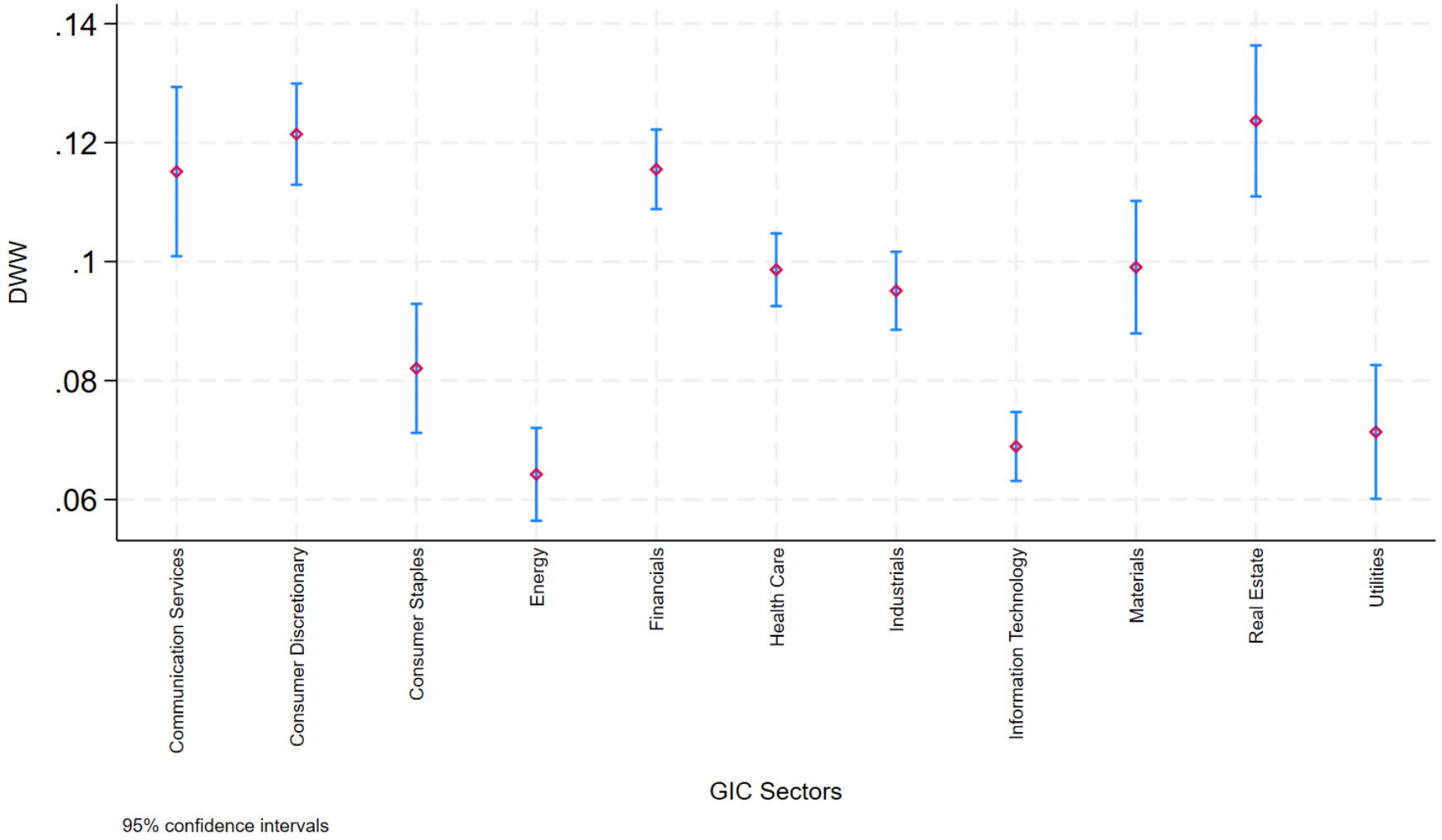


Figure 6. Mean value of DWW by year

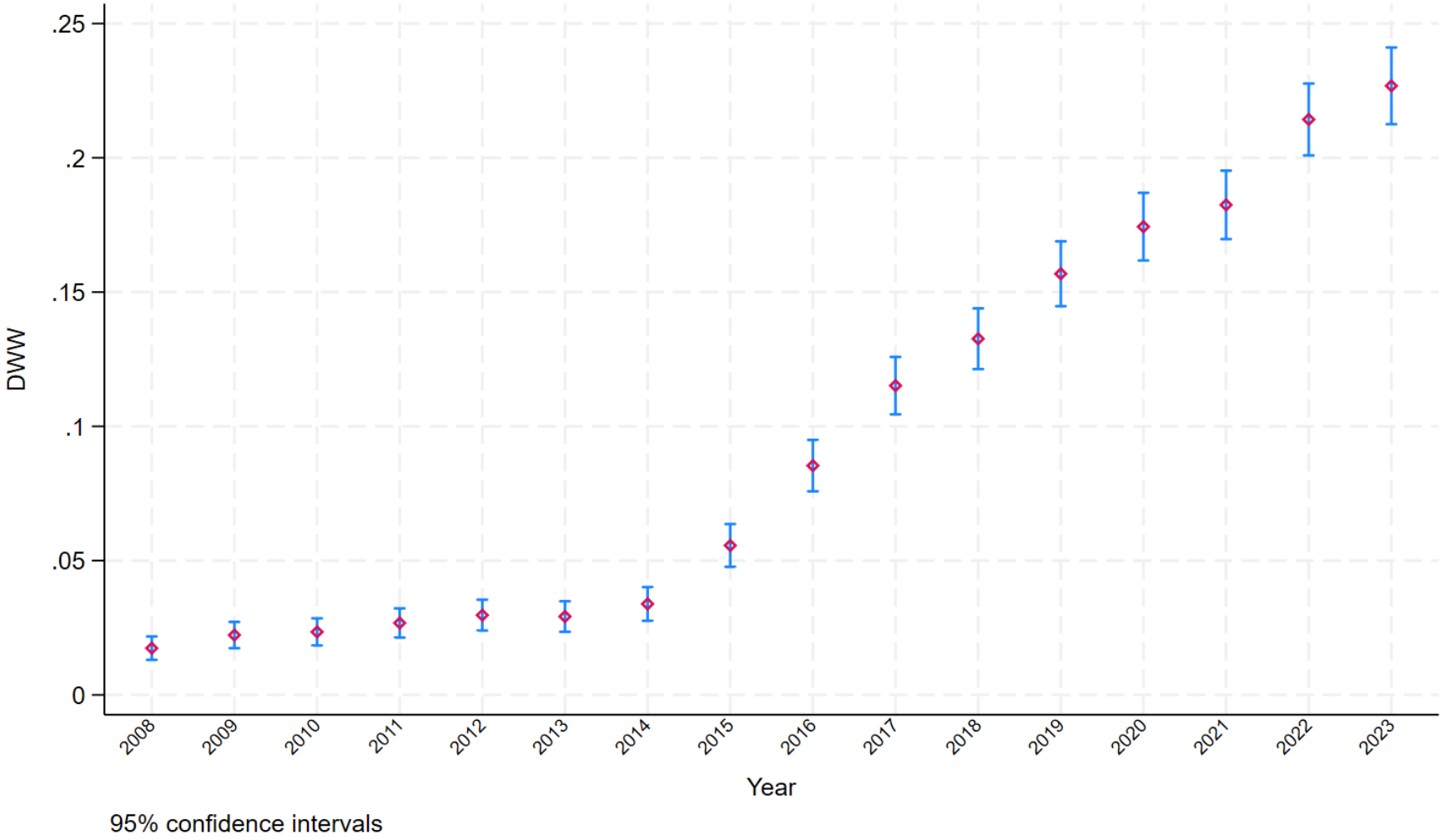


Table 1. Examples of CWE excerpts in 10-K fillings

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 CWE 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 CWE disclosure 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 *D_CWED_DES* 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. 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. In Panel C, *CWED_DES* is scaled 100 times for better result presentation.

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 7. Labor investment efficiency and corporate woke engagement disclosure

This table reports the regression results of labor investment efficiency variable (LABOR_INVEFF) on CWE score (*CWED_DES*), woke washer dummy (DWW) and control variables. Variable definitions are in Appendix A.2. Standard errors are clustered by firm. Numbers in parentheses are t-statistics. ***, **, and * denote significance level of 1%, 5%, and 10%, respectively.

VARIABLES	(1) LABOR_INVEFF
L.*CWED_DES*	**-6.330****
	(2.714)
L.DWW × L.*CWED_DES*	**4.215***
	(2.320)
L.DWW	-0.021
	(0.014)
L.MB	0.000
	(0.000)
L.SIZE	-0.020***
	(0.003)
L.QUICK	0.008**
	(0.003)
L.LEV	0.009
	(0.028)
L.DIVDUM	0.014
	(0.019)
L.OCF_SD	-0.000
	(0.000)
L.SALES_SD	0.000*
	(0.000)
L.LOSS	0.029**
	(0.013)
L.NET_HIRING_SD	0.000
	(0.000)
L.LABOR_INTENSITY	0.334
	(0.490)
L.UNION	0.060
	(0.175)
L.AB_INVEST_OTHER	0.048**
	(0.024)
Constant	0.274***
	(0.025)
Industry FE	Yes
Year FE	Yes
Observations	19,619
Adjusted R-sq	0.052

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	**-9.880*** **	
	(1.655)	
L.*CWED_DES*	0.557***	0.275***
	(0.076)	(0.004)
L.DWW	-0.002***	-0.001***
	(0.000)	(0.000)
L.SIZE	-0.002***	-0.002***
	(0.000)	(0.000)
L.LEV	0.003**	0.003**
	(0.001)	(0.001)
L.OCF	-0.015***	-0.015***
	(0.001)	(0.001)
Constant	0.016***	0.016***
	(0.001)	(0.001)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	39,401	39,401
Adjusted R-sq	0.510	0.410
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) Q5	(4) Q1
MktRF	0.835***	0.888***	0.922***	0.809***
	(22.82)	(16.46)	(24.31)	(21.88)
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)
α	0.003	-0.173	0.098	0.069
	(0.02)	(-1.00)	(0.74)	(0.37)
Adj R^2	0.889	0.874	0.900	0.875

Panel B. Republican president (N = 48)

	(1) CWED=0	(2) CWED>0	(3) Q5	(4) Q1
MktRF	0.938***	1.057***	1.012***	0.921***
	(24.61)	(22.33)	(22.30)	(21.94)
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)
α	0.026	-0.351*	-0.175	-0.004
	(0.17)	(-1.76)	(-0.88)	(-0.02)
Adj R^2	0.960	0.960	0.950	0.963

Panel C. Democratic president (N = 132)

	(1) CWED=0	(2) CWED>0	(3) Q5	(4) Q1
MktRF	0.782***	0.818***	0.885***	0.755***
	(17.88)	(13.02)	(22.77)	(16.55)
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)
α	0.036	-0.083	0.253	0.112
	(0.19)	(-0.39)	(1.45)	(0.56)
Adj R^2	0.859	0.833	0.903	0.870

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) Q5MinusQ1
MktRF	0.052	0.112***
	(1.39)	(3.50)
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)
α	-0.177	0.029
	(-1.64)	(0.21)
Adj R-squared	0.109	0.297

Panel B. Republican presidency (N = 48)

	(1) CWED1Minus0	(2) Q5MinusQ1
MktRF	0.120***	0.091
	(3.12)	(1.77)
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)
α	-0.377***	-0.172
	(-2.64)	(-0.92)
Adj R-squared	0.406	0.431

Panel C. Democratic presidency (N = 132)

	(1) CWED1Minus0	(2) Q5MinusQ1
MktRF	0.037	0.130***
	(0.81)	(3.34)
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)
α	-0.119	0.142
	(-0.85)	(0.95)
Adj R-squared	0.107	0.055

Table 11. The performance of stock portfolios formed on woke washer dummy

This table presents estimates of the ordinary least squares (OLS) regression analysis of the performance of long-short portfolios generated based on DWW dummy. *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.

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

	(1) DWW=0	(2) DWW=1	(3) DWW1Minus
MktRF	0.895***	1.081***	0.186***
	(0.032)	(0.033)	(0.036)
SMB	0.687***	0.618***	-0.069
	(0.066)	(0.059)	(0.058)
HML	0.079	0.207***	0.128
	(0.070)	(0.060)	(0.081)
RMW	-0.239***	-0.006	0.233***
	(0.059)	(0.058)	(0.057)
CMA	-0.049	-0.090	-0.041
	(0.086)	(0.074)	(0.089)
α	0.032	0.120	0.088
	(0.131)	(0.102)	(0.126)
Adj R-squared	0.925	0.940	0.291

Panel B. Republican presidency (N=48)

	(1) DWW=0	(2) DWW=1	(3) DWW1Minus0
MktRF	0.966***	1.095***	0.129**
	(0.033)	(0.051)	(0.051)
SMB	0.725***	0.787***	0.062
	(0.071)	(0.093)	(0.099)
HML	0.074	0.015	-0.059
	(0.066)	(0.085)	(0.067)
RMW	-0.081	-0.098	-0.018
	(0.125)	(0.191)	(0.179)
CMA	0.085	-0.104	-0.189
	(0.094)	(0.131)	(0.121)
α	0.057	0.123	0.066
	(0.133)	(0.207)	(0.187)
Adj R-squared	0.973	0.966	0.237

Panel C. Democratic presidency (N=132)

	(1) DWW=0	(2) DWW=1	(3) DWW1Minus0
MktRF	0.857***	1.073***	0.216***
	(0.037)	(0.033)	(0.037)
SMB	0.661***	0.566***	-0.095
	(0.084)	(0.084)	(0.067)
HML	0.073	0.280***	0.207**
	(0.095)	(0.059)	(0.080)
RMW	-0.298***	0.007	0.305***
	(0.077)	(0.083)	(0.065)
CMA	-0.049	-0.119	-0.070
	(0.120)	(0.086)	(0.108)
α	0.071	0.020	-0.050
	(0.164)	(0.135)	(0.153)
Adj R-squared	0.904	0.932	0.384

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
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 terms 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 among 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, multiplied by 1,000 for better result presentation	COMPUSTAT
SIZE	Natural logarithm of book value 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
DWW	Dummy variable that equals one if identified as a woke washer, zero otherwise. Woke washers are identified by analyzing the mismatching between corprote woke engagement disclosure (*CWED_DES*) and corproate social performance (*SOCIAL_SCORE*).	Author's calculation
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-year rolling standard deviation of net cash flows from operating activities	COMPUSTAT
SALES_SD	The 5-year 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 investments on lagged sales, controlled by industry fixed effect	COMPUSTAT
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
DWW1Minus0	Return on a portfolio which takes a long position in wokewashing stocks (DWW=1) and a short position in non-wokewashing stocks (DWW=0).	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.

Appendix A.4. Variance decomposition of DWW

This table presents the results of the adjusted R-sq from the regressions of the wokewashing indicator, *DWW*, 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 *DWW* 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).

FE model specification	*DWW*	
	Adj. R-sq	Δ
	(1)	(2)
Year	0.062	
Year + Industry	0.079	0.017
Year + State	0.065	0.003
Year + State + Industry	0.081	0.019
Year × Industry	0.084	0.022
Year × Industry + State	0.088	0.026
Year × State	0.066	0.004
Year × State + Industry	0.083	0.021
Firm + Year	0.328	0.266
Firm + Year + Year × State	0.334	0.272
Firm + Year + Year × Industry	0.370	0.308

Appendix A.5. Two-way scatter plot of DWW and CWED_DES by GICS sector